The Implementation of Inclusive Education for EFL Students with a Disability at a Saudi Arabian University

Alanoud Alsubaie
SID: [REDACTION]

Supervisors:

Associate Professor David Evans

Dr Hongzhi (Veronica) Yang

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Author's Declaration

This is to certify that:

I. This thesis contains only my original work towards the Doctor of Philosophy degree;
II. All other material used has been acknowledged in the text;
III. The length of the thesis is not more than the maximum allowed for this degree;
IV. No part of this work has been used for the award of another degree;
V. The research conducted in this thesis meets the Human Research Ethics Committee (HREC) requirements of the University of Sydney.

Signature(s):

Name(s): Alanoud Alsubaie

Date:- 23th December 2023

Abstract

In Saudi Arabia, special education services have become a priority to assist meet obligations associated with ratifying the Convention on the Rights of Persons with Disability. There are government policies in place to support the development of special education services in schools, however, there is no specific guidance on how special education services should be implemented in universities to support students with disabilities. Some universities offer special education services for students with disabilities, with the aim to meet the intent of inclusive education. While these programs meet some of the criteria of inclusive education (e.g., access to education for all), students with disability remain in segregated classrooms from students without a disability.

No previous studies have explored the status of inclusive education in a Saudi Arabian university context. Hence, this study was designed to explore how one university in a Saudi Arabian university worked towards upholding the right of students with disability to access and participate in university education by examining the challenges, attitudes, role of assistive technology, and teachers' self-efficacy.

Using a mixed methods research design, this two-phase study aimed to gain a deeper understanding of facilitators and barriers to implementing inclusive education in English language classes one Saudi Arabian university. Five EFL teachers and ten students with disability participated in a semi-structured interview. Students and teachers highlighted challenges related to administrative support, a lack of training, peer attitudes and unsuitable learning environments. Participants were not familiar with the term 'assistive technology' but were supportive of its use in the classrooms. Using these findings, a survey was designed to engage a wider group of teachers and students Thirty-five teachers, and 55 students with and without disability, completed the survey to assist address gaps identified from the interview results and provide additional insights into persistent themes and research questions.

The target university worked towards upholding the intent of inclusive education, while utilising ideas, practices and processes aligned with traditional special education services in Saudi Arabia (e.g., inclusive education was a place or segregated classroom for students with disability). Most teachers and students presented positive or neutral attitudes towards inclusive education. Administrative, cultural, academic, and social challenges generated reservations regarding the practicality of implementing inclusive education in this Saudi Arabian university. The findings are used to pose a way forward for developing and improving efforts towards upholding the intent of inclusive education and language learning opportunities for students with disabilities (e.g., adoption of assistive technologies).

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Abbreviations

EFL: English as a Foreign Language.

ICT: Information and Communication Technologies

ABA: Applied Behaviour Analysis

RSEPI: Regulations of Special Education Programs and Institutes

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNICEF: United Nations Children's Fund

WPR: Bacchi's What Problem is Represented Approach

SCT: The Social Cognitive Theory

UN: United Nations

CRPD: Convention on the Rights of Persons with Disabilities

PIS: Participant Information Statement

PCF: Participant Consent Form

SPSS: Statistical Package for Social Science

SDGs: Sustainable Development Goals

HREC: Human Research Ethics Committee

Chapter One
Introduction

"Inclusive education exists when the mainstream education system adapts to the needs of all learners" (Fonds, 2023, para. 3). Inclusive education is an approach to educating students with different abilities, backgrounds and needs in a way that ensures all individuals have access to and participation in the same educational opportunities and resources (Triviño-Amigo et al., 2022). This approach aims to eliminate social exclusion on the premise that education is a fundamental right and foundation for society (Liang et al., 2022). Transforming the education system is key to the implementation of inclusive education. This transformation will include changes to the design, delivery and monitoring of education, policy and legislation, systems for financing and administration as well as the way schools are organised (UNICEF, 2017).

Inclusive education was originally inspired by disability rights and now encompasses all forms of marginalisation and discrimination. The United Nations Convention on the Rights of People with Disabilities (United Nations, 2006) explicitly mandates the offering of inclusive education at all levels for students with disabilities (e.g., early years, primary, secondary, tertiary education) (Lee et al., 2022). Therefore, inclusive education policies which prioritise equity and inclusion are required for educational systems to ensure that students with disabilities have access to quality education.

1.1 Context of Inclusive Education

The fundamental idea of inclusive education is that everyone has the right to receive an education and should be given the opportunity to achieve and maintain an appropriate level of learning (Liang et al., 2022). This includes ensuring that students with disabilities have access to schools which can accommodate them within a child-centred pedagogy capable of meeting their unique needs (UNICEF, 2017). Without inclusive education, students with disabilities, for example, may not have access to schooling. Inclusive education is also designed to promote democratic principles, values and beliefs that underpin equality and social justice (Nouf et al., 2020). In practice, this includes access to housing, employment, healthcare and civic engagement (Norwich, 2013).

1.1.1 Acknowledgement of Inclusive Education in Other Policy Documents

The United Nations (1948) emphasised the importance of inclusive education in promoting human dignity, exercising fundamental human rights, and ensuring equal access to education (Dreyer, 2021). The UN policy Education for All (United Nations, 2000) set out six goals to provide a quality education to all students, regardless of their socioeconomic background or any other barrier. In 2015, the United Nations established a set of targets as part of the Sustainable Development Goals (SDGs)

to promote social, economic, and environmental sustainability (Li et al., 2022). A number of issues are addressed by these goals, including poverty, inequality, climate change, and education. As a key driver of sustainable development, education plays an important role in upholding the Goals and Education for All policies; education is considered a fundamental pillar of the Sustainable Development Goals. By promoting education, various challenges can be tackled and poverty eradication, gender equality, and economic growth can be achieved (United Nation, 2015).

Among the countries that recognise education as a human right, Saudi Arabia has taken significant steps to promote inclusive education. Saudi Arabia's Vision 2030 includes a commitment to investing in education and training in order to equip all citizens with skills required for jobs of the future (Mitchell& Alfuraih, 2018). This is consistent with the human right of "everyone has the right to work" (United Nations, 1948).

1.1.2 Contribution of Inclusive Education

Inclusive education provides all students access to quality education (UNICEF, 2017). Further, inclusive education contributes to a more equitable, fair, and just education system by increasing its quality (Raharja et al., 2021). Inclusive education also promotes participation in public life, work and employment, the ability of individuals to exercise their legal rights and access an adequate standard of living (UNICEF, 2017). In developed countries over the past 30 years, the human rights and social justice movements have helped shape the social and political nature of inclusive education (Yates, 2019). Inclusive practice is a process in education that enables all students to access course content, fully participate in learning activities, and demonstrate their strengths and learning during assessment (ECU, 2013). Another aspect to consider is the provision of a positive learning context promoting a sense of understanding and belonging for all students (Coady et al., 2016).

1.2 Definition of Inclusive Education

Inclusive education has become an increasingly recognised concept worldwide, referring to the practice of ensuring that all students, including those with disabilities or learning differences, have access to quality education in the same classrooms as their typically developing peers (Asri et al., 2022; UNICEF, 2017). However, there exist various definitions of inclusive education among the different countries and regions. Some countries, such as the United States, prioritise inclusive education as an educational philosophy in which students with disabilities should receive necessary supports and services within regular schools (Lindner et al., 2019). This means that inclusive education in the United States allows students with disabilities to access regular classrooms and succeed within the regular education curriculum (Mokter, 2013). However, some students with disabilities study in segregated classrooms (Wehmeyer et al., 2021). In contrast, other countries view

inclusive education as an approach towards eliminating social exclusion and providing equal access to education. Regardless of the distinctions, all definitions share a common goal: to ensure that every student enjoys equal access and participation in quality education (UNICEF, 2017).

In Saudi Arabia inclusive education is defined as providing full access to education for all students by creating educational settings which comprise adaptive structures, policies, and practices to accommodate the diverse needs of all individuals (Alhumaid, 2023). However, in practice, in Saudi Arabia students with disabilities have access to school and university but study in segregated classrooms. This is inconsistent with a fundamental principal of inclusive education which is that "an inclusive education system is one that accommodates all students whatever their abilities or requirements" (UNICEF, 2017). An environment where students with disabilities are segregated from other students is not inclusive education (UNESCO, 2021).

The segregation implemented in Saudi Arabia reportedly allows students with disabilities to be provided with tailored teaching services, equipment, arrangements and learning environments (Ahmed, 2021). These adjustments are consistent with recommended practices for implementing inclusive education in the classroom (UNICEF, 2017). Although this situation is beneficial because classrooms can be tailored to meet the needs of students with a disabilities, this approach strongly contrasts with international policy and definitions of inclusive education.

1.3 Inclusive Education Policy

In recent years, there has been a growing emphasis on inclusive education globally, which strives to ensure that all students have access to high-quality learning opportunities regardless of their individual needs, abilities, or backgrounds (UNESCO, 2021). In response to this, various global measures have been implemented to promote inclusive education. The Universal Declaration of Human Rights and the United Nations Convention on the Rights of the Child stipulate that individuals with disabilities have the right to education without discrimination and on the basis of equal opportunity (Sheppard, 2022). This principle is also echoed in Article 24 of Convention on the Rights of Persons with Disabilities (United Nations, 2006). Moreover, inclusive education has been articulated at government-level policies with the aim of changing societal attitudes towards diversity and equity in education (Purcal et al., 2016).

1.4 Implementation of Inclusive Education

Inclusive education frameworks and policies emphasise the importance of providing equal educational opportunities to all students and ensuring that they are not discriminated against on any basis (e.g., disability). However, the adjustments which are expected in order to facilitate the full participation of students with disabilities are often left to the classroom teacher to implement. There

is a disconnect in these expectations, where responsibility is assigned by policy makers for adjustments which need to be practically implemented in the classroom.

Recently, the implementation of inclusive education in Saudi Arabia focused on developing programs and setting up classrooms which promote the education of students with disabilities and special learning needs (Alnahdi, 2020). For instance, the Saudi government instituted the *Tatweer* project, a policy aiming to ensure the development of a public education system which guarantees all students the right to a high-quality education (Assulaimani, 2019). The project focuses on defining inclusive practices through considering the additional support required by students with disabilities and special learning needs. Among the aims of this project, is to develop the skills of all students, with and without disabilities, to become active citizens able to compete both in national and global levels. This is consistent with one of the inclusive education principles of a right to participate in public life (UNICEF, 2017). Achieving these aspirations includes all students acquiring English as a foreign language (Awadh, 2000).

Several efforts have been conducted to adopt inclusive education through standardisation and regulation of education policies in Saudi Arabia. Under the Saudi Arabian Legislation of Disability enacted in 1987, a disabled person was defined as "any person whose capacity to achieve and continue a suitable job has actually diminished as a result of a physical or mental infirmity" (Al-Jadid, 2013). Since this time, several reforms to include students with disabilities in segregated learning facilities in regular schools have been enacted (Aldabas, 2015; UNESCO, 2010).

The Saudi Arabian Ministry of Education enacted this same legislation by requiring universities to facilitate the attendance and participation of students with disabilities by:

- providing state of the art training and qualification to the staff members
- sensitising the local communities to the disabled's potentials, qualities, needs and approaches.
- facilitating their integration into society and ensure a more stable and independent life for them.

More recent changes have included involving parents in decision-making for educational programs for their children with disabilities and providing specialised special education training for university staff (Alanazi, 2020). Specialised teacher training is considered as a principle of inclusive education (UNICEF, 2017) and is still being developed within universities.

1.5 Inclusive EFL Classrooms in Saudi Arabian University

This study will specifically focus on the role of inclusive education in university based inclusive English as a Foreign Language (EFL) classrooms. EFL classrooms were specifically targeted because

English is a second language in Saudi Arabia, all students are required to study EFL as a core course and there is a wide variety of students studying EFL.

In EFL classrooms, students with and without disabilities may benefit from additional support to develop their skills (Kangas, 2018). To facilitate the involvement and skills development of students with disabilities, EFL teachers must coordinate their instructional efforts to develop all students' communication skills and motivate them to acquire the language (Al Zaylai, 2019). It is important to consider that learning English is a challenging and often complicated process (Awadh, 2000) for all students. Hence, there is a particular need to explore and understand the unique challenges facing students and EFL teachers in Saudi Arabia.

Language teaching and learning is a core part of the Kingdom's special education approach. The adoption of special education policies and principles in Saudi Arabia give students with disabilities the right and ability to access education at regular institutions. This is aligned with a core principle of inclusive education (UNICEF, 2017). This also demonstrates the commitment of the Ministry of Education and the Saudi community to teach Saudi students the English language so they will be able to communicate and represent their culture to the world (Alnahdi et al., 2020). However, in order to implement education policies for students with disabilities there is a requirement for teachers to be well-versed and trained in inclusive education principles (UNICEF, 2017).

1.6 Principles of Inclusive Education

Inclusive education has different definitions between and within educational systems. More than 175 countries have ratified the 2006 UN Convention on the Rights of Persons with Disabilities (UN-CRPD) (UN, 2006) showing their support for the principles of inclusive education, yet the definition of inclusive education can vary immensely between these countries. In a review of inclusive education, Göransson and Nilholm (2014) classified definition into four categories. These are: (a) Placement definition: inclusion as placement of students with disabilities or in need of special support in general education classrooms; (b) Specified individualised definition: inclusion as meeting the social and academic needs of students with disabilities or in need of special support; (c) General individualised definition: inclusion as meeting the social and academic needs of all students; (d) Community definition: inclusion as the creation of communities with specific characteristics. In each of these definitions Göransson and Nilholm, (2014) recognised that academic needs could be defined in different ways, resembling the social (Agran et al., 2010) and medical (Villanueva & Hand, 2011) models of disability.

Clearly there is no universally accepted definition or concept of inclusive education (Krischler et al., 2019). However, inclusive education has been defined as "a process of focusing on and responding to the diverse needs of all learners, removing barriers impeding quality education, and

thereby increasing participation in learning and reducing exclusion within and from education" (UNESCO, 2005).

This study is based in a Saudi Arabian university where the interpretation of inclusive education involves students with a disability studying in segregated classrooms. In these segregated classrooms, learning resources are adapted and accessible to all students, teaching methods such as peer-to-peer learning are implemented and reasonable adjustments are made to facilitate the full participation and learning opportunities for students with disabilities. In many ways, special education classrooms at this Saudi Arabian university resemble what could be considered as an inclusive classroom. Hence, 'special education' is used throughout this thesis to describe the education of students with disabilities implemented at this university.

Inclusive practices as defined by Finkelstein et al. (2021) are practices which support learning within a classroom. These practices can be grouped into five categories: 'Collaboration and Teamwork', 'Determining Progress', 'Instructional Support', 'Organisational Practices', and 'Social/Emotional/Behavioural Support'. Other interpretations of inclusive practice involved accessing and adjusting the curriculum or simply providing all students an opportunity to be involved (McGarrigle et al., 2023). Regardless of the teaching practices implemented, the practices must be able to be modified to cater for students' needs (UNICEF, 2017), or be intrinsically inclusive, and hence, not require adjustment.

Inclusive education depends on teachers applying a pedagogy which valorises tolerance, diversity and equity among learners (Norwich, 2002). This may require teachers to apply different teaching approaches depending on the needs and the interest of each student (Norwich, 2002). For example, under some definitions, inclusive classrooms would require teachers to adopt practices through designing a learning environment where all students, in spite of their abilities, are studying and participating in classroom activities, with suitable and reasonable learning support (Winter & O'Raw, 2010). In this context, teachers should consider variations in students' strengths, preferences, range of challenges and learning abilities (Bennetts & Flyn, 2002; Carranza & Rodriguez, 2017). Currently, in Saudi Arabia special education classrooms only tailor learning resources and activities to specific disability related needs of students with disabilities. Instead of specifically adapting resources for students with disabilities it would make more sense to provide learning resources and activities accessible to all students based on their strengths, preferences, and learning abilities.

According to Moriña (2017), inclusive education is an important aspect for education systems achieving success. This target is particularly important in the case of higher education (Moriña, 2017). Ensuring that students with disabilities are participating in the classroom activities is a means of reducing the challenges that they may experience, reduce their anxiety, and maintain their motivation to learn (Boyle & Kennedy, 2019). Moriña (2017) pointed out that enhancing student participation is

a significant part of ensuring and upholding the ideals of inclusive education in higher education. Participation and feelings of belonging are also core ingredients for an inclusive classroom (Anwar et al., 2019). This is because inclusive classrooms should be designed as a welcoming environment where all students feel valued and are able to full participate in all classroom activities (Al Badawi & Suparno, 2019). In this research, the link between a student's inclusion and confidence, and teachers' self-efficacy was examined.

1.7 Teachers' Self-Efficacy

Self-efficacy is defined as an individual's belief in their capability to produce desired outcomes (Bandura, 2006). This is important because student success is directly related to the self-efficacy of teachers (Caprara et al., 2006). When teachers have self-efficacy, they develop a self-belief system that enables them to effectively monitor their students' activities and provide them with the necessary guidance needed to be engaged in different classroom activities and have success in learning (Rezvani & Amiri, 2013). Based on this, inclusive education practices and theory are related to the social cognitive theory (SCT) through connecting the concepts of self-efficacy and the implementation of inclusive education. Self-efficacy develops self-belief in teachers and may give them the confidence and attitudes, and/or ability to be more effective in motivating and guiding students (Morina, 2017; Rezvani & Amiri, 2013).

Therefore, the development of effective inclusive practices and teacher belief is important in English language learning among students with disabilities. Thus, the self-efficacy of the teacher is an important element in this study in order to determine how the learning experience of EFL students with disabilities is enhanced by exploring the challenges faced by the students and EFL teachers.

Students with disabilities have a wide range of needs and challenges in the classroom (e.g., functional challenges, communication challenges) (Horn & Kang, 2012). The existence of large class sizes and non-skilled teachers has contributed in part to students with and without disabilities experiencing failure and frustrations in ELF classrooms (Carranza & Rodriguez, 2017; Volpe et al., 2009). Furthermore, the EFL classroom must give all students, with and without disabilities a learning environment where they can process and acquire English language (Forlin et al., 2013). Achieving this target requires implementing inclusive education practices through which institutions, classrooms and adopted teaching-learning approaches are designed to ensure an equal learning experience for all students (Downing & Peckham-Hardin, 2007). Inclusive practices and reasonable adjustments (UNICEF, 2017) are integral to the implementation of inclusive education (Turko et al., 2022). These practices involve creating an inclusive educational environment that accommodates the diverse needs of all students and promotes their learning and engagement (Malotky et al., 2020). The type of

adjustments and accommodations required will be determined by students' strengths and needs (UNICEF, 2017).

Teaching EFL to students with multiple disabilities poses additional administrative challenges to ensure compliance with relevant procedures (Sowell & Sugisaki, 2020). For example, teachers looking to adapt exam facilities may only have agency to adapt one element of the exam, instead of multiple ways to meet the students' needs. The administrative requirements involve creating an inclusive learning environment that is accessible to students with multiple disabilities. This includes providing appropriate physical accommodations such as wheelchair ramps and accessible classrooms, as well as ensuring that teaching materials and resources are accessible to students with visual or hearing impairments (Irvan & Jauhari, 2018). This can be inconsistent with the aims of inclusive education which emphasises the need for removing barriers faced by students (UNICEF, 2017).

The social environment of the classroom may be affected if it is obvious that numerous adaptations are being made only for students with disabilities. One aim of inclusive education is to facilitate effective peer-to-peer learning opportunities, so this situation should be specifically considered and avoided (UNICEF, 2017). Inclusive education practices such as allowing students to use assistive technology and avoiding sensory overload, which do not require adaptations for individual students, can be used to avoid this situation.

According to Horn and Kang (2012), EFL for students with multiple disabilities is an activity that requires strong supports from teachers and other people involved in the collaborative support of students and their learning. One of the main challenges for students with disabilities when learning EFL is accessing the language laboratories, which are commonly used to enhance listening and pronunciation skills (Kadmiry, 2021). These includes listening and reading activities which are not suited to students with a visual or hearing impairment. Though assistive technologies with accessibility and specialised features could be used to provide access to these activities for all students, assistive technologies are often not available, and some students may find it challenging to participate actively in language laboratory exercises (de Witte et al., 2019).

1.8 Assistive Technologies

Assistive technology refers to devices, equipment, software applications and services that are designed to help people with disabilities carry out daily activities (Assistive Technology Industry Association, 2023). These technologies aim to improve the accessibility to learning, communication, participation and engagement with resources and peers. For students with disabilities these are especially important for reducing or eliminating barriers, thereby enabling them to live more independently and participate actively in society (Auger et al., 2022). Providing such learning

resources is consistent with principles of inclusive education which emphasises the importance of availability and accessibility of learning resources for all students (UNICEF, 2017).

The use of assistive technology facilitates and promotes inclusion and participation, especially for students with disabilities. To create collaborative learning environments, one aim of inclusive education (Lindner & Schwab, 2020), assistive technology could be used to allow students with a range of specific needs and support requirements to participate (O'Sullivan et al., 2023). Students can engage in academic work more effectively with the help of assistive technology (McNicholl, 2021). This includes assisting students with disabilities and others to complete common academic tasks more easily, providing access to educational material related to their course, enhancing their learning, and increasing their academic performance. Students with disabilities, lecturers, and students without disabilities can all benefit from assistive technology. Assistive technology is perceived as an enabler but not a driver of academic engagement (McNicholl, 2021); it eases engagement rather than initiating it. This is viewed positively as an "enhancer" that is consistent with a rights-based approach to universal rights (McNicholl et al., 2021, p. 136)

Assistive technology is a broad term that encompasses both devices and services (Twum et al., 2018). An example of assistive technology is augmentative and alternative communication devices such as a Voice-Over app which help people with communication disabilities to express themselves (Duplaga, 2017). Additionally, there are software applications that help people with visual impairments to read and navigate digital content. These apps make online text-based learning materials suitable for use in an inclusive classroom involving students with a visual impairment.

Assistive technology services may include evaluations, consultations, and training to help individuals with disabilities select the appropriate assistive technology devices that align with their needs and capabilities (Chaidi et al., 2021). Furthermore, assistive technology services may also include customisation or modification of devices to suit individuals' specific requirements. Overall, assistive technology devices and services are crucial tools that could help to implement inclusive education by overcoming physical and communication barriers, promoting greater independence, and improving their quality of life (Chang & Huang, 2022).

1.9 Study Aims

The overall aim of this research study was to explore the experiences of EFL university students and teachers in inclusive classrooms in Saudi Arabia. This study addresses the impacts of EFL teachers' self-efficacy and attitudes on the concrete implementation of inclusive practices in diverse classrooms. One aim was to explore the effectiveness and suitability of inclusive EFL teaching strategies and specifically examine the use of assistive technology to support the design of inclusive EFL classrooms. In the context of assistive technology, the aspect of inclusive education is

highlighted. The application of assistive technologies in the classroom was considered as an indicator of high teacher self-efficacy and assumed to enhance students' learning experiences. For example, a classroom which uses assistive technologies to facilitate learning activities, monitor individual student progress and incorporate group work to ensure all learners could access and participate in learning would be considered a classroom that upholds the intentions of inclusive practice. It is understood that the strength of these inclusive practices, however, is dependent on the surrounding environmental supports and the ethos of the wider community towards upholding the rights of persons with disabilities to access, participate and benefit from education.

1.10 Significance / Research Gap

This study is significant as it aimed to examine and understand teachers' understanding and adoption of inclusion practices and assistive technology in Saudi Arabian universities. At the time of writing, no other research studies had investigated the challenges facing EFL teachers to effectively implement inclusive education practices in Saudi Arabian universities, or the role of assistive technology in this context. Furthermore, most of the research studies exploring the implementation of inclusive education in Saudi Arabian EFL classrooms have focused on students with specific disabilities in primary and middle school learning levels (Alqahtani, 2017; Altamimi et al., 2015), rather than deeply examining teachers' attitudes and self-efficacy which contribute to their design and practice of inclusive concepts. The findings of this research will give policy makers an overview of the principles of inclusive education, and an opportunity to evaluate the current system for providing education to students with disabilities against these principles. Thereby, providing an opportunity to check what is already implemented and if the implementation meets the aims of inclusive education.

Furthermore, by understanding the challenges that EFL teachers face, policy makers will be able to develop mechanisms including organisational and institutional procedures to reduce these challenges associated with implementation of inclusive practices and promote an effective inclusion of all students, including students with disabilities, in Saudi universities. The study will also be beneficial to teachers especially in understanding how different aspects of their teaching uphold the principles of inclusion in a regular EFL classroom. The role of assistive technology in overcoming the challenges faced by students and EFL teachers in an inclusive classroom will be also examined.

1.11 Theoretical Framework

To assess the impact of implemented teaching methods to support the inclusion of students with disabilities in regular EFL classrooms, this study will apply Albert Bandura's (1986; 1997) Social Cognitive Theory (SCT) as a theoretical framework. Social Cognitive Theory (SCT) explains how people acquire and maintain certain behavioural patterns. Several cognitive factors influence

behaviour, including outcome expectations, self-efficacy, and intentions (Bandura, 1986). For Bandura (1997), the self-efficacy, or sense of self-efficacy, is the foundation of human motivation, well-being and achievement. According to the SCT, if people are not convinced that they can achieve the results they want through their own action, they will have little reason to act or persevere in the face of difficulties (Bandura, 1986). This is relevant to the implementation of inclusive education because teachers implementing new, inclusive teaching practices are likely to experience challenges and need to be convinced that the changes they are implementing are both possible and worthwhile.

Self-efficacy is related to the judgments people make about their own ability to organise and carry out activities that achieve specific types of results (Bandura, 1997). These beliefs of efficiency, which are among the most important factors of thought and action in Bandura's theory, have been the subject of special attention by researchers working in educational and career guidance (Rottinghaus et al., 2003). According to the SCT, self-efficacy and self-esteem are not considered as unique or global attributes. Rather, self-efficacy is viewed as a dynamic set of beliefs about oneself, associated with specific areas of achievement and activities.

Individuals may, for example, have a strong belief in their self-efficacy regarding their artistic abilities, but may feel much less skilled in social or mechanical tasks. Generally, the individual mastery experiences can apply the greatest impact on feelings of self-efficacy. Notable experiences of success in a particular area tend to increase an individual's feelings of effectiveness in that area, however, notable or repetitive failures tend to lessen feelings of self-efficacy in that area (Brown & Lent, 2017). SCT helps us deduce teacher's behaviour as it helps to explain that teachers with high efficacy levels are more likely to take up challenges leading to stronger learning outcomes as opposed to those with low efficacy levels who will tend to avoid challenges (Tadayon, 2011).

1. 12 Research Questions

The Social Cognitive Theory (SCT) will provide the theoretical basis for this study. SCT denotes the importance of self-efficacy in the teaching context. It provides a basis for examining the challenges facing EFL teachers designing teaching and learning environments that are inclusive of all students. Further, SCT allows for the challenges that all students face while studying EFL. As a result, the following research questions were formulated for this proposed study:

1. What are the challenges faced by:
    a) students with disabilities studying EFL in classrooms in a Saudi Arabian university.
    b) EFL teachers teaching students with disabilities in a Saudi Arabian university.
2 How could the learning experience of students with disabilities in inclusive classrooms be influenced by:
    a) teachers' self- efficacy.

b) teachers' attitudes toward the inclusion of students with disabilities.
c) the attitudes of students without disabilities toward the inclusion of students with disabilities.
d) the use of assistive technologies.

1.13 Organisation of the Study

This study is presented in seven chapters. In the introduction chapter, the definition, concept, legislation and principles of inclusive education in the context in a global and Saudi Arabian context are addressed. In the literature review chapter, topics including the challenges faced by EFL students with disabilities, teachers' self-efficacy and attitudes, EFL teaching strategies and assistive technology are discussed. In the methodology chapters, two phases of data collection and analysis are described, including both quantitative and qualitative methods. Details of the rationale of the study, instruments, participants, data collection and analysis as well as the limitations are also included. In the results chapters, this study presents two phases of data collection and analysis which reveal the challenges faced by students with disabilities studying EFL In a Saudi university. The effects of teachers' self-efficacy and attitudes toward the inclusive classroom, as well as the role of assistive technology and tailored teaching practices, are also examined. In the discussion chapter, the results from Phases 1 and 2 are integrated to explore and answer the research questions and topic of inclusive education more broadly.

Chapter Two
Literature Review

This chapter examines the relevant research literature to better understand the challenges that teachers and students face in EFL classrooms including students with disabilities in Saudi Arabian universities. Many positive changes have occurred in Saudi Arabian higher education in the support of inclusive education since the beginning of the 20th century (Alharbi, 2022). In turn, these changes have resulted in an increase in the enrolments of students with disabilities in Saudi Arabian universities (Maddah, 2018). In Saudi Arabia, students with disabilities have access to schools and universities, however, they study in segregated classrooms. This segregation allows students with disabilities to be provided with tailored teaching services, equipment, arrangements and learning environments (Ahmed, 2021).

The provision of special education classrooms, teachers and resources for students with disabilities is based on a different perspective of inclusive education than is posed by international conventions and statements (e.g., United Nations, 2006; UNESCO, 2021). Although well intentioned, the provision of special examination, teaching and learning procedures creates a physical and psychological segregation between students with disabilities and students without disabilities. Under the evolving international definition of inclusive education posed by Márquez and Melero-Aguilar (2022), assessment, classrooms and other aspects of the inclusive educational environments should be based upon universal design principles which facilitate access for all students, regardless of individual differences. Though both definitions and understandings have merit in some contexts, these perspectives and interpretations are fundamentally different and require different supports, resources and training to implement.

This literature review builds on the definitions and themes related to inclusive education introduced in the Introduction, for a better understanding of the concepts included in the study. In this and later chapters, the terms ‘inclusive classroom’ and ‘inclusive education’ will be used in reference to classrooms only including students with disabilities, unless specified otherwise. This definition is used to maintain consistency with the official definition of inclusive education applied in Saudi Arabian universities.

This chapter explores practices of inclusive education relevant to the Saudi Arabian context, including the use of assistive technology and its applicability in the implementation of inclusive education in universities. This chapter also examines the challenges experienced by teachers of students with disabilities which may lead to the limited implementation of policies that support inclusion, and the subsequent effects on students with impairments. The literature review also aims

to investigate how assistive technology and other practices can be used to overcome the obstacles preventing teachers from practising inclusive education.

Alharbi and Madhesh (2018) used Bacchi's What Problem is Represented (WPR) approach to analyse documents (e.g., Special Education Policy of Saudi Arabia, 2016; The Disability Law of Saudi Arabia, 2000; the General Education Policy of Saudi Arabia) to determine how the country's education policies and legislative framework support inclusive education. The authors defined persons with disabilities as individuals with minimal ability to effectively gain and continue regular work and education due to either mental or physical frailty (Alharbi & Madhesh, 2018). The study concluded that Saudi Arabian inclusive education policies aimed to provide equal and fair education to all students within mainstream schooling and additionally, offer special facilities and services for students with special needs.

Al-Mousa et al. (2008) highlight that the Kingdom of Saudi Arabia (the Kingdom) is developing educational policies that emphasise the ideas of inclusion to provide students with disabilities the right to an equal education within the physical environment of regular institutions. For example, the *Tatweer* initiative, designed to improve the quality of teaching and learning across Saudi Arabia, has helped to sharpen this emphasis. A primary goal of the *Tatweer* initiative is to provide learning environments in which all students have access to high standards of education, allowing them to be engaged citizens at both the national and global levels (Al-Mousa et al., 2008). While Saudi Arabia proposes to follow the global definition of inclusive education by providing access to regular universities for all students, students with disabilities continue to study in segregated classrooms. In response to this tension, Saudi Arabia is expanding its definition of inclusive education within the education system; however, it appears that there are still many challenges to be overcome before students and teachers experience inclusive education in a way that is consistent with the inclusive policies outlined in the country's education policies, and its obligations under the Convention on the Rights of Persons with Disabilities.

According to the Ministry of Education, mainstreaming in Saudi Arabia is defined as "educating children with special educational needs in regular education schools (refers to elementary and secondary education, as well as universities) and providing them with special education services" (Ministry of Education, 2002, p. 8). This can be accomplished in two ways: partial mainstreaming, which includes self-contained classrooms within regular schools and university settings, and full mainstreaming, which involves teaching students with additional needs in regular classrooms and withdrawing them at specific times to receive special education support services. Not all schools or universities in Saudi Arabia offer partial or full mainstreaming, and few regular schools offer support programs such as special classes or counselling teacher services to support students with additional needs (RGSE; Ministry of Education, 2016). In effect, neither partial nor full mainstreaming are

common in Saudi Arabia. However, there are some universities which implement full mainstreaming and some special schools for students with disabilities, taught by teachers with special education qualifications.

During the past few years, momentum and support for special education have slowly intensified in Saudi Arabia, partly due to policymakers but also due to considered debate about the unfolding of inclusive education in educational sectors (Alharbi & Mandesh, 2018). Schools in Western societies are moving away from viewing inclusion through a disability lens, however, an understanding of inclusive education and its differences to special education for students with disabilities in Saudi Arabia is still evolving (Alquraini, 2011, 2012; Smith, 2006).

2.1 Policy Development of Special Education in Saudi Arabia

Special education programs for children and individuals with disabilities were not provided by the Saudi Arabian government before 1958 (Aldabas, 2015), with the education of these children entirely dependent on their parents (Al-Ajmi, 2006). A special education program in Saudi Arabia provides individualised support and accommodations to students with disabilities or special needs in order to assist them in accessing and progressing through school. In 1958, special education was served as a training program by a private organisation on how to read Braille (Salloom, 1995) and it was provided only for blind and visually impaired males (Al-Wabli, 1996). This was the first formal special education program in Saudi Arabia (Al-Kheraigi, 1989).

A Saudi Arabian Special Education Unit was established in 1962 by the Ministry of Education for the purpose of providing educational and rehabilitation services to individuals with visual, hearing, or intellectual impairments (Afeafe, 2000). By 1964, the first institute was opened for visually impaired females which was supervised by the Ministry of Education (Aldabas, 2015). From 1962 to 1964, students with visual impairment were the only group eligible for special education programs and services in Saudi Arabia (Aldabas, 2015).

Between 1960 and 1971, the Special Education Agency in the Ministry of Education opened special education schools for male and female students both with hearing and visual impairments (Aldabas, 2015). Between 1987 and 2000, the number of special education schools increased, and a significant improvement was made in providing services for students with learning disabilities in public schools through resource rooms (Aldabas, 2015).

By 2001, the Saudi Ministry of Education adopted new regulations on special education such as the Regulations of Special Education Programs and Institutes (RSEPI). These regulations emphasised that all students with all types of disability should be educated alongside their peers without disabilities, or in the least restrictive environment possible among a variety of settings (i.e., residential institutions, special schools, special classrooms in regular schools, regular classrooms with

support from resource rooms, and full-time regular classrooms) (Almalky & Alwahbi, 2023). In 2015, RSEPI reemphasised the importance of inclusive education by setting clear procedures for educating students with disabilities in special education classrooms and schools. Additionally, the Ministry of Education developed strategic plans for inclusive education (Ministry of Education, 2022).

The National Transformation Program (2020) specified that students from all socioeconomic backgrounds, cultures, and languages deserve equal access to quality education. In addition, the Ministry of Education recommended that a wide range of strategies be implemented to foster inclusive learning environments (Ministry of Education, 2022). A further commitment of Saudi Arabia is to promote and implement universal access to education.

According to the Ministry of Education (2022), the country's education policy currently states that making education available for all children is a common goal, including students with cognitive and physical impairments (Article 56). Specifically, Article 188 focuses on providing education to students with disabilities by creating special cultural curriculums and diversified training opportunities for staff and teachers, consistent with the needs of the students. While this development purports to be working towards the goals of quality inclusive education, the provision of special curriculum for students with disabilities could exclude students from the same education opportunities.

As demonstrated in the description of policy development regarding the education of students with disabilities in Saudi Arabia, no specific policy regarding special education services in Saudi universities exists. Instead, the requirements and implementation of special education services in Saudi Arabian universities have been left to each university to decide.

2.2 Special Education Policy Development in Saudi Arabia Relevant to Schools

After establishing the Ministry of Education in 1953, the government formalised special education policies while maintaining segregation between students with and without disabilities (Al-Salloom, 1995). The government formally introduced legislation which allowed students with disabilities to study at mainstream schools in 1960 (Ministry of Education, Kingdom of Saudi Arabia [MoE], 2001), but this was targeted at visually impaired male students (Zaed, 2016). In 1962, special education (i.e., education for boys with visual impairment) was officially recognised in the Kingdom as part of the public education system (Altamimi et al., 2015). In the following years, public education opportunities for students with disabilities were expanded by creating special departments to oversee the planning, implementation, and expansion of education service to students with disabilities in mainstream schools. This led to an increase in the number of mainstream schools which provided special education to students with disabilities, and subsequently, the introduction of special education and support for the education of girls with disabilities in 1964 (Aldabas, 2015).

Policies regarding the education of students with disabilities have undergone significant reforms since 1953 (Altamimi et al., 2015). The government embarked on policy reforms to facilitate the implementation of special education across the education sector in Saudi Arabia (Abed & Shackelford, 2020). Since 1990, the Kingdom has established several reforms to include students with disabilities in segregated learning facilities and regular schools as more special learning institutions were developed (Aldabas, 2015; UNESCO, 2010). Furthermore, legislation was introduced giving parents the right to be involved in decision-making for educational programs for their children with disabilities (Poch et al., 2023).

2.3 Special Education Policy Development in Saudi Arabia Relevant to Universities

A number of the policy developments described above do not specifically mention universities but are designed to be implemented across the education sector, including in universities. For example, the Right to Education Law, passed in 2016, and the Right to Education Initiative, launched in 2017 by the Ministry of Education (Ministry of Education, 2022) provide a legal framework to promote inclusive education in Saudi Arabia. The Ministry of Education has also established a plan for expanding research, training, and technical assistance with respect to special education practices. These steps attempt to accelerate Saudi Arabian progress towards greater provision of special education services (Alharbi & Madhesh, 2018). However, there is no evidence of Saudi Arabian policy acknowledging the fundamental differences between inclusive education and special education.

In Saudi universities, the Saudi Ministry of Education offers programs and facilities designed to assist students with disabilities who are enrolling in university education. Specialised committees including the Scientific Committee, the Curriculum Committee, and the Support Services Committee have been formed to assist with the education of students with disabilities in universities (Ministry of Education, 2020). These committees determine the criteria and conditions for the nomination of students with disabilities to be admitted to Saudi universities. However, these criteria and conditions are not publicly specified.

Special education programs also cooperate with the relevant regional and international bodies to improve education outcomes for students with disabilities. Qader (translates to "General Authority for the Care of Persons with Disabilities") is a Saudi Arabian government organisation dedicated to enhancing the quality of life for individuals with disabilities (GASTAT, 2023). Its programs and initiatives relate to education, employment, accessibility, and social inclusion for people with disabilities in Saudi Arabia. In addition, special education programs also work with international organisations such as UNESCO, UNICEF, and the World Bank to improve educational outcomes for students with disabilities (OECD, 2020). Some forms of these collaborations include policy

development, training for teachers, administrators, and other professionals, as well as, offering technical assistance for curriculum development, assessment methods, and the integration of assistive technology.

Some specialised facilities provided to students with disabilities in Saudi universities include a tailored learning environment, modified teaching methods and adjusted assessment (The Ministry of Education of Saudi Arabia, 2022). Though working towards meeting the aims of the Convention and improving facilities for students with disabilities in Saudi Arabian universities, this provision does not advance the prospects of inclusive education where all students study alongside each other. Instead, these provisions encourage the segregation and differentiation of students with disabilities.

In Saudi universities, programs for students with disabilities often aim to develop the student's English language skills in segregated classroom. In recent times, special education practices in schools and universities of Saudi Arabia have received substantial support from the government, leading to its rapid growth. The Saudi government has embarked on ongoing training efforts for teachers, with special education departments introduced in more than 11 universities in the Kingdom (Alanazi, 2020). Staff training programs are designed to prepare staff for communicating with students with disabilities efficiently and provide tailored and appropriate support services (The Ministry of Education of Saudi Arabia, 2022).

At present, teachers' adoption of inclusive practice in Saudi Arabian universities is poorly documented and no research studies have investigated the challenges facing EFL teachers to effectively implement inclusive education practices. Hence, one aim of this study was to explore the suitability and possibility of inclusive EFL teaching strategies through the implementation of special education services in segregated EFL classrooms at Saudi Arabian universities.

2.3.1 Inclusive Education in Saudi Schools

There is no clear universal agreement on what inclusive education is or how it should be implemented in schools (Bates et al., 2015, p. 1929), despite official definitions detailed by organisations such as the United Nations (2006, 2015). This appears to be a product of overlaps and confusion in international definitions, causing different interpretations of common terminology including "integration", "mainstreaming", and "placement". The definitions of these terminologies vary between countries and educational systems (Madhesh, 2023).

Although Saudi Arabia signed the Salamanca Statement and Framework for Action on Special Needs Education in 1994, inclusive education remains uncertain on a theoretical and practical level in the Saudi context (Madhesh, 2023). The Saudi Arabian Regulations of Special Education Programs and Institutes (RSEPI) do not explicitly embrace inclusive education. However, the RSEPI suggested curriculum does promote inclusive education practices, both theoretically and practically by

suggesting modifications and accommodations consistent with students' needs. Hence, the Saudi education system rides the wave of global trends toward inclusive education (Madhesh, 2019), yet actions continue to fall short of common interpretations of global initiatives (e.g., Convention on the Rights of Persons with Disability General Comment #4, United Nations, 2016). Despite this, some research efforts are underway to promote inclusive education in accordance with relevant global philosophies and initiatives (Madhesh, 2023).

Inclusive education in a Saudi Arabian public primary school involves students with disabilities studying in the same school, but in a different classroom to their peers without a sensory (visual or hearing) impairment. Officially, students with disabilities in these classrooms should have access to additional resources (Ministry of Education, 2022), however, it is unclear whether this is actually the case. Students with disabilities in Saudi schools are taught by regular teachers who may or may not have specialised training in special education practices, the teaching of students with disabilities, and/or use of additional, specialised resources. Further, special education in Saudi Arabia is provided in some cities but not in remote areas.

In a systematic review of 116 publications, Altamimi et al. (2015) identified the number and topic of publications available on special education in Saudi Arabia. The only meaningful result reported was a significant gap in literature rooted in the social model of disability that considered the social, cultural, environmental, and educational aspects of special needs education. No analysis of the publications reviewed was offered beyond account of the topics and models of disability considered. This limitation was identified by the authors.

Arishi (2019) conducted a mixed methods study involving primary school teachers, parents and students with disabilities (6-12-year-olds), providing recommendations that may help transform inclusive education, inclusive teaching and full participation of all elementary students in Saudi Arabia. Arishi (2019) found that elementary students with disabilities are segregated based on their disabilities into separate classes, and they are only given the opportunity to socialise with their peers during breaks and mealtime. Arishi (2019) also identified the negative attitudes of staff toward the concept of full participation for students with disabilities in the same classroom, due to workload issues, inadequate technological resources and the absence of specialist training for general teachers; all barriers to the implementation of inclusive education. Arishi (2019) went on to argue that implementation of full participation in inclusive elementary schools in Saudi Arabia could be enhanced through effective communication between teachers and parents, clear policy guidelines on full participation, the provision of specialists in inclusive education and teacher training. Clearer policy guidelines and improvements in teacher training are also considered important in the university context (Sánchez-Pérez, 2020).

A study conducted by Alanazi (2020) in Saudi Arabian schools including teachers, parents and supervisors highlighted that Saudi Arabian schools are facing difficulties in implementing inclusive education for the betterment of their students. The major challenges identified from the findings include the lack of awareness of the importance of inclusive education practices by teachers, parents and supervisors, inexperienced teachers, and social constraints. In order to address these challenges, the development of training programs for teachers, creating awareness in communities about the benefits of inclusive education, and gaining information about inclusive education were recommended.

In spite of the right of children with disabilities to attend regular schools, parents have a limited number of options. It is usually possible for them to choose between special school and regular school, which usually offers regular classes (i.e., without any disabled children) in addition to inclusive classes (i.e., with at least one child with special needs), as children with disabilities are usually grouped into a few classes due to organisational concerns. Parents' rights are further restricted by the number of places schools provide for children with special education needs. Parents can receive a place for their children in an inclusive school (i.e., a school enrolling students with disabilities), but they cannot choose the school itself. As a result, parents of children with special education needs may find it difficult to find a local or neighbourhood school that offers places for their children (Klemm, 2015).

Generally, parents' attitudes towards inclusive education is mildly positive or neutral (de Boer, et al., 2010; Schwab, 2018). Furthermore, parents who have children with disabilities show ambivalent attitudes, focusing on benefits and risks for their children (de Boer et al., 2010; Gasteiger-Klicpera et al. 2013; Mann et al., 2016). Yet, parents recognise that there are benefits for all children from inclusive education. The attitudes of parents toward the school's program are important in order to promote inclusion in schools (Paseka & Schwab, 2020).

A study conducted by Paseka and Schwab (2020) highlighted that parental attitudes toward inclusive education are moderated by the type or nature of disability. For example, they think the inclusion of students with a physical impairment is easier than the inclusion of students with behavioural disorder. Students with behaviour disorders are considered to be a problematic group when discussing inclusive education. Regardless of the type of disability and the impact on the student's learning, parents whose children without disabilities attend inclusive classes are more likely to accept inclusive education for students with disabilities.

Understanding the implementation of special education in Saudi schools is relevant to this study which considers the implementation of inclusive education in universities. This is because it provides insight into inclusive education in Saudi Arabia previously unknown due to the limited literature about inclusive education in Saudi universities. Further, experiences of inclusive education by

students with and without disabilities prior to enrolling in a university course could also impact their perceptions about university education.

2.3.2 Inclusive Education in Saudi Universities

Saudi Arabia has made significant developments in educational reform including the implementation of inclusive education in its universities by providing equal opportunities for all students, regardless of their abilities or disabilities. Several policies and legislation reforms have been implemented in Saudi Arabia to promote inclusive education (Alhumaid et al., 2023), but none are specifically relevant to universities. There are also very few studies exploring the implementation of inclusive education in Saudi Arabian universities. Some of the existing studies are detailed below.

Educational opportunities are provided to students with disabilities in Saudi universities. The Ministry of Education facilitates special education services through specialised committees tasked with providing services and accommodations for students with disabilities (Ministry of Education, 2021). These accommodations include: a) adapted learning environments, such as providing appropriate lighting, suitable seats and non-distracting classrooms; b) adapted assessment, like providing a test orally or through Braille; and c) adapted teaching methods, such as providing a sign language interpreter and increasing the time allocated to present information.

King Saud University provides a "Universal Access" program to support the learning of students with disabilities. The aim of this program is to support individuals with disabilities to participate in university education by implementing international, universal design standards to support students' participation and the transformation towards a university accessible to all. The "Universal Access" program at King Saud university represents a vision and plan to create a supportive environment for all students including those with disabilities, provide teachers with sufficient experience to deliver inclusive education and to educate and qualify students with disabilities to become independent learners.

In some circles, inclusive education is seen as a hallmark of quality university education (Gairín & Suárez, 2014). Universities providing inclusive education will have staff trained in supporting students with a range of needs and preferences, and staff will be sensitised toward meeting the needs of a wide variety of students (Pliner & Johnson, 2004; Spratt & Florian, 2015). University spaces will be accessible, based on universal design principles (Powell, 2013) and university policies will be purposely inclusive (Moriña, 2019)

Saudi universities face a significant barrier to achieving inclusive education due to a general reluctance from teachers to provide instruction for students with disabilities (Gibbs & Bozaid, 2022; Mohammed Ali, 2021). It is essential to address the underlying reasons behind this reluctance and develop strategies to overcome it in Saudi universities if inclusive education is going to be effectively

promoted. Teachers who have difficulty accommodating students' needs in the classroom because they lack knowledge and understanding of those with disabilities are more likely to be reluctant to include them in their classes (Indrarathne, 2019). A lack of training or professional development for teachers may prevent teachers from understanding the importance of inclusive education (Crispel & Kasperski, 2021) in Saudi universities. Successful implementation of inclusive education is also dependent on the attitudes of general education teachers (Ediyanto et al., 2021) toward students with special needs.

Maddah (2018) explored mechanisms for promoting an inclusive, diverse, and multicultural university system in Saudi Arabia by reviewing a range of inclusion policies, manuals and other relevant literature published by governments, sporting organisations and research institutions. These findings highlight the need to enhance education, inclusion, teaching, decision-making and leadership practices in Saudi Arabian universities to facilitate the implementation of inclusive education. For example, a teaching practice such as providing written, English-based instructions for learners with a hearing impairment (Maddah, 2018). This same study pointed out that students without disabilities also require support to foster a more positive attitude toward their peers with disabilities, to understand their needs and accept them in order to reduce discrimination.

2.4 EFL Teaching Methods and Strategies for Students with Disabilities

Students who receive support from their parents, teachers and the community are more successful and achieve better learning outcomes (Arishi, 2020). Similarly, students with disabilities learning a foreign language benefit from special education programs which modify the usual educational practices to better suits their needs (Tabay et al., 2020). Special education programs in general education can provide a conducive learning environment for students with disabilities, presenting specialised opportunities designed to meet their needs and allow each student to learn and develop to their full potential (Poch et al., 2023).

Students with disabilities may require additional support and tools such as supportive pedagogical methods in the quest to learn a foreign language (Mikhaylova et al., 2021). This requires teachers to implement and evaluate tailored teaching strategies to help students engage in the classroom, cooperate with their peers and master the course content (Tabay et al., 2020).

Teaching strategies applied in fully inclusive classrooms where students with and without disabilities study together need to meet the educational, personal and social needs of all students in the classroom. This requires teachers to be creative in their identification of teaching strategies applicable in each stage of the learning process, as no single strategy can warrant better student results in all situations (Abdallah, 2015). Some teaching strategies used in formal education are more

appropriate for structured learning, while other strategies are more appropriate for promoting students' engagement, responsiveness, and sense of purpose.

Additionally, teachers should use different and effective teaching strategies to help students with disabilities conquer challenges they face in learning EFL (Banks, 2008). For example, five teaching strategies well suited for students with disabilities learning a foreign language are: mastery strategies, understanding strategies, interpersonal strategies, self-expressive strategies and four-style strategies (Astuti & Ahsani, 2019). Firstly, the mastery strategy focuses on increasing students' abilities to remember and summarise. This strategy provides a clear sequence, a strong sense of expanding competence, measurable success, and timely feedback. This has been recognised as an effective learning strategy in inclusive EFL classrooms (Abdallah, 2015).

Secondly, the understanding strategies evoke students' capacities to reason, be logical, and use evidence (Astuti & Ahsani, 2019), highly valuable skills in a university environment. Such strategies motivate students by arousing curiosity through providing opportunities to analyse and debate, engage in vocabulary mastery and problem-solving. Thirdly, the interpersonal strategies help students to relate personally to the curriculum. Fourthly, self-expressive strategies use metaphors, imagery, and other stylistic devices to motivate students' drive toward appropriate individuality and originality (Al-Mahrooqi & Roscoe, 2012). Finally, the four-style strategy combines the four strategies simultaneously to encourage students to develop a balanced and dynamic approach to learning a foreign language in a school or university environment (Astuti & Ahsani, 2019).

Astuti and Ahsani (2019) conducted a qualitative research study to determine the best strategies to support students with disabilities. They found that different strategies were required to support the needs of students with different disabilities, but found that the use of teams, partnerships, and coaching were effective to motivate all students to learn a foreign language.

The use of different teaching strategies helps to solve challenges of an inclusive learning environment and to promote student-student and teacher-to-student interaction. The inclusive strategies mentioned by Cohen and Weaver (2005) also provide effective mechanisms for meeting the needs of students with specific needs. For example, a case study of deaf elementary grade students reported by Kim (2021) showed that integrating graphic novels enhanced students reading outcomes for students. In a study of students with an intellectual disability by Pokrivčáková, (2015), participants proposed that they should be provided with learning materials that can be designed to provide a repetitive learning experience.

In a study examining strategies which support student relationships and learning opportunities in high schools, Darling-Hammond et al. (2020) found that students gain more from teaching strategies that offer a personalised learning structure (e.g., the use of a speech to text app for students with a hearing impairment). In a study by Kurth et al. (2020), it was concluded that university students

with multiple disabilities' engagement and achievement in the learning process are driven by personalised instructions, flexible scheduling, and a collegial learning environment.

Students who underperform in a foreign language classroom often encounter challenges processing, perceiving, and expressing information (Virginia Department of Education, 2017). Findings by Astuti and Ahsani (2019) provide mechanisms for promoting personalised instructions for students with special needs. They found that students gain more insight when teachers provide extra examples while explaining a concept. Teachers may also incorporate videos and gaming (Tomáška, 2022) in teaching language vocabularies to promote further understanding by all students. There are multiple means of presenting information, and these may be applied individually, according to the circumstances (Schreffler et al., 2019).

Recommended teaching methods for students with disabilities include natural, computer-assisted, sensory-based, forward, and inverse forward chaining (Uzunboylu & Özcan, 2019). A computer assisted teaching approach involves the use of computers and electronic devices to provide teaching instructions to students (Stultz, 2013). The technologies used in computer assisted teaching approaches can be augmented with other technology assisted mechanisms to assist students with disabilities. Students may use assistive technologies such *as Non-Visual Desktop, VoiceOver, System Access, Narrator, Dolphin, ChromeVox, GuideConnect, Access* and *Job Access with Speech* (Susanto & Nanda, 2018). For example, *Job Access with Speech, Non-Visual Desktop* and *Access* are assistive technologies which help students with visual disabilities to read a computer screen (National Library Service at the Library, 2023).

A systematic review of 63 published documents obtained from the Scopus database on teaching methods used in special education at university level by Uzunboylu and Özcan (2019), discusses various methods of teaching EFL to students with disabilities. The study shows that teaching methods should aim to increase positive behaviour among students and simultaneously reduce inappropriate behaviour. The results of the analysis from the study recommended that a student-centred learning approach be applied in special needs education. A student-centred learning approach is a learning mechanism that aims to meet each student's specific needs based on their unique abilities and strengths (Uzunboylu & Özcan, 2019). Under this approach, consideration of skills that will be taught, the learning environment, student characteristics and strengths, educational requirements, availability of support services and teaching materials will help to select appropriate approaches for teaching students in an inclusive classroom.

Another method that can assist students with disabilities to learn EFL in university is errorless teaching (Ertekin & Bağlama, 2021). The approach involves systematic planning, increasing and reducing cues, adjusting waiting time, reducing cues, and actioning pre-behaviour cues. This method is one of the most widely used teaching methods in the special education system (Uzunboylu &

Özcan, 2019) and has been shown to be effective in reducing errors for all participants, not only students with disabilities (Braga-Kenyon et al., 2017). This teaching approach develops responses of the students during in-class exercises, stimulating students' engagement, and cues students to display target learning behaviour. This is consistent with one of the Applied Behaviour Analysis (ABA) principles which is to use systematic direct instruction response-prompting procedures (Collins et al., 2018).

Csizér and Kontra (2020) propose using strategies such as cognitive, affective, and social language learning strategies to engage students with disabilities. This is where students are encouraged to learn by engaging with real objects which they are familiar with (Csizér & Kontra, 2020). Andrä et al. (2020) highlight that students with hearing disabilities can be engaged by allowing teachers to use appropriate media such as visual media. A study conducted by Rasul et al. (2011) indicates that audio-visual aids are important for university teaching and the students' learning process. The aids make the teaching and learning process more efficient by providing access to detailed knowledge, bringing about a change in the classroom environment and motivating teachers and students.

El-Koumy (2020) discuss language learning strategies that are applied to improve the learning process of students with disabilities. According to El-Koumy (2020) teaching strategies are classified into four groups: cognitive, metacognitive, social, and affective strategies. The cognitive strategy, such as grouping, note taking, translation, resourcing, and summarising (Lai, et al. 2022), are behaviours, techniques, or actions used by learners to manipulate information directly (El-Koumy, 2020). These are important behaviours as they help all students to learn better and become independent learners, regardless of their learning needs. A metacognitive strategy involves planning for learning, monitoring yourself during learning, and evaluating learning results (El-Koumy, 2020). These activities involve selective and directed attention, self-management, and self-evaluation (Lai, et al. 2022). Metacognitive strategies can help all students including students with disabilities become independent learners and improve their performance. The social strategy involves interacting with others to promote clarification and cooperation among learners and instructors (Lai, et al. 2022). In this strategy students can seek help from others, speak together in the target language, collaborate with peers, and review each other's work. Students become confident and engaged with real-world issues and themes more effectively by using social strategies (El-Koumy, 2020).

Finally, the concept of affective strategies refers to methods for regulating emotions, motivations, and attitudes. It involves managing learners' emotions through self-talk, self-encouragement, and self-reinforcement (Lai, et al. 2022). The affective strategy is important for all students and in particular for students with learning disabilities as it arises from their perceptions of

themselves as being more apprehensive, and less capable of mastering oral and written language skills than their peers (El-Koumy, 2020).

Lai et al. (2022) showed that learning strategies utilising computer programs, a web-based learning environment and mobile devices develop critical thinking, proper time management, metacognition, effort regulation, and effective peer learning skills. However, despite the potential benefits of technology for the learning process (Moore, 2022) and other necessary skills, it is important to exercise caution when using such technologies as an overreliance on them may negatively affect learning. Disproportionate use can lead to negative consequences including reduced concentration and the wasting of time (Shatri, 2020) as well as a decrease in personal interactions between students (Al Rawashdeh et al., 2021).

. Understanding the influence of assistive technology (e.g., specific mobile apps and computer programs) on the inclusion of students with disabilities was one of the aims of this study.

Student-to-student interaction and self-assessment are two communication learning strategies that help all students gauge the challenges and strengths they have in the learning process. These strategies promote learners' independence and responsibility. Additionally, self-assessment learning strategies enable students to identify effective learning strategies and materials, establish goals as well as identify their own strengths and weakness (Tlekshi et al., 2019).

Cognitive, metacognitive, social and affective EFL teaching methods are commonly suggested for students with disabilities (Csizér & Kontra, 2020; El-Koumy, 2020). Cognitive methods suggested included repetition, discussion with peers and visualisation. Meta cognitive methods include directed attention, self-management and self-evaluation. Social methods were the most frequently suggested methods, with most involving peer-to-peer and peer-to-teacher interaction to promote clarification and cooperation among learners and instructors. Affective methods are designed to develop students' self-esteem and self-confidence through teaching them how to regulate their emotions, motivations, and attitudes. These strategies are specifically suggested for teaching students with disabilities; however, they closely resemble inclusive teaching methods. Hence, if these methods were implemented widely in Saudi Arabian universities, they could benefit all students.

2.5 Challenges of Learning English as a Foreign Language

In Saudi universities, English teaching was introduced to serve two main objectives: (a) to improve Saudi language students' foundations of English; and (b) to give special emphasis to those facets of English which will be applied in the years immediately following graduation (Al-Ahmadi, 2009). By learning English, students are able to communicate more confidently with others and represent the Saudi culture around the world (Awadh, 2000). Furthermore, learning English gives students an opportunity to discover different cultures and gain specialised knowledge while

interacting with experts in a specific field, from foreign countries (Al-Ahmadi, 2009). Arriba et al. (2020) argued that learning English as a Foreign Language (EFL) is an opportunity for adults with disabilities to improve their social engagement to participate in different communities, facilitate their social inclusion, enhance their employability skills, and foster their understanding and use of intercultural communication.

However, students face barriers to learning during EFL classes. These barriers may include difficulty interacting with learning materials, a fear of making mistakes in front of their peers, a lack of motivation and negative attitudes towards English courses (Al-Ahmdi, 2009). The study by Al-Ahmdi (2009) concerned a regular EFL classroom which did not include students with disabilities. One of the aims of this current study was to determine whether students with disabilities have a similar experience in university EFL special education classrooms. Learners with disabilities in an EFL classroom may not be receiving the much-needed support required if the aforementioned factors are not given sufficient attention in the design and delivery of their education.

Typically, students developing their English skills face challenges in the four aspects of communication: listening, speaking, reading, and writing (Awdah, 2000). Additionally, EFL students with disabilities commonly face challenges in developing their writing skills (Abdallah, 2015). Consequently, some educators and institutions consider current teaching methods inappropriate for teaching a foreign language to students with disabilities (Sparks, 2016). These inappropriate teaching methods impact teachers' attitudes, and considerably influence their planning and implementation of teaching practices suited to students with disabilities in EFL classrooms. Perhaps, instead of asking teachers and universities to provide a modified curriculum and teaching resources, it may be more efficient to train all teachers in inclusive education practice and implement such practices across the university, for all students.

Students often encounter challenges processing, perceiving, and expressing information (Virginia Department of Education, 2017). Thus, EFL teachers need to be aware of how to adapt teaching-learning strategies and methods to help all students accurately perceive information and to improve their language acquisition through the adapted activities (Khan, 2011). The Virginia Department of Education (2017) highlights that perception is a crucial cognitive activity as it permits students to assign meaning, decode the information and effectively acquire the language in EFL classrooms. Considering the context of the EFL classroom, auditory and visual perception skills are continually required (Alhmadi, 2014). However, some students with disabilities struggle with correctly assigning meaning to words due to their audio or visual impairment (Virginia Department of Education, 2017). Often, they cannot identify the meaning of the stimulus. In this case, students may find it difficult to activate their prior knowledge, extract why this stimulus is important and articulate their interpretation of the communicated information (Arriba et al., 2020). The application

of inclusive education principles may help to address this issue (e.g., considering the potential barriers that instructional approaches pose for persons with hearing and vision impairments) through use of universal design for learning principles (Meyer et al., 2014).

Teachers' attitudes are one of the main determinants of promoting inclusive education in EFL classrooms (Rezai et al., 2018). Research by Alnahdi et al. (2019) showed the attitudes of peers and teachers significantly influence the motivation and inclusion of students with disabilities. Teaching methods also directly influence the behaviour, attitudes, and interaction of students with disabilities and their peers, while research shows a strong relationship between teachers' level of training, teachers' attitudes, self-efficacy, and their teaching methods (Alnahdi et al., 2019). Consideration of these factors will help develop and implement inclusive EFL classrooms and reduce learning barriers for students with disabilities; it could also impact positively on the learning of students without disabilities.

Students with high motivation are more likely to have successful learning outcomes. As a key component of motivation, a positive attitude promotes greater fulfillment of social and academic goals through an emphasis on valuing individual difference. Additionally, social interaction helps in normalising learning functioning and independence (Rezai et al., 2018). Promoting the development of a positive attitude by teachers and peers helps in reducing fear among students with disabilities. It also improves personal principles, comfort, self-esteem, and self-awareness among students.

2.6 Teachers' Attitudes Towards Inclusive Education

Attitudes have been defined as how a person views a certain situation or object (Sharma et al., 2015). People's attitudes towards the inclusion of students with disabilities appear to have a significant impact on their inclusion in society (Slee, 2001). For example, Firman et al. (2020) found that teachers' positive attitudes promote students learning by value adding, increasing the use of teaching resources, the application of strategic teaching such as adjusting seating arrangements, applying different teaching strategies, and building effective teacher-student rapport. Also, faculty attitudes towards the inclusion of students with disabilities in regular classrooms are seen as a critical factor in the implementation of practices that support the ideals of inclusive education (Avarmidis & Norwich, 2002).

Teachers' attitudes toward inclusive education can also present barriers to the effectiveness of inclusion practices at Saudi Arabian institutions (Alnahdi et al., 2019). A study by de Boer et al. (2011) examined what attitudes primary teachers have towards inclusive education in a regular school, what variables are related to their attitudes, and if these attitudes affect the social inclusion of students with disabilities. The study highlights that many regular education teachers have neutral or negative attitudes towards including students with disabilities. Teachers are generally willing to

include students with disabilities in their classes, however, their willingness to promote inclusive education depends on the types and levels of student disabilities (Cornoldi et al., 2018; de Boer et al., 2011). This willingness is important because students' capacity to learn is not an inherent trait they are born with, but can be cultivated (Dweck, 2006). The classification and perception of different disability types is important because teachers must understand the needs of all students and design their teaching methods and practices to be more inclusive (Cornoldi et al., 2018).

Dev and Kumar (2015) surveyed 200 school teachers and authorities in the Emirates of Abu Dhabi and Dubai. This study used a 5-point perception scale with 25 questions to determine teachers' willingness and understand their ability to teach students with learning disabilities. The survey of teachers' attitudes about the inclusion of students with disabilities revealed that teachers had an overall negative perception regarding the application of inclusive education. Some teachers commented that they "refuse to admit any retarded students" in their classrooms (Dev & Kumar, 2015, p. 8). The use of terminology such as "retarded" to describe students with disabilities may provide insight to their attitudes on the topic. Their self-efficacy and confidence in using inclusive practices is also likely to be impacted (Woodcock et al., 2022). Meanwhile, other teachers' willingness to include students with disabilities depended on support systems such availability of resources and technology for achieving the goals of inclusive education.

According to Krischler et al. (2019), whether teachers do so intentionally or not, they afford an inferior level of instruction when they doubt the learning performance of students with disabilities. This phenomenon was identified during the analysis of their survey data which investigated three components of teachers' attitudes toward adopting inclusive education (see Figure 2.1); the cognitive, behavioural, and affective components. The survey results indicated that all three attitude components are vital in the implementation of an inclusive education system that benefits all (Krischler et al., 2019).

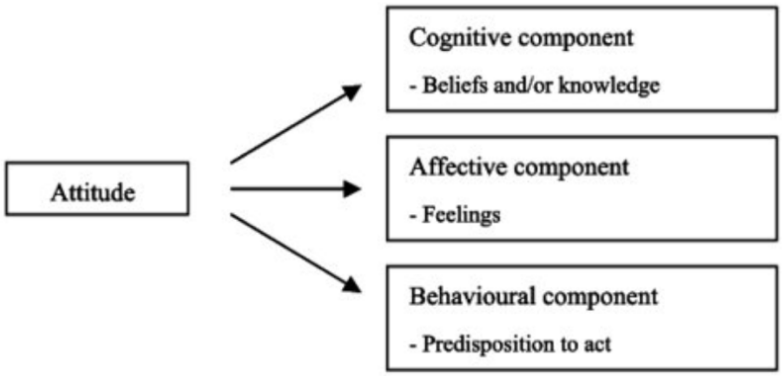
Attitudes are based on a memory of one's deliberate reflection and evaluation of a situation (Fazio, 1990). de Boer (2012) distinguishes the definition of the cognitive, behavioural, and affective components. The cognitive component is a reflection of one's beliefs and knowledge of the subject (e.g., students with disabilities). The affective component refers to a person's feelings defined as "past behaviours with respect to an attitude object" the behavioural component (Haddock & Maio, 2008, p. 116). Albarracín et al. (2014) found a strong relationship between these components. They highlight that attitudes are evaluative tendencies, which can both be inferred from, and have an impact on, beliefs, affect, and behaviour.

A study by Khochen and Radford (2012) used a mixed-methods approach to collect data from 40 primary school teachers employed in mainstream schools to explore their attitudes towards incorporating students with disabilities in mainstream classrooms through a survey. This study

reported that most teachers have a positive attitude toward inclusive education, and more specifically, teaching students with disabilities in mainstream classrooms. However, the teachers reported some perceived challenges implementing inclusive education, including a lack of teachers qualified to teach students with disabilities, limited training opportunities, and a high cost of training materials required for designing inclusive classrooms. This resulted in teachers and learning institution headteachers and managers reporting reluctance to teach all students, specifically those with emotional, social, and behavioural difficulties, because they were not sure about how to overcome these challenges.

Figure 2-1

Three Components of Teachers' Attitudes Toward Inclusive Education (de Boer, 2011)



McLeskey and Waldron (2002) point out that teachers sometimes develop a negative attitude toward teaching students with and without disabilities in the same classroom, because the latter may notice the differences between themselves and their peers with disabilities (McLeskey & Waldron, 2002). Teachers thought that this may result in other students rejecting students with disabilities by labelling them or responding adversely (e.g., bullying). Hence, the teachers considered inclusive education as a risk to the confidence, self-esteem and motivation of students with disabilities. It was posed that this position may diminish their perception of inclusive education.

Results from McLeskey and Waldron (2002) reveal that misapprehensions of teachers and their lack of understanding of the needs of students with disabilities may contribute to a negative or neutral attitude toward inclusive education. Teachers express positive attitudes towards inclusive education mainly when it concerns students who do not require additional teaching or classroom management skills (Cornoldi et al., 2018). The acceptance of students with disabilities in the classroom would decline rapidly when the intensity of students' needs, whether physical or intellectual, increases.

Indeed, according to Wang (2009), teachers consider that students with significant or complex learning disabilities should attend a segregated classroom.

A study by Abu-Hamour (2013) used open-ended survey questions designed to explore teachers' attitudes towards the inclusion of students with disabilities at a university in Jordan. The study invited 550 faculty members to complete a survey, with a total of 170 faculty members completing it. The survey showed that female faculty members had more positive attitudes than men toward inclusive education. Among the surveyed teachers, only two were extremely doubtful about the ability of students with disabilities to meet all course requirements. The study also explored the role of the faculty and the administrator's attitude toward the implementation of inclusive education. The findings of the Abu-Hamour (2013) study showed that students with disabilities faced many challenges such as negative attitudes from peers and faculty members and limited accessibility to support services for students. The study also exposed that many faculty members had little knowledge about the existence of higher education policy (Abu-Hamour, 2013) governing the rights of people living with a disability. Furthermore, they expressed concerns due to their lack of experience teaching students with disabilities.

According to Dvir (2015), the implementation of policies on inclusive education depends on the professors' attitudes and their own experiences. This experience and knowledge are critical in developing a teachers' attitudes towards inclusive education. For example, a study of 214 directors of disabilities services by Salzberg et al. (2002) highlighted a number of concerns raised by the directors. Specifically, teachers of students with disabilities did not necessarily have sufficient training because they had not attended the relevant training sessions. Other concerns included the content and duration of training programs. Hence, one aspect explaining the success of students with disabilities is the teachers understanding of the needs of students with disabilities, and their attitudes towards their students. Thus, the success of students with disabilities does not depend only on the ease of physical access to university facilities in higher education, it also relies on teachers' attitudes toward students with disabilities and their place in higher education classrooms. This highlights the importance and role of teacher training in developing teachers' attitudes and aptitude in the delivery of inclusive education (Sharma et al., 2008).

Teachers who consider learning capacity inherent in the individual may not accept students with disabilities in their classes (Milsom, 2006). Also, some teachers' beliefs on the promotion of social and individual ethical values considerably impact their attitudes towards the inclusion of students with disabilities because they are directly translated into teaching practices (Avramidis & Norwich, 2002). For example, teachers' perceptions regarding their abilities to meet the needs of all students influence their attitudes, teaching style, and adjustments they make in their classes. Being open-

minded to including students with disabilities in regular public schools is associated with teachers' perspectives and beliefs.

Accordingly, adult students with disabilities are not always given equal opportunity in the inclusive university classroom when teachers lack appropriate training or resources. In this context, Rao (2004) stated that teachers' awareness and attitudes are important in the success and empowerment of their students with disabilities. These attitudes can generate a culture of acceptance or exclusion. According to Al-Ahmadi (2009), teachers seem to be following the ethical principles underlying the concept of inclusion, and they recognise its benefits for students with disabilities and their peers. Still, in the practical implementation, this concept can be, in certain situations, perceived as laborious due to their low self-efficacy. Persons with disabilities have a right to study and the learning institutions have the responsibility to provide students with disabilities with appropriate accommodation and adjustment mechanisms to ensure their safe stay (Squelch, 2010). Learning institutions are also responsible to modify educational premises, course participation, learning delivery and assessment to suit students with disabilities. The nature of adjustment, however, should be based on the impact of the impairments in consultation with the students with disabilities.

2.7 Self-Efficacy and Inclusion of Students with Disabilities in the Classroom

A teacher's self-efficacy is correlated to their attitudes towards inclusive education (Weber & Greiner 2019). Self-efficacy refers to the teacher's confidence in their ability to teach and guide their students to a successful learning outcome. It also covers teachers' perceptions of their own abilities (Cornoldi et al., 2018).

Teachers' self-efficacy is important because it determines the tone of a classroom or learning environment and whether it provides high-quality learning for all students (Zee & Koomen, 2016). Teachers' self-efficacy also impacts their behaviour when interacting with their students. High confidence and self-efficacy lead teachers to implement strategies and teaching methods which valorise positive learning outcomes for all students (Achurra & Villardon, 2012). Hence, high self-efficacy assists teachers to feel more confident about their teaching capability and influences how they approach, perceive, and teach their students (Wang & Lim, 2016). Teachers with high efficacy typically understand their students with disabilities better and are more comfortable employing and attempting teaching strategies which benefit their learners.

In the context of EFL classrooms, students' success in acquiring language skills is highly dependent on the teacher's self-confidence and the perception of their ability to teach the subject (Alhmadi, 2014). Therefore, teachers' self-efficacy is crucial when dealing with students with disabilities, as it may guide the teacher in deciding what strategies and methods to employ to empower students to achieve their learning outcomes. Teachers with high self-efficacy possess beliefs about

how they can positively influence their students and increase their motivation to learn (Lazarides & Warner 2020). Furthermore, the level of self-efficacy may determine how a teacher will respond emotionally to teaching challenges and whether they will persevere to bring out positive outcomes from issues or barriers faced within the inclusive classrooms (Achurra & Villardon, 2012).

These findings are supported in the empirical study by Paneque and Barbetta (2006) who surveyed 202 special education EFL elementary teachers. The researchers posited that self-efficacy impacts the teacher's ability to be receptive to new methodologies and their motivation to try new teaching methods. Thus, teachers with low self-efficacy believe that they do not have much influence on students learning outcomes. These teachers are more likely to give up quickly, lack enthusiasm for new technology and teaching methods, and are unwilling to invest extra efforts in creating better learning outcomes for a student (Paneque & Barbetta, 2006).

Multiple research studies point out that students' learning outcomes are influenced by their teacher and the teacher's abilities (e.g., Avramidis & Norwich, 2002; Paneque & Barbetta, 2006). A teacher's self-efficacy strengthens their ability to employ new teaching techniques and empower students' learning outcomes (Rezvani & Amiri, 2013). Efficacy also plays a great role in developing the teacher's interpersonal skills with the students, which helps create a conducive and positive learning environment for all students (Rezvani & Amiri, 2013; Zee & Koomen, 2016).

These findings are also supported by the study of Yada et al. (2018) conducted in Japan and Finland. They surveyed 359 Japanese and Finnish primary and secondary school teachers. The findings from the study show that in-service teachers' self-efficacy is important in developing motivation for students to engage with the learning program, thereby enhancing the opportunities presented by inclusive education. This argument was also supported in a review of 82 papers by Morris et al. (2017) on reconceptualising the sources of teachers' self-efficacy and their influence on teaching content. Morris et al. (2017) explained that a teachers' attitudes and self-belief are essential in enabling the teacher to motivate students and enhance personal motivation to facilitate and strengthen inclusive education practices. Through self-efficacy, teachers develop a belief that enhances their knowledge and capabilities in the language they teach. This motivates students to learn and engage in classroom activities (Morris et al., 2017). Better understanding the importance of self-efficacy in enabling EFL teachers to teach effectively in inclusive classrooms was one of the aims of this study.

A study conducted by Alnahdi (2020) included 185 questionnaire responses from teachers in eight schools in the city of Riyadh explained that teacher self-efficacy facilitates the ability of the teacher to provide instructions that the students will understand. The study conducted a three-stage analysis involving a Cronbach's Alpha Limit Test, Multivariate, and Descriptive Analysis of quantitative data to examine teachers' self-efficacy in inclusive education. The study showed that

teachers from eight schools in Riyadh, Saudi Arabia, 30% of whom had a degree in special education, had a high level of confidence to work in an inclusive education setting and supported the idea of teaching students with and without disabilities in the same classroom (Alnahdi, 2020). Inclusive education was defined as “school systems that welcome all learners despite their background, disability or other personal characteristics” (Malinen et al., 2012, p. 526).

A study conducted by Woodcock et al. (2019) investigated the relationship between teacher self-efficacy and teachers’ causal beliefs towards students with and without specific learning difficulties, by surveying 122 British secondary teachers. This study concluded that teachers with high self-efficacy have the pedagogical expertise and professional persistence to explain difficult concepts and use alternative means of explanation and representation to ensure that students with disabilities understand and learn. In their study, Woodcock et al. (2019) found that teachers with a high level of self-efficacy provided positive feedback to all students regardless of their background and felt fewer frustrations toward students with low performance in comparison to teachers with low self-efficacy.

These professional skills and knowledge are important because they enable students to feel motivated and challenged to learn and become more engaged in classroom activities. In addition, teacher-self efficacy improves students' behavioural elements and ensures that students are productively engaged with little opportunity to engage in or demonstrate challenging behaviour (Alnahdi, 2020; Zee & Koomen, 2016). Therefore, through teacher self-efficacy, students with disabilities are more likely to engage within the classroom and the class activities, which will build positive attitudes between all members of the classroom.

Positive teacher-efficacy is important in ensuring effective actions toward the development of collaborative learning environments where teachers, administrators, and all students work together towards inclusivity in the classroom and school (Woodcock et al., 2019). Such environments are important for teachers to use their knowledge and for all students to feel included and engaged (Alnahdi, 2020; Woodcock et al., 2019; Yada et al., 2018).

Teacher self-efficacy is important and facilitates effective learning for students with disabilities at all educational levels (Woodcock et al., 2022). In this context, Coles (2014) who interviewed 10 postsecondary students with identified learning disabilities, highlighted that teachers' self-efficacy in the university context could be empowered with supportive techniques. For instance, the use of assistive technology may present opportunities for teachers to enhance professional practice and improve the availability of resources (Coles, 2014). The use of assistive technology is one of the subthemes discussed in the Coles (2014) study to assist in the development of self-efficacy. The other subthemes and themes discussed were: the role of pride, interpersonal skills, personalised learning, adaptive coping methods, effective educators, and the importance of accommodation. The adoption

of assistive technology contributed to inclusive education outcomes by increasing students' confidence and helping learners to achieve their educational goals. Additionally, Coles (2014) identified various adaptive coping mechanisms utilised by the teachers such as consistent clarification, self-advocacy, and initiating contact with education professionals to help in developing positive self-efficacy and supporting the achievement of learning goals. One of the aims of this study was to explore the impacts of teachers' self-efficacy on the learning experience of students with and without disabilities.

2.8 The Use of Assistive Technology to Promote Inclusive Education

Assistive technology is the equipment or products used to support the functioning of an individual (Federici & Scherer, 2018). Any technological device or product which supports functioning, including learning, working and daily living activities can be considered an assistive technology (Federici & Scherer, 2018). Development of assistive technologies over the past decade have resulted in them being considered an essential means of enhancing inclusive education by providing a greater range of opportunities for students with disabilities to participate in classroom activities. This is based on the assumption that in inclusive classrooms, students with disabilities may need alternative or specialised assistance to access and participate in learning, which may not be available through traditional resources in every classroom (Ahmad, 2015; Barazandeh, 2005). For example, a screen reader may be used in place of an interpreter for students with vision impairment.

When students are not able to fully engage with class material and activities, they may become disinterested and disengaged (Dweck, 2006); hence, learning is impacted. Assistive technology presents valuable opportunities to improve all students' learning outcomes. It helps reduce, and at an advanced stage, eliminate barriers, to help students with and without disabilities participate in learning activities within and outside of the classroom. The general education curriculum in Saudi Arabia includes multiple resources which are not currently accessible to all students, hence, assistive technology devices and software help all students engage with the class material in a meaningful way (Ahmad, 2015). Therefore, assistive technology aims to ensure that all students can participate in the classroom and engage with learning materials through eliminating barriers (e.g., improve the readability of the assigned materials) which currently prevent them from fully participating (Ahmad, 2015; Zilz & Pang, 2021).

In a review of literature regarding iPad use by school age students with disabilities, Rodriguez et al. (2014) concluded that technological innovations such as digital e-books and voice recording apps on an iPad are beneficial to students with disabilities, especially in enhancing engagement with in-class activities and learning independence. These results are supported by another empirical study from Rumreich and Kecskemety (2019) considering the use of iPads by first year engineering students

at a university in the United States. That study found students most commonly use the iPad for learning and collaboration activities both inside and outside the classroom. Note taking and access of the online learning materials were other common uses. The study by Rumreich and Kecskemety (2019) did not differentiate between students with disabilities and other students in the survey. Learning independence is particularly important in the university environment, where structured teaching activities and opportunities may be limited.

Technology for learners with disabilities includes devices and software which support their participation in general classroom activities and content and allow them to engage with teachers and other students to gauge their performance and share ideas (Boyle & Kennedy, 2019). For some students it is important to adopt assistive technology to enable these students to participate with other students fully and equally. In this way, assistive technology contributes to upholding the intent of inclusive education. The use of assistive technology (e.g., assistive reading software) can also facilitate the instruction of students with disabilities to build an inclusive learning environment by allowing them to engage with class materials (Okolo & Diedrich, 2014).

There is an opportunity for assistive technologies to enhance the teaching of EFL in Saudi Arabia to adults with disabilities (Assulaimani, 2019). For example, various technologies such as interactive whiteboards help learners with hearing impairments and those with language disabilities to improve their typing and reading techniques. Other assistive technologies help instructors in the EFL classroom to track students' levels of comprehension and provide rapid feedback using software such as Kahoot, Nearpod, Quizizz and Edpuzzle. When using Kahoot, for example, students can receive instantaneous feedback on their performance which helps them determine their level of comprehension and allows them to learn from their mistakes in real-time (Kaur & Nadarajan, 2020). Assistive technology such as the Livescribe Pen may also promote teacher-to-student and peer-to-peer bonds as it can enhance communication between individuals (Harper et al., 2017). Defined as a tool to evaluate the quality of educational apps (Lee & Sloan, 2015), evaluation rubrics such as that proposed by Walker (2010) could be valuable for matching individual students' needs with appropriate applications (e.g., iPad) (Rodriguez et al., 2014).

In Saudi Arabia, the introduction of the *Tatweer* Project has impacted the use of Information and Communication Technologies (ICT) in EFL classrooms. Among the 10 goals of the Tatweer strategy (Ministry of Education, 2007), one was to use ICT to improve the quality of education. Several development programs were designed to integrate ICT into teachers' skills, curricula, school activities, and the school environment in order to achieve this goal.

ICT plays a significant role in enhancing and supporting social development among learners, as recognised in the *Tatweer* project (Ministry of Education, 2007). The project has facilitated the use of different equipment to enhance learning including laptops, interactive whiteboards, and data

projectors in the classrooms. Through the *Tatweer* Project, elements such as teacher training in EFL practices and principles, and the creation of teacher networks have been established to improve teachers' self-efficacy. The project has also enhanced the use of digital resources for learning and teacher-student cooperation (Assulaimani, 2019). These developments could have direct benefits for learners with disabilities.

The Saudi government supported Tatweer initiatives seek to improve all students' education and outcomes, including those with disabilities. The development agenda places inclusive education (instead of special education) in the centre, with Goal 3 focusing on providing equal access to quality education and supporting all students, regardless of race, sex, or economic circumstances (Alghamdi, 2019). The Tatweer Project has contributed to the enhancement of EFL learning in Saudi Arabia for students with disabilities, but to improve the overall quality of education in the country, more needs to be done. As a first step, an awareness of the difference between special education and inclusive education, is required. This need is demonstrated by a disconnect between the intended and actual implementation of the Tatweer initiatives. Specifically, the Tatweer initiative policies specify that all students should have access to quality education, while the implementation of this initiative by universities involves the design and provision of differentiated special education services for students with disabilities.

Improvements suggested by Assulaimani (2019) include the design and implementation of a different curriculum for students with disabilities which prioritises inclusive education, teacher training in the use of assistive technologies, and the integration of a wider range of educational technologies. This would substantially contribute to the implementation of inclusive education in the Saudi Arabian educational institutions.

Assistive technology is also likely to support enhanced language learning for all students in Saudi Arabia. Innovations such as writing support, spelling software, and other technologies that enhance reading, writing, and speaking could be applied in the classroom to support all students, including students with disabilities, in their language learning (Boyle & Kennedy, 2019). For example, iPads enable students to download applications that can be used to facilitate learning English skills. Furthermore, the iPad has different elements of functionality, including internet access, flexible visual and audio features that can help students to learn English (Ok, 2018; Qahmash, 2018).

iPads are already being used as assistive technology in some classrooms to support students (Ok, 2018). iPads or tablets are an ideal piece of hardware for interacting with assistive technologies as they are more socially acceptable than other devices supporting assistive technologies such as laptops (Ok, 2018; Qahmash, 2018). iPads and tablets are efficient in meeting the specific needs of students with disabilities, as resources and exams can be adapted (e.g., text size can be increased) and support can be efficiently delivered (Cumming & Strnadová, 2020). For example, for students with

visual impairment, iPads are beneficial because of built-in features such as Voice-over and Siri, as well as other apps that enable activities such as dictation and font adjustment to help accommodate vision needs (Ok, 2018). For students with hearing disabilities, Facetime enables video communication to facilitate face-to-face communication and enhance learning (Ok, 2018). For students with physical and motor disabilities, applications on assistive devices such as the iPad and tablets with Assistive Touch and Switch Control would enable them to create customised touches for better learning and access to materials (Cumming & Strnadová, 2020; Ok, 2018). Technology is also important and effective in enabling teachers to observe student progress over time, offer different learning pathways, and enhance their performance by providing effective feedback (Boyle & Kennedy, 2019).

This literature review shows that assistive technology can support access, participation and learning for students of all age groups and provides an improved opportunity for all students to participate in classroom activities (i.e., enhances the quality of inclusive education). Based on these findings, it can be considered that technology-based instruction in EFL university classrooms may enhance students' motivation and improve their ability to learn new concepts and perceive information (Zilz & Pang, 2021). Students with disabilities may especially benefit from the use of assistive technology in classrooms as it facilitates improved interaction with the course content, their peers, and teachers. Therefore, this study focused on exploring the use of assistive technology in EFL classrooms to support and enhance inclusive education in the context of Saudi Arabian universities.

Svensson et al. (2021) conducted a study including students with disabilities to explore the effects of assistive technology for students with severe reading disabilities. They found that assistive technology contributed to the education of students with disabilities. For example, using assistive technology such as a tablet can be valuable for students with reading disabilities to assimilate text as well as boosting their reading by communicating texts as their classmate. The findings also indicate that assistive technology increased reading performance, engagement with content and enhanced students' motivation to complete their schoolwork. A study involving surveys of elementary school teachers and graduate students by Atanga et al. (2020) highlighted the importance of assistive technology in bridging the gap between students with learning disabilities and their peers without learning disabilities. The findings of Atanga et al. (2020) emphasise the potential value of utilising assistive technology in the classroom for students with disabilities in order to facilitate their full participation in the curriculum. They found assistive technology was also helpful in enhancing independent learning.

2.9 Summary

The primary goal of inclusive education is to assist and facilitate all students to grow their knowledge, confidence, and skills (Kurniawati, 2021). However, teachers' attitudes and beliefs about the competence of some students, such as those with disabilities, may prevent them from implementing practices that are inclusive of all learners (Avramidis & Norwich, 2002). Teachers' attitudes and self-efficacy are known to have a considerable impact on all students' performance including those with disabilities (Cornoldi et al., 2018; de Boer et al., 2011).

According to an examination of the available research, Alnahdi (2020) and Maddah (2018) identify unique difficulties associated with teaching English as a second language to students with disabilities. Based on teachers' beliefs, teachers who consider a student with disabilities with a growing rather than a fixed mindset, can accept responsibility for teaching a wide diversity of students, feel more confident in their teaching skills and successfully implement inclusive education. In this context, assistive technologies such as iPads, can be introduced as a learning aid to support both teachers and students in adopting appropriate teaching-learning methods (Ok, 2018). This may provide EFL teachers with self-efficacy that will enable them to enhance their motivation to implement inclusive education.

2.10 Research Gap

The exploration of relevant literature revealed an absence of research studies exploring Saudi Arabian experiences of the challenges facing both EFL teachers and students with disabilities in universities. In the current educational climate in Saudi Arabia where students with and without disabilities are not educated in the same learning environment, the global expectations for inclusive education do not exist. Instead, special education classrooms including students with disabilities exist in Saudi Arabia. Also, no research has examined the general challenges faced by students with disabilities learning EFL in universities in Saudi Arabia (Alhmadi, 2014; Awadh, 2000).

As a result, the proposed study findings are important and relevant because they will analyse the difficulties Saudi Arabian university students and teachers face when teaching and learning English as a foreign language. Faculty, teachers and practitioners need a theoretical foundation to take measures to execute inclusive policies while supporting EFL students from Saudi Arabia who have disabilities. This study will also help raise awareness of the needs and concerns of EFL teachers in Saudi Arabia so that inclusive education can be offered to all students. There are many ways to support adult students in Saudi Arabian EFL classrooms and this research has identified new topics for further investigation.

Chapter Three
Phase One Qualitative Methodology

University study opportunities are available to all aspiring students in Saudi Arabia. Students with disabilities are required to undertake a foundation year which is designed to develop their basic academic skills and allow them to fully participate in their chosen university course. During this foundation year and the rest of their degree, students with disabilities are taught in a separate classroom. At present EFL teachers teaching this foundational year do not receive specific training to teach students with disabilities.

Based on the preliminary exploration of the literature, it was revealed that teachers' attitudes, teaching methods and self-efficacy impact the learning and participation of students with disabilities in the classroom. Other studies highlighted the potential impact of integrating assistive technology in supporting the language acquisition of students with disabilities (Boyle & Kennedy, 2019; Zilz & Pang, 2021). Furthermore, some studies highlight the influence of peers' attitudes towards inclusive education (De Boer et al., 2012). However, to identify the greatest impact on students with disabilities accessing university education it is necessary to hear and understand the challenges they face in the classroom (García-González et al., 2021). These insights will then inform the design of inclusive learning experiences which facilitate the inclusion and achievement of all students.

In order to understand the challenges faced by students and EFL teachers in Saudi universities this study utilised a mixed-methods approach to gather data and identify the needs and concerns of EFL teachers and students in Saudi Arabia. In Phase 1 a qualitative study utilised interview data to gather initial results and inform the design of Phase 2. This methodology is consistent with the exploratory sequential design typical of a mixed-methods approach. It was assumed that there are many ways to support adult students in Saudi Arabian EFL classrooms and this research will identify new topics for further investigation.

This study focused on exploring challenges faced by teachers and students in classrooms enrolling students with disabilities. It emphasised exploring the attitudes and self-efficacy of EFL teachers, and the design of learning experiences which support access and participation in education, for students with disabilities in Saudi Arabian universities. A specific focus was placed on examining teacher's understanding of the role of assistive technology in designing inclusive learning environments.

This chapter includes details of the general methodological approach of this study which has two phases. An overview of the methodology relevant to Phase 1 is provided in this chapter. The rationale for Phase 1, the philosophy of research design, cultural context, targeted participants, interview structure, data preparation and collection are addressed in this chapter. The limitations,

ethical considerations, analysis techniques and data trustworthiness are also discussed. The chapter concludes with the methods applied to Phase 1 data analysis. However, the detailed methodology of Phase 2 is provided in Chapter 5 as the instrument (survey) was sequentially designed after the analysis and interpretation of Phase 1 results.

3.1 Philosophy of Research

This study used a mixed-methods research design. Mixed-methods research denotes "the process of research when researchers integrate quantitative methods of data collection and analysis and qualitative methods of data collection and analysis" (Clark & Ivankova, 2016, p. 58). This method permits the researcher greater amplitude of the research as well as the validation of the results (Creswell, 2012). This approach permits the researcher to compensate for each methodology's strengths and weaknesses, adopt triangulation and make a comprehensive conclusion from data in both phases (Clark & Ivankova, 2016).

Mixed-methods research design is seen to be an approach that overcomes the limitations of the use of one method. Thus, if qualitative data collection or analysis methods have some limitations, the same limitations may be complemented using quantitative data in the same study and vice versa. For instance, if the researcher feels that there is bias in the qualitative data collection process, quantitative data collection may be used to address the bias. This can be achieved by designing survey questions for Phase 2 which allows reinterpretation and clarification of results emerging form Phase 1. Effectively, Phase 2 was used to reduce bias and triangulate meaningful results to ensure they were appropriately interpreted (Creamer, 2017). The use of mixed-methods research design gives the research a higher degree of understanding that cannot be clearly investigated using one research methodology (Creswell, 2012).

Different designs may be applied in mixed-methods research. Particularly, for this research, the use of an exploratory sequential design was applied to gain and combine the benefits and strengths of both methodologies (Almalki, 2016). This is a two-phase model of mixed-methods research that involves enhancing data collection or analysis practices by first using one method followed by the next method, or sequentially (Creswell, 2012). In this case, the use of qualitative methods was firstly applied followed by quantitative methods for collecting and analysing data (Berman, 2017; Creswell, 2012; Subedi, 2016).

3.2 Research Questions Development

Learning English as a Foreign Language (EFL) is an opportunity for adults with disabilities to improve their social ability to participate in different communities, facilitate their social inclusion, enhance their employability skills, and foster their understanding and use of intercultural

communication (Blázquez Arribas et al., 2020). However, students face barriers to learning during EFL classes. Reportedly, these barriers include difficulty interacting with learning materials, a fear of making mistakes in front of their peers, a lack of motivation and a negative attitude towards English courses (Al-Ahmdi, 2009). Some current teaching methods are inappropriate for teaching a foreign language to students with disabilities (Sparks, 2016). Consequently, EFL teachers need to be aware of how to adapt teaching-learning strategies and methods to help students accurately perceive information and improve their language acquisition through the adapted activities (Khan, 2011).

It is reported that teachers' and peers' attitudes are one of the main determinants of motivation, inclusion and performance of students with disabilities in EFL classrooms (Alnahdi et al., 2019; Cornoldi et al., 2018; De Boer et al., 2011; Rezai et al., 2018). However, unique difficulties are associated with teaching English as a second language to students with disabilities (Alnahdi, 2020; Maddah, 2018) as they may need specialised assistance, which is not available in every classroom (Ahmad, 2015; Barazandeh, 2005). For example, assistive technologies such as iPads, can be introduced as a learning aid to support both teachers and students, however, these require special training for effective use (Ok, 2018).

The Social Cognitive Theory (SCT) provided the basis for this study (Moriña, 2017; Rezvani & Amiri, 2013). SCT denotes the importance of self-efficacy in the teaching context. It provides a basis for examining the challenges facing EFL teachers in designing teaching and learning environments that are inclusive of all students. Further, SCT can reveal the challenges that all students face while learning EFL. As a result, the following research questions were formulated for this proposed study:

1 What are the challenges faced by:

a) students with disabilities studying EFL in classrooms in a Saudi Arabian university.
b) EFL teachers teaching students with disabilities in a Saudi Arabian university.

2 How could the learning experience of students with disabilities in inclusive classrooms be influenced by:

a) teachers' self- efficacy.
b) teachers' attitudes toward the inclusion of students with disabilities.
c) the attitudes of students without disabilities toward the inclusion of students with disabilities.
d) the use of assistive technologies.

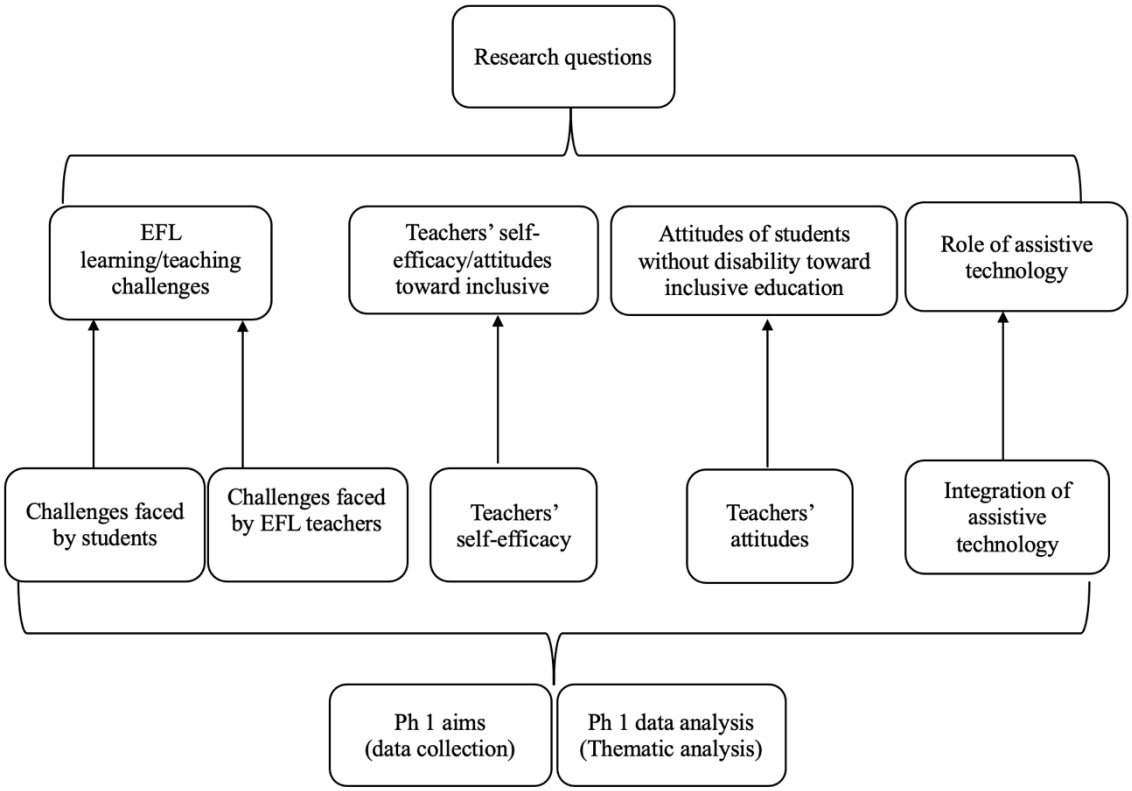
3.3 Rationale for Qualitative Data Collection in Phase 1

The research questions in this study led to the use of mixed-methods approach. This two-phase approach allowed data collection for research questions which were not answered in Phase 1, to be

explored further in Phase 2. The link between Phase 1 data collection activities and the research questions is indicated in Figure 3-1.

Figure 3-1

Phase 1 Research Questions, Data Collection and Data Analysis



The first phase utilised qualitative data collection and analysis to answer Research Questions 1 and 2. In this phase, the data collection was conducted using one-on-one semi-structured individual interviews. One purpose of a mixed-methods approach is to allow gaps in data and results from Phase 1 to be addressed in Phase 2. In this research, themes emerging from Phase 1 data analysis inspired the refinement of research questions and themes to be included in the Phase 2 survey. The themes refined and/or added into Phase 2 include teaching methods and strategies, and the perspectives of students without disabilities towards their peers (students with disabilities). The results from Phase 1 also required the literature review to be expanded to cover these additional themes that informed the terminology and layout of the Phase 2 survey.

3.4 Research Site

Saudi Arabia is taking steps to offer education to students with disabilities in some universities. This study chose one specific university to undertake the research. At this university, it is advertised

that there is a vision for teaching staff to provide an excellent educational service for students with disabilities. It is proposed that this will be achieved by raising the efficiency of faculty members in teaching students with disabilities and educational adaptations guide (with no description of this guide) that contribute to the delivery of a successful educational process.

The targeted university facilitates education for students with disabilities through the disability services centre for students. The centre's responsibilities include coordinating and facilitating adaptations for students with disabilities including:

- The establishment of policies and procedures.
- Evaluating documents and procedures for both academic adaptations and housing.
- Providing the results of assessments to students with disabilities.
- Providing confidential administrative support such as the provision of additional documents, recommendations regarding transitional support services and/or adaptations appropriate to the student.
- Providing resources for students, faculty, and staff who receive and/or provide access to facilities, programs, activities, and services for persons with disabilities.
- Facilitating disability specific adaptations as required.

3.5 Phase 1 Participants

Ten student volunteers from the special education department at the targeted university in Saudi Arabia were recruited for an individual interview. This was organised by contacting the special education administrative office and discussing the study's purposes and the targeted participants. The office then contacted EFL teachers of students with disabilities, provided them with details about the study and asked them to nominate students to be involved. All nominated students were contacted and asked if they would be interested in taking part in the study. Their teachers were also asked to participate in the teachers' interviews.

All students had a sensory disability (five visual and five hearing impairments). They were between 20-25 years old and both genders (female and male). All students were undertaking a foundational year (first year) at one of the Saudi Arabian universities which provide higher education for students with disabilities and are part of the Special Education department (Table 3-1). All students studied EFL as a core course in their first year.

Table 3-1

Interviewed Participants Information

Student's name	Gender	Year level	Disability
Bayan	Female	Year one	Hearing impairment
Shaden	Female	Year one	Hearing impairment
Reem	Female	Year one	Hearing impairment
Farah	Female	Year one	Hearing impairment
Noor	Female	Year one	Hearing impairment
Fahad	Male	Year one	Visual impairment
Majed	Male	Year one	Visual impairment
Hamed	Male	Year one	Blind/ severe visual impairment
Rami	Male	Year one	Visual impairment
Fares	Male	Year one	Visual impairment

Five EFL teachers (3 female and 2 male) with experience teaching students with disabilities were also interviewed. Teachers who participated in the Phase 1 interviews self-nominated following an email distributed to all relevant staff. The teachers were from different backgrounds and had teaching experience ranging from 1 to 10 years (Table 3-2). The teachers were all from the universities' English department and had different levels of qualifications (Masters/PhD).

Table 3-2

Interviewed Teachers' Information

Teacher's name	Gender	Years of teaching experience	Disability type for students in their class
Foze	Female	Five years	Bipolar condition and physical mobility
Taher	Male	Three years	Visual impairment
Maha	Female	One years	Hearing impairment
Malek	Male	Over ten years	Hearing impairment
Sofia	Female	About six years	Visual impairment and physical disability

3.6 Semi-structured Interviews

Semi-structured interviews have the potential to reveal the personal experience of participants (Hennink, 2011). Further, Oplatka (2018) contended that while being interviewed, participants may

start thinking about their own experiences in a different or new way, resulting in a different understanding and knowledge concerning the explored phenomenon.

Merriam and Tisdell (2015) posited that a semi-structured interview offers a balanced method between structured and unstructured interviews. Unlike structured interviews, semi-structured interviews give the researcher a fairly open framework where participants are more likely to define their world as individuals (Patton, 2015). According to Adams (2015), semi-structured interviews need to be conducted in a conversational manner with one participant at a time while using both closed and open-ended questions. The use of both these question types will create a dialogue with the participant about the elements being examined. Flexibility in conducting the interviews will enable the participant to explain their experiences in the best way possible and also gives the researcher the opportunity to address and focus on other elements that will help in the research (Adams, 2015; Creswell, 2012).

This study used semi-structured one-on-one interviews to generate valuable data about their experiences studying in an EFL classroom. For students, the 10 interview questions focused on their motivations for learning EFL, how teaching methods were adapted, the learning challenges, their sense of inclusion and the use of assistive technologies in the classroom (see Appendix A for a copy of the interview questions). For teachers, the 20 interview questions focused on teaching methods and strategies, adaptations for students with disabilities, the teachers' self-efficacy and their attitudes towards students with disabilities in an inclusive classroom, as well as the integration of assistive technologies in the classroom (see Appendix B for a copy of the interview questions). These topics were selected for their relevance to the research questions, to fill gaps identified in the literature and to provide an alternative perspective to the views of the students.

3.7 Interview Preparation and Data Collection

The interviews were conducted online due to the Covid-19 pandemic, and in Arabic language for all except one teacher who did not speak Arabic. In this case, the interview was conducted in English. Interview questions were written in English and then translated to Arabic with the Arabic translation checked by an official translation office. Students were recruited from the target university following referral by the university Special Education Department and relevant teachers. Students who agreed to participate were then sent the Partcipant Information Statement (PIS) (see Appendix C) and Participant Consent Form (PCF) (see Appendix D). Teachers were notified of the opportunity to participate with an email by the University's English Department including PIS and PCF. Five teachers responded to the email nominating themselves to participate.

All data were collected during the scheduled interviews. Meeting times were agreed a week in advance but remained flexible until 24 hours prior. The intended interview duration for all participants

was 30 – 60 minutes. For students, seven of the participants completed the interview within 35 minutes and three of them completed it within 45 minutes. It was observed that some of the participants, especially female students seemed hurried, shy, uncertain, unsure and showed some signs of anxiety. On the contrary, male participants seemed more confident.

For teachers, interviews typically lasted more than 60 minutes. This was significantly longer than intended, however; it was also recognised that reducing the number of questions would have resulted in insufficient data being collected to provide sufficient insights to answer the research questions. All the teachers were confident and interactive with the interview questions in comparison with students.

3.7.1 Zoom Videoconferencing

The interviews were conducted through Zoom Videoconferencing since face-to-face contact was not possible during the COVID-19 pandemic. Zoom Videoconferencing is a cooperative, cloud-based tool which includes several features such as group messaging services, online meetings, and a protected recording of sessions (Zoom, 2016). Unlike other platforms, Zoom is consistent with the ethical requirements established for this study. It presents additional advantages such as its capability to securely record audio and video interviews without recourse to third-party software. This aspect is mainly significant in research where the protection of highly sensitive data is required (Archibald et al., 2019).

All the participants were given the choice of an audio or video interview. Only one student chose the video interview, asking for eye contact for the purpose of lip reading. Two teachers (one male, one female) volunteered to have the interview conducted by video. All the interviews were recorded in Zoom. Written consent was gained from all participants prior to recording, and participants provided verbal consent at the beginning of the meeting. At this time they were reminded of their right to not answer a question if they chose, and their right to withdraw.

3.7.2 Field Notes

Field notes were written during the interviews and then evaluated and linked to the interview transcripts (Maxwell, 2012). Field notes are used as a supporting data source and were formatted based on the suggestions of Bogdan, (1983). Prior to each interview, on the first page of each note, the researcher recorded pseudonym names and disability diagnosis for each participant, alongside the date, time and working title indicating the contents of the notes. The contents discussed in the field notes include key details that the participants identified, the researcher's reflections, clarification points and any similarities that the researcher found among or between the perceptions of the participants (Bogdan, 1983). The field notes also contain direct quotes that have captured the

researcher's interest during interviews. All responses were translated back into English prior to data analysis and interpretation.

3.8 Phase 1 Limitations

It was identified that the literal translation of the interview questions to Arabic (the first language of the participants) was not always appropriate. For better understanding by the participant, the translation was edited to include more typical Arabic language. Some words and phrases did not make sense to students without further explanation. For example, students typically interpreted inclusive education as education involving both female and male students (where in Saudi Arabia females and males are segregated in a different building or university). Hence, the interviewer was required to explain the definition of inclusive education and multiple other terms, including assistive technology, to each student. In Phase 2, this was avoided by providing a definition at the beginning of the survey. Some concept questions also required further explanation to clarify the intent of the question to encourage students' full interaction and understanding. In the future, it is recommended that a pilot study be conducted before data collection to test the clarity of questions, time allocated, appropriateness of used language and translation accuracy.

3.9 Data Analysis

According to Creswell (2003), the first step of qualitative data analysis involves an initial read-through of all data to identify, interpret and organise themes. The themes are then coded to allow the recognition of subjects, problems, significant differences and similarities in the data collected (Sutton & Austin, 2015). Coding may then be used to group responses into common themes and categorise them according to their relevance to the research questions (Merriam & Tisdell, 2015).

Prior to data analysis, the researcher sent electronic transcripts of the interview sessions to participants with the contact details provided during their interview within one week of data collection. Then, they were asked to verify the transcripts accuracy. All the teachers and three of the students replied confirming the transcripts' accuracy. Some participants chose not to review the accuracy of the transcripts.

At this stage, the researcher read through the interview transcripts and listened to the interview recordings. Interview data were interpreted alongside notes taken during the interviews, providing an insight into the perspective of every participant prior to initiating the data analysis. These notes taken during the interview, were then compared with notes taken from the interview recordings to check consistency. Then interview transcripts were translated from Arabic to English and revised by the researcher. The translation was also checked by an official translation office.

The researcher started coding by highlighting recurrent themes, interesting points and recommendations from the interview transcripts. The coding system described by Sutton and Austin (2015) was used to group responses into common themes and categorise them according to their relevance to the research questions. Responses in each group were compared and contrasted to:

1. identify the challenges faced by:
    a) adults with disabilities studying EFL in an inclusive classroom in a Saudi Arabian university.
    b) teachers teaching EFL in an inclusive classroom in a Saudi Arabian university.
2. identify the influences of:
    a) teachers' self- efficacy.
    b) teachers' attitudes toward the inclusion of students with disabilities.
    c) integrating of assistive technologies.

In this study, coding was conducted by hand on a hard copy of the interview transcripts. According to Cope (2010), when coding is done manually, it is essential that the researcher develop a table that includes a list of codes, which will be categorised and organised repeatedly. Thus, in this step, the researcher gathered the coded interviews and field notes in the search for connections in and throughout the data sources. The researcher developed a table with four columns to compare the various coded interviews: (a) field notes, (b) codes, (c) analytic codes, and (d) notes to compare various coded interviews.

Themes identified in Phase 1 formed the basis of the questionnaire designed for Phase 2 data collection.

3.9.1 Trustworthiness

According to Yilmaz (2013), trustworthiness, credibility, authenticity, neutrality, dependability and transferability are often linked to the validity and reliability of qualitative case studies. Thus, in order to guarantee that a qualitative study is meaningful, the obtained data must truthfully represent individuals, experiences, behaviours and environments so that the reader can understand what data were collected and how this was achieved (Yilmaz, 2013).

In this phase, participants were given pseudonyms to protect their real identity but allowed their responses to be matched to a representative persona. The allocation of pseudonyms allowed unbiased interpretations of the data and increased the likelihood of the participants disclosing sensitive information. This approach was also consistent with the methods described in the ethics application proposed to ensure the confidentiality of the interviewee.

According to Amankwaa (2016), researchers should set out the practices and standards appropriate for the study to be accepted by readers. In this case, the participants were volunteers and had the opportunity to withdraw from the study at any time. The participants were provided consent forms with details of the study goals, data handling, analysis and presentation procedures. Participants were also given the choice to be interviewed via Zoom (voice or video) recording and reminded at the beginning of each interview that the interview was being recorded.

According to Lincoln and Guba (1985), member checking is a crucial procedure for improving trustworthiness. In this phase, the participants were offered a copy of the interview transcripts to review and a copy of the final study results. None of the teachers or students who checked the transcripts provided any comments. These activities are examples of member checking, which minimises personal bias (Doyle, 2007). To ensure the accuracy of questions provided and responses interpreted, official translation and checking services were utilised. The official translation office did not note any discrepancies or recommend any changes, instead stamping the document to indicate official approval.

3.10 Ethical Considerations

Considering this study was of mixed-methods research design involving human subjects, it was important to consider the ethical issues that affect both qualitative and quantitative research methods (Creswell, 2012). Prior to Phase 1 data collection, ethics approval was sought from the Sydney University Human Research Ethics Committee (HREC; Protocol No.: 2021/406; see Appendix E). Once this conditional approval was received, a number of steps were required to formalise the ethics process. Conditions addressed included obtaining permission and approval from the targeted university and obtaining certified translations of all research materials (e.g., Participant Information Statements, Participant Consent Forms).

Yin (2009) highlighted that ethical issues need to be considered during all phases of the research process including before the study, at the commencement of the study, in the processes of data collection and data analysis, while reporting the data, publishing the study, and storing data. In this study, all efforts were taken to ensure the confidentiality of the interviewee. The ethics application for this research sought to ensure that the participants and their culture were respected, and they were not discriminated against. This was informed by the cultural expertise of the researcher which give them a unique opportunity to design a culturally sensitive study. For example, all participants were given the choice of being interviewed by video or by voice to improve their anonymity. Most participants did not prefer to turn their camera on.

Confidentiality was also given a high priority for this research. Precautions including pseudonyms and numerical coding were used to avoid providing any identifying details of the

participants. All records containing personal identifying data and details about individuals in this study were coded and kept securely and confidentially by the researcher.

All data were subject to a University of Sydney data management plan. The data during analysis were stored on the researcher 's password protected personal external hard drive. Data were also stored on a university-approved server. A summary of initial results was made available to two of the participants upon their request. Five years after data collection, they will be destroyed.

Chapter Four
Phase One Results

The purpose of this study was to explore the challenges faced by EFL teachers and students, teachers' attitudes and self-efficacy and the role of assistive technology in promoting an inclusive classroom. The research focused on the education of students with disabilities in Saudi Arabian universities. Semi-structured interviews were conducted with 10 university EFL students with disabilities learning in a classroom segregated according to their impairment (Table 3-1, Chapter 3) and five of their EFL teachers (Table 3-2, Chapter 3) at a Saudi Arabian university. These data were collected to provide initial results about challenges faced by students with disabilities learning EFL and their learning experiences. It also included teachers' perspectives on the definitions and principles of inclusive education, about how to implement inclusive learning and the challenges involved in designing and implementing an inclusive environment. This chapter summarises the findings of the interviews conducted in Phase 1 of the study with the most important results being the discovery that inclusive education consistent with the international definition did not exist in this Saudi Arabian university. Instead, special education was provided to students with disabilities, who studied in segregated classrooms. This instigated a need to change Research Question 2 (a-d), which previously focused on the impacts of inclusive education, to better reflect the educational environment in which students with disabilities were studying.

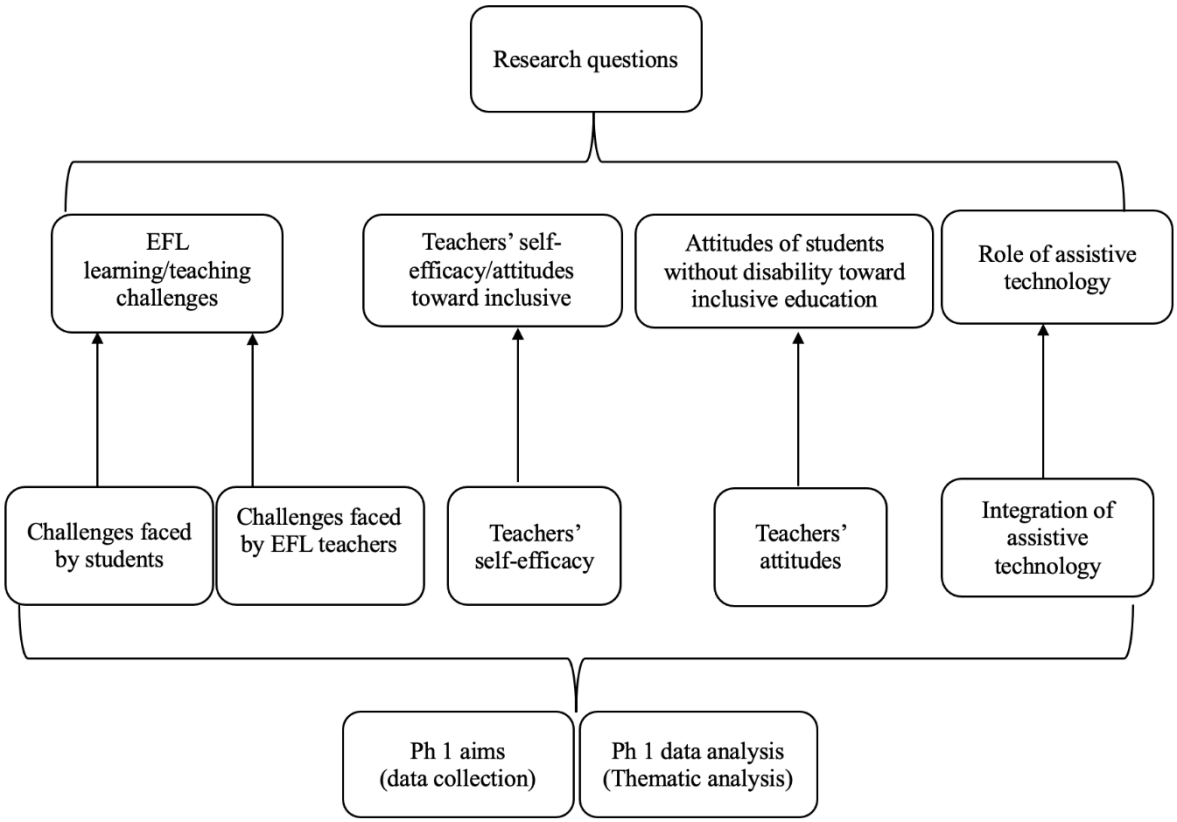
The results from Phase 1 highlighted motivations and challenges faced by students with disabilities in EFL classrooms. These included intrinsic motivations such as the interest of learning new languages and extrinsic motivations such as the perception of English as a lingua franca which would contribute to their employment and study. Teachers demonstrated both positive and negative attitudes toward inclusive education. Teachers identified a lack of specific training as one of their greatest challenges teaching students with disabilities and provided recommendations for improving flexibility in exam arrangements. Both students and teachers thought there was an opportunity to improve the use of assistive technologies in the classroom by providing teachers with specific training on this topic. This chapter reports the themes and detailed findings relevant to the research questions.

4.1 Phase One Results: Students

In this section, responses from students are analysed to answer Research Questions 1(a), 2b and 2d. This section presents the students' motivation for learning EFL in a Saudi Arabian university, and then the challenges experienced by these students. This investigation is followed by an analysis of teachers' perspectives on teaching EFL to students with disabilities. There were three main themes emerging from students' interview data, these were the motivations, challenges and role of assistive technology (Figure 4-1).

Figure 4-1

Conceptual Map of Students' Responses Regarding their Experiences Learning EFL



4.1.1 Theme One: Motivations

Students demonstrated both intrinsic and extrinsic motivation towards learning English as a foreign language (Figure 4-2). Results from students' responses revealed that five students had an intrinsic motivation to learn English due to their beliefs that English is an important language that encourages interaction with people from other countries. Noor said, *"We need to learn English to communicate with people who do not speak Arabic"*. Other features of intrinsic motivation mentioned by students related to the interest of learning different languages from their mother tongue, reading English books and for self-development. Bayan mentioned, *"One of the biggest motivations for learning English is that I am fond of reading books and articles in English"*. Hamed said, *"English is important for relying on one`s self"*.

Figure 4-2

Motivations to Learn EFL Included Intrinsic and Extrinsic Factors

Nine out of 10 students illustrated extrinsic motivations to learn English, considering it as a Lingua Franca and the requirements of university, employment, and travel. Majed said, *"English is also a core course at university"*, while Bayan mentioned "*I think that English is very essential in today's world because we need it in our daily life, for work, at restaurants and for travel abroad"*. Shaden replied, "*It is important to learn English because it is an international language, and it helps communicating with foreign people and for travel"*.

Despite showing intrinsic and extrinsic motivations to learn English students often struggled in this endeavour. In this study, Research Question 1a focused on the students with disabilities and investigated the challenges they faced in EFL classrooms.

4.1.2 Theme Two: Challenges Faced by Students with Disabilities

Responses from Phase 1 participants highlighted learning obstacles and environment as challenges faced by students with disabilities in EFL classroom.

4.1.2.1 Learning obstacles. Students with disabilities revealed that the lack of support and an insufficient availability of learning resources, prevented them from developing self-confidence and competency in basic academic skills like reading and writing. These obstacles made it difficult for learning to take place or interfered with the learning process. For example, students struggled to complete in-class tasks when insufficient support was available, thus they experienced low self-esteem.

Farah said, *"I always need constant help and extra time due to my hearing impairment to understand English".* Specifically, extra time to listen, understand and take notes was identified as being helpful. This also illustrates how limited understanding about the impact of an impairment (e.g., hearing loss) interferes with teachers providing reasonable accommodations so the students can fully access and participate in learning.

Fares mentioned,

> *One of the challenges I have because of my disability is that my reading and writing skills are not good, inability to pronounce the words correctly, lack of self-confidence because I am afraid to make mistakes or giving wrong answers and the unavailability of useful educational devices and technologies such as Braille readers.*

The use of assistive technologies and other strategies by students, and how it removes some of the learning obstacles present, is discussed below.

Majed declared, "*Regarding its (his visual impairment) effects on learning English, it causes lack of self-reliance and constant need for help, inability to speak fluently, dependence on some skills and ignoring other skills".* For example, Majed explain that *"he focuses on English speaking and listening skills as they are easier. Reading and writing are not prioritised as they are more difficult and take extra time".*

By contrast, a small number of students with disabilities revealed that they did not have trouble learning English and felt their disabilities improved their abilities to overcome other difficulties. Hence, they did not experience learning obstacles resulting from their impairment. Some of these students had access to activities and resources outside the classroom to provide them with additional opportunities and support to learn EFL. This indicated that the disadvantages faced by students with disabilities can be overcome with the provision of additional resources and supports. For example, Shaden who has hearing impairment revealed: "*My disability* (hearing impairment*) does not cause me any problems in learning English because I have learned English before from my mother who is an English teacher. Having friends who speak English also help me practise English all the time".* Shaden also indicated that she used a phone application (name not specified) to help her overcome the hearing impairment. Hamed mentioned, *"Regarding the effect of my disability on my learning English, my disability has had positive effect on my reading and writing skills as it makes me more independent in learning and in a daily life".*

Other challenges students identified while learning English as a foreign language related to the attitudes of their peers (e.g., being a target of bullying, anxiety, embarrassment) which could demotivate them from learning English. Majed declared, "*I face many challenges in my daily life because of my visual impairment and low reading and writing skills. Sometimes, I become the target*

of bullying or mistreatment, or some people belittle my personality". Noor said, "*some of the challenges I faced to learn English are lack of language practice, anxiety and feeling embarrassed from answering question and other students' reaction when I made a mistake, lack of self-confidence to practise English".*

4.1.2.2 Learning environment: Pedagogy issues. Supportive and appropriate learning environments are required for successful learning outcomes (Guo et al. 2022). Students suggested that inclusive learning is best achieved when they have a positive relationship with their teachers. Bayan said, *"teachers' support for students is the biggest motivation for learning English and this helps a lot".* Farah also said, *"Teachers should take students' disabilities and weaknesses into consideration, learning English well before starting university (having English background). Support and motivation, good relationships between students and the teachers are needed, to make us engaged".* They also thought if the teachers understand their needs the learning environment would be more inclusive and successful. Shaden said, *"If I give a wrong answer, the teacher`s reaction should be positive and helps me to learn and shows me the mistake and how to correct them".* Fares also said, *"Teachers should be patient and able to understand students and making sure they understand".* Some students believed that teachers could motivate them in English learning when they taught them with patience and used clear and explicit instructions. Hamed said, *"The explanation should be clear, making sure students understand English, keep motivating us. The teacher has to be very patient, and she has to offer support to the students, finally using a variety of classroom activities".*

These perspectives demonstrate that students valued encouragement and feedback from their teachers. This also motivated them to remain engaged in EFL classrooms, providing insights relevant to Research Question 2b.

Other pedagogical challenges identified by the students included teachers' lacking specific experience and skills to teach students with disabilities. Rami stated, "*I cannot get engaged because of the teacher's teaching method and the way he or she explains the lessons not suitable for all students".* followed by *"teachers need more training in how to teach students according to their needs and take individual differences into consideration".* In this case, Rami appeared to suggest that the teachers' delivery was not accessible and did not meet their needs.

The students identified the common methods that their teachers used while teaching them English were audio exercises, listening to recordings, PowerPoint presentations, group discussions, and short quizzes. Majed said, "*some of learning activities used in the English classroom are group activities such as having group discussions, individual activity such as quizzes and the use of PowerPoint".* Despite these being common teaching methods, students thought that these did not

always match their needs. Shaden mentioned, "*the teaching methods used do not always fit with our disabilities, teachers need to understand the disability type and how to deal with it, for example, providing sign language interpreter and explaining slowly".* Other students also thought learning materials needed to be more personalised. Students noted that language placement tests were not provided and therefore, students were not divided into appropriate language learning level classes. Hamed said:

> *It is better if there is a placement test to set students in suitable class. To solve the barriers of learning EFL there is a need to design language level assessments and provide a curriculum based on those assessments, knowing student's weakness and trying to support them.*

Students also thought that there was insufficient class time and some teachers did not prepare sufficiently for the class. Rami said, "*In order to learn EFL properly teachers need to be more patient, being able to deal with students with disabilities and taking individual differences into account as teachers' personality and behaviour affects students learning".* Students reported the learning materials (e.g., PowerPoint, PDF) were not always available in a form which they could interact with and said that they were not offered the use of assistive technologies in their class. Reem highlighted, "*I do not know assistive technology at all, and it is not available at our university and if it is available, the students should look for it".*

Students revealed that the absence of opportunity to practise English outside the classroom hindered their progress and learning outcomes. Bayan mentioned, *"Not enough practising and being consistent can have negative impact on learning any language".* However, not all students faced the same challenges (e.g., Shaden mentioned having her mother and friends to practise the language).

In general students considered a good relationship with their teachers and accessible learning resources as critical aspects of a successful learning environment. It also gave them a greater choice of (online, text based and verbal) resources to complement their learning, because additional resources became accessible. In this stage interview responses did not provide sufficient data about peers' attitudes which might have affected the design of an inclusive classroom. Therefore, interview questions used in subsequence rounds could be optimised to gain insight into this topic. In the next section participants responses will reflect the impact of assistive technology integration in designing inclusive classrooms.

4.1.3 Theme Three: Assistive Technology

None of the students were familiar with the term 'assistive technologies'. Once the term was explained to the students, they were able to identify some assistive technology they have access to.

Hamed stated, *"There are few assistive technologies in the university such as computers and some talking devices. We need more of them such as Braille curriculum or Braille sensors for better learning".*

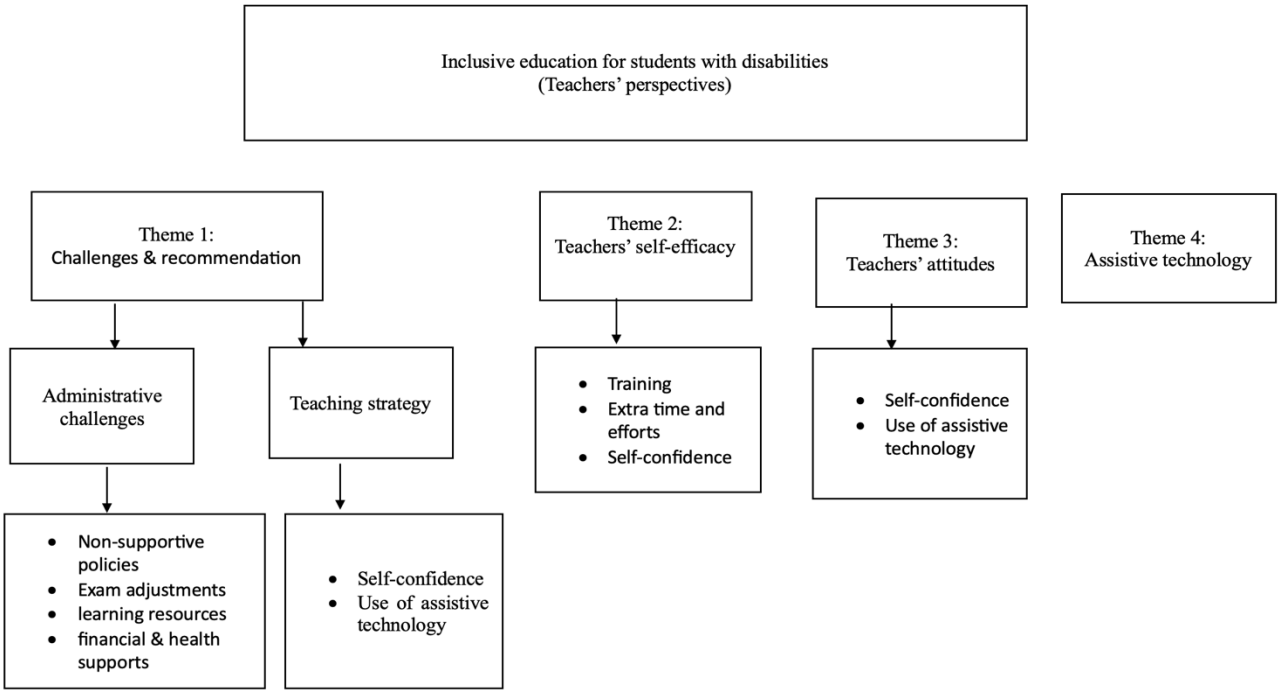
According to some responses from the students, there were several benefits of using assistive technologies; they boosted self-esteem, improved their confidence, concentration, performance and learning independence. For example, Rami noted, "*I think they are very useful and should be made available. They help learning and make life easier".* Bayan stated, "*I used to get upset because I needed more time to reply and understand what the other people are saying but I have overcome this problem by using an app that I cannot remember its name now".* In total, six students mentioned learning English could be made easy by using some devices or Apps. For example, they found it challenging to interact, read, write, or understand, but with some devices and apps like iPad and Kahoot, learning seemed easier.

4.2 Phase One Results: Teachers

In this section teachers' responses are used to provide insights into the Research Questions 1(b), 2b and 2d which were designed to investigate challenges faced by EFL teachers teaching students with disabilities, the effect of teachers' self-efficacy, teachers' attitudes and assistive technologies on the learning experience of students with disabilities in inclusive classrooms. EFL teachers described their experiences teaching students with disabilities, mentioning both challenges and providing some recommendations. Teachers' responses were analysed in terms of their self-efficacy and attitudes towards inclusive education and assistive technology. Four main themes were identified in the interview data, regarding the teachers' perspectives on inclusive education, strategies and requirements and awareness of assistive technology. Topics contributing to each theme are also shown in Figure 4-3.

Figure 4-3

Conceptual Map of Teachers' Responses Regarding their Experiences Teaching EFL



4.2.1 Theme One: Challenges Faced by EFL Teachers Teaching Students with Disabilities

Administrative and personal challenges were faced by EFL teachers seeking to design a special education environment for students with disabilities in Saudi Arabian universities. Administrative challenges mentioned by the teachers included non-supportive policies and facilities such as a lack of access to assistive technology, tailored exam facilities (e.g., exam department prohibits special spaces and extra time) and weak internet connections. Foze said, "*Some students need separate places during exams, and I try to find them such places, but the exams committee does not allow that"*. Sofia mentioned that, *"The only thing that I would hope to be provided for students with disabilities are separate exams, and for the duration of those exams to be longer, because we cannot find people to help them during exams. This is part of the systemic issues we have faced"*. They went on to say:

> *The teachers' point of view is the background that the students with disabilities were coming with, like for example, their level is quite low in comparison to the other students so either like if I want to make her inclusive either I would have to make things extremely simple or bring down the quality or if I have to maintain the quality is that she would struggle.*

Here, Sofia mentioned that she would like to implement adjustment including separate exam spaces, learning assistants, additional exam time and an easier exam for students with disabilities.

Some teachers raised the issues of financial, health and psychological support for all students. Foze raised all these topics, for example, she thought *"each department need to be provided with health and psychological centres, which help all students to be monitor and support, in addition, there is a need for financial support to cover students' needs".* For example, Foze mentioned a student who could not cover the cost of stationary.

Perceived personal challenges reported by the teachers, if inclusive education was to be implemented, included a lack of self-confidence and time to adequately prepare for lessons. The teachers related this to insufficient training and experience teaching students with disabilities. Taher stated, "*The challenge for me as a teacher is that the time, I must prepare for lessons is very tight and there is lack of training".* Teachers also noted that inclusive education required hard work, extra resources and time. Malek said,

> *I do not think inclusive practice will help in engaging students in all classroom activities, for example, the sign language has its effects on language learning and makes the learning process harder for students without disabilities. I would not be able to concentrate on all students at the same time.*

Another teacher, Sofia indicated that she already had tried to implement inclusive practice. Specifically, ensuring an effective and engaging learning experience for all students by going around to each student during the class to check their understanding of the materials presented. Sofia also managed the additional physical support required for some students by allowing students' parents to attend the class and support them.

An interesting point highlighted by a teacher was that there were cultural, social and technological barriers to the application of inclusive education. For example, it was uncommon for students with disabilities to be included in the same learning environment as students without disabilities in an Arabic university. This teacher made the comment, *"it is not ideal for some societies like the Saudi Arabia because the society is a conservative society and there are low levels of awareness and bullying against people with disabilities on the street and in schools"* followed by, *"This is common in most Arab countries and not only in Saudi Arabia".* This is a stark contrast with Article 2 of the 2000 Disability Code which lays down the rights of persons with disabilities in education (UNESCO, 2021). Article 56 of the Saudi Arabian 1970 Education Law 1389 states that education is a right for all and special education and care should be provided for physically and mentally disabled students (UNESCO, 2021).

4.2.2 Theme Two: Inclusive Educational Environment: Recommendations for Administrative Support

Teachers indicated that creating an inclusive learning environment required administrative support. Suggested administrative support could include the provision of an appropriate learning environment, adequate training for teachers and psychological and financial support for students.

Other practical support suggested by the teachers included the translation of learning material into Braille, free subscription on assistive learning programs, additional means to communicate with an experienced teacher to guide students who required additional support. Foze mentioned, "*Voice laboratories, translating the lectures, extra materials, or exercises can help the students. I offer them extra help in assessments by giving them extra time during exams".* Taher stated, *"Providing technology for the students with disabilities that can help them overcome their disabilities such as electronic books. Technologies like Braille can help eliminate the effects of disability on those students partially or completely blind".* This statement is clearly based on a medical interpretation of disability.

Teachers recognised that inclusive learning could be achieved if they received adequate training. Sofia said that students with disabilities could be fully incorporated in the educational programming by:

> *assessing students` levels, having lesson and education plans for the students, establishing a special education service in each department in the university so that students with disabilities do not need to be segregated from the other students in the foundation year.*

One teacher identified the value of cooperative and supportive environments which facilitated the exchange of experiences, expertise, materials and ideas between teachers teaching students with disabilities. Taher stated that he had never been trained on how to teach students with disabilities, but he learnt the skills from a fellow teacher that he used to work with. This experience increased his self-efficacy and raised his awareness of how to adapt the teaching environment to be more inclusive for students with disabilities. Some of the strategies he employed were to promote inclusive learning through group discussion, storytelling and peer learning. Taher stated:

> *I do not have any previous experience in teaching students with disabilities and the university does not provide training for teaching students with disabilities. So, teachers have to rely on themselves and join courses or workshops to learn these skills. I benefited from working with a British teacher who specialised in teaching students with disabilities, and I gained some experience from working with him.*

4.2.3 Theme three: Inclusive Educational Environment - Teaching Strategies

There were a variety of teaching strategies applied by teachers to increase engagement, participation, motivation and improve learning outcomes for all students. A majority of teachers reported putting additional efforts into the preparation of learning materials accessible to all students in their EFL class. Some examples of these materials are audio-visual recordings, visual aids, handwritten notes, and lecture recordings. Foze also translated the lectures into Arabic language to make it more accessible. Teachers also encouraged peer review and respectful collaboration in their classroom in an effort to promote equality among students. Foze said she made an effort to teach her students, *"That differences exist among all students and that they should respect and support each other regardless of any disabilities or differences".*

Teachers identified a number of requirements for designing inclusive learning environments. Foze mentioned, "*If teachers have sufficient training and experience to teach students and to support them… this will help disabled students*". Taher mentioned, "*Teaching students with disabilities is more likely to be successful once the teacher has received sufficient training".* In the literature review it was identified that teachers with a high level of self-efficacy, training and experience were equipped to use various teaching methods which resulted in improve learning outcomes (Chao, 2017). Ongoing training and capacity building would allow teachers to continually update their teaching methods and strategies to refresh students' motivation. Foze clearly recognised this link and provided a specific recommendation of "*having an experienced trainer allocated to each department who can guide students, teachers and other academic staff to help design inclusive classrooms".* It was also recommended by Foze that student representation was important and "*there could also be student representatives who guide other disabled students and speak to teachers on behalf of other disabled students*". This was suggested in order to improve peer interaction and assist teachers in the choice of strategies for designing an inclusive classroom to meet students' needs.

Some of the other teaching strategies employed by the EFL teachers included the provision of personal support and access to facilities which would support students' learning and engagement. Foze said, *"… some students with movement disabilities need easy accessibility around the university, classroom and other university facilities".* Maha mentioned, "*Students with hearing impairment should be provided with a sign language interpreter".* Some teachers thought meeting regularly with students could help them to understand the need of students with disabilities and how to provide appropriate assistance to them. Foze stated, "*Personally, I prefer to have a meeting with the students and ask them about their needs and how I can help them".* Malek also mentioned, *"I meet my students regularly having some coffee and discuss their needs and what kind of help I can offer to them".*

Sofia also thought that students' motivation and engagement could be improved by encouraging teamwork with other students in the class, so that students with certain disabilities (physical

impairment) don't feel like they are being left out. Other teaching strategies to make students with disabilities to feel more involved included setting practical, trial and error and peer review activities. Sofia said:

> *Some of my task lists would be like group discussions and group work for writing so I would get them involved. I would make smaller groups activities like group debate so things like that facilitated ideas in the reading for example. This kind of strategy that I used with students with disabilities help them to some extent that they don't feel isolated they don't feel like they will be left out.*

Three of the teachers thought that assessments and the assessment criteria should be adjusted appropriately to meet the need of students with disabilities. Malek considered it inappropriate to assess students on skills impacted by their disabilities. For example*, "The university should make it a bit easier for students with hearing and visual disabilities by not requiring some skills assessments such as listening and reading skills*". This point was raised because EFL curriculum requires all four (speaking, listening, reading and writing) skills to be tested, which is obviously not appropriate for students with a visual or hearing impairment. Teachers also recommended providing students with disabilities extra facilities if required to allow them to complete assessments. Maha mentioned, "*Students with disabilities need to be given additional time to complete the assessment".* Foze also noted that students with disabilities may require a separate exam space, especially if they are using extra visual or audio aids, "*Some students need separate places and extra time during exams".*

4.2.4 Theme Four: Teachers' Self-Efficacy

"*When you are confident and capable you know what you are teaching*" - Sofia.

Teachers appreciate the important role of self-efficacy in providing appropriate learning experiences for students with disabilities. Teachers highlighted the link between self-efficacy and effective communication. Foze mentioned, "*It is crucial that the teacher has sufficient self- efficacy to communicate with students with disabilities".* Maha stated, "*Teachers' confidence and expertise are positive things when they convey information to students and when communicating with them appropriately and that all helps in developing teachers` abilities".* Self-efficacy was linked to improving the confidence and teaching skills of teachers. Taher stated that,

> *Self- efficacy is very important, and teachers should receive training to improve their confidence and efficacy to teach students and especially students with disabilities. Teachers need to improve their skills all the time and this will lead to the success of the teaching process and increase productivity.*

Teachers also recognised that educational outcomes could be improved with increased teachers' self-efficacy. Maha said:

> *Teachers' confidence and expertise are positive things when they convey information to students and when communicating with them appropriately and that all helps in developing teachers' abilities…teaching strategies can also be developed, and education outcomes can be improved. Teachers can be more aware of their teaching approaches and their confidence. Therefore, their productivity increases.*

All the teachers mentioned the importance of training in developing teacher self-efficacy. Foze spoke about working with universities overseas:

> *I have had some courses in Canada and this helps to implement a good working environment and to give students accessibility to information such as electronic sources or daily life sources easy. Universities can contract with institutions from overseas to provide this type of training and this will raise awareness about how to deal with students.*

Maha mentioned, "*Training teachers can make the teaching process easier, and it helps both students and teachers*". Taher mentioned a number of other ways to enhance self-efficacy:

> *Training teachers can help them know how to deal with all types of disability and how to use technology to help students. Also, how to provide technology and implement suitable teaching methods for all students and make it easier for them.*

Teachers appeared to recognise that enhancing their professional knowledge on using inclusive practices (e.g., use of assistive technology) could enhance their self-efficacy. This was confirmed in the interview when Maha said, *"The technology used in the classroom helps me to feel more confident*". Teachers without adequate training, however, did not feel confident in the use of assistive technology. Malek highlighted this lack of confidence: "*I am not very confident to use technology. I need training and students also need training".*

4.2.5 Theme Five: Teachers' Attitudes

4.2.5.1 Understanding of terminology and concepts.

Teachers had different understandings of the terms and concepts associated with inclusive education. For example, Maha stated, "*I do not have any experience in inclusive education, and I do not know what it involves*". Malek described inclusive education as *"a new concept in Saudi Arabia*".

Sofia mentioned: "*My understanding of inclusive education is that there is no difference between teaching students with disabilities and students without disabilities as all students have equal*

learning rights despite the extra assistance that students with disabilities need". This comment indicates that Sofia's understanding of disability is based on a social definition.

As demonstrated by the comments above a majority of the teachers were either unfamiliar with the concept of inclusive education or had not heard this term before. However, other teachers showed the understanding of the basic principles of inclusive educations. For example, Taher stated: "*Inclusive education can help achieve cooperative learning among students and they learn from each other…providing technology for the students with disabilities that can help them overcome their disabilities*".

Foze provided evidence of recognising and appreciating the principles of inclusive education. She stated:

> *when individual education becomes available in the university... everyone will benefit… students without disabilities learn how to adapt and interact with disabled people when they are in the same environment and that also helps them to learn from each other and support each other. Even teachers can learn from students with disabilities.*

4.2.5.2 Perceptions and Attitudes of Teachers Towards Inclusive Education. There were positive and negative perceptions about the value and importance of inclusive education and whether the students with disabilities should be taught in the same classroom as students without disabilities.

Teachers with positive views of inclusive education supported its implementation. Foze said, *"Students with disabilities should be included with other students in the same classroom".* Sofia mentioned, *"If students show little concern or little interest in some area, it should give a sign for teachers that students need support and motivation".* Teachers also highlighted the impact of inclusive education on improving education outcomes, eliminating differences, encouraging individual learning and collaboration, as well as helping teachers develop their self-efficacy. Taher said, "*The idea of inclusive education is good because it can promote collaboration between students with disabilities and the other students where they cooperate and learn from each other and exchange skills".* A number of teachers such as Taher and Foze also considered the design and implementation of an inclusive classroom as a valuable activity in their professional development.

On the other hand, not all teachers showed a positive attitude toward inclusive education. Malek stated, "*I have already mentioned that I disagree with including students with disabilities with their peers in the same classroom".* This negative attitude could be attributed to the idea that inclusive classrooms are detrimental to the learning of students without disabilities. This may be due to some of challenges that they have experienced. Malek stated, *"the sign language, for example, has its*

effects on language learning and makes the learning process harder. Teacher cannot concentrate on all students at the same time".

In general, teachers recognised the importance of students participating both in the classroom and in assessment. Foze highlighted, *"Teachers need to engage their students and motivate them for successful learning".* She added, "*Students should always be provided feedback about their learning progression".* Teachers considered engagement with the course content an opportunity for students to demonstrate their strengths and learning during assessments as important for all students.

4.2.6 Theme Six: Assistive Technology

Some of the assistive technologies being used by the teachers in EFL classrooms are applications like PowerPoint, Kahoot, Padlet, electronic books and visual assistive tools like a screen reader. These assistive technologies equalise learning opportunities, help overcome learning barriers (e.g., the accessibility of learning resources and in class communication), make learning content more accessible and encourage student participation. Taher specifically mentioned the role of electronic books and Braille for helping the students overcome hearing and sight difficulties and improving equity in the classroom, stating, "*Technologies like Braille can facilitate learning and improve equality between students".* By providing alternative teaching and learning methods Malek thought that students would be encouraged to undertake self-directed learning, mentioning, *"Using different teaching strategies and methods promote students to learn independently".*

Teachers identified disadvantages of using assistive technologies. There were not enough resources for all students, and students may use it wrongly, especially if they lacked proficiency. Sofia stated, "*The issue is not with the technology as much as it is with students' insufficient use, lack of self-control and a lack of focus".* These challenges could be addressed by further training, or preferably a specific support person. In contrast, Foze highlighted, "*It is valuable for both teachers and students to have assistance and training on how to use assistive technology properly".* These comments highlight the need for teachers to be aware of how to use assistive technology to support learning in the EFL classroom as highlighted by Al-Busaidi & Tuzlukova, (2018).

4.3 Conclusions from Phase One Semi-Structured Interviews

The results from interviews of 10 students with disabilities and 5 EFL teachers show that most teachers appreciated the value of the inclusive classroom but were not always sure about the best teaching strategies to employ when designing an inclusive learning environment. In some teachers' responses it was clear that they invested extra effort for students with disabilities, compared to students without disabilities in other classes. They also implemented adjustments such as providing extra time to finish a task, different types of exams and regular personal meetings to assist students

with disabilities. These adjustments had often been made following discussions with the students with disabilities.

Common challenges faced by students with disabilities and their teachers included administrative and assistive technology related challenges. Both students with disabilities and teachers considered the unavailability of assistive technology and associated training as a limitation to promoting inclusive education. Administrative challenges raised by students with disabilities and teachers included the difficulties associated with organising exam adjustments and accessing appropriate learning resources, financial and heath support for students with disabilities.

Despite recognising the value of the English language for travel, work, study, and other purposes some students with disabilities appeared less enthusiastic about learning EFL because they faced significant challenges accessing and engaging with the learning materials and participating in the classroom. Students also thought that the teaching methods applied did not always match their needs and therefore they utilised assistive technology to help them engage with the classroom activities. Students reported an inappropriate learning environment affected their interest in learning EFL and engaging in the classroom. For example, when the teachers repeatedly used the same teaching methods.

Teachers specifically mentioned challenges including a lack of training in special education and how to implement teaching strategies appropriate to students with disabilities. Sometimes this led to low self-confidence and poor self-efficacy. This situation is reflected in students' responses when they mentioned that the teachers appeared unqualified and not prepared for class. With adequate training, departmental support, an appropriate learning environment and teaching strategies, teachers with a high self-efficacy could design a supportive and inclusive learning environment. This could also be achieved through the broader implementation of inclusive education, though this was not specifically mentioned by the teachers.

It was recognised by teachers that assistive technologies can be used to increase the engagement and participation of students with disabilities. Using assistive technologies can help to boost students' confidence, improve the accessibility of learning materials and enhance proper interaction with other students. In turn, this would improve students' educational outcomes.

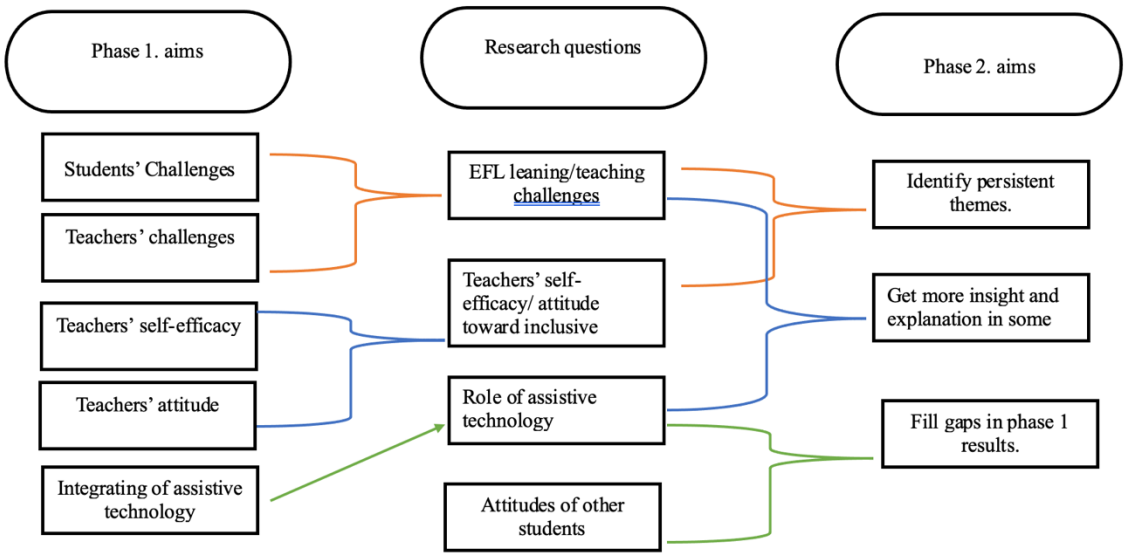
Chapter Five

Phase Two Quantitative Methodology

The second phase included the collection of quantitative data through the use of surveys to build on the results of Phase 1 to fill the remaining gaps in Research Questions 1 and 2. This survey instrument was designed based on the results of Phase 1. In addition, the surveys were designed to extend the results, and identify persistent themes from the first phase of qualitative data collection (Figure 5-1). After the sequential application of both the qualitative method in Phase 1 and the quantitative method in Phase 2, data from both phases were integrated and the results were interpreted.

Figure 5-1

An Overview of the Relationships between the Study Research Questions and Aims in Phase 1 & Phase 2



5.1

The rationale for Quantitative Data Collection in Phase 2

In this phase, the quantitative data were collected using two online surveys. One for teachers and the other for students. The data were collected and analysed to fulfil a number of aims (Figure 5-1). The first aim was to fill gaps in Phase 1 results including attitudes of students without disabilities and the role of assistive technology. Secondly, to establish greater insight and explanation into the same themes including EFL teaching and learning challenges, teachers' self-efficacy and attitudes towards inclusive education and the role of assistive technology. Lastly, to identify persistent themes including EFL teaching and learning challenges and attitudes towards inclusive education.

5.2 Phase 2 Participants

The targeted participants in Phase 2 were students with sensory disabilities, or without disabilities, and EFL university teachers. Participants from both genders were included. The age of the students was 20-26 years and the majority were Saudi nationals. Students were in their first three years at university (Table 6.1 in Chapter 6). Teachers had a range of qualifications from bachelor, masters and PhD level degrees and all had experience teaching students with disabilities The teachers' demographics are provided in Table 6.11 in Chapter 6.

It was aimed to receive 100 responses from each, students and teachers. In the first two weeks, 31 students with and without disabilities responded to the survey, and six others declined the consent form. Ten teachers responded to the survey and two teachers declined the consent form. Some of the participants intended to answer the survey questions but they did not complete all the questions. Hence their responses were not included in final data analysis.

After waiting for three weeks, the surveys were distributed through social media and professional contacts to improve engagement. In total, 151 students accessed the survey, 130 of them consented to participate in this study and only 55 students completed the whole survey. Of 143 surveys distributed to teachers, 141 completed the consent form, but only 35 teachers responded to the whole survey, equivalent to a 24.5% response rate.

5.3 Surveys

Surveys are frequently used to produce quantifiable answers to a research question (Creswell, 2012). This method makes it possible to obtain individual answers to a question, but not an objective observation of reality; the answers given during a survey may differ to varying degrees from the actual behaviour (Merriam & Tisdell, 2015). The answers depend on the way in which the survey was conducted, the context in which the participant is responding, the investigated theme, and the formulation of the questions (Creswell, 2012). Thus, the formulation of the questions should be clear, precise, unambiguous, and each question can only explore a single idea, without obviously suggesting a position (Merriam & Tisdell, 2015).

The purpose of this study was to examine the implementation of inclusive education in Saudi Arabian universities and to investigate the challenges facing EFL students with disabilities and their teachers. Furthermore, this study focused on exploring teachers' attitudes and self-efficacy towards inclusive education. The role of assistive technology was also considered in this study.

The surveys in this phase appeared in two forms (Figure 5-2 & 5-3). The teachers' survey focused on EFL teaching challenges such as training and the use of assistive technology, teachers' attitudes and self-efficacy towards inclusive education and pedagogical issues. This helped fill gaps in the data from Phase 1 on topics including teachers' use of assistive technology. The students' survey

was focused on their attitudes towards inclusive education, the challenges of learning EFL, and the role of assistive technology.

Figure 5-2

Phase 2 Teachers and Students Survey Themes

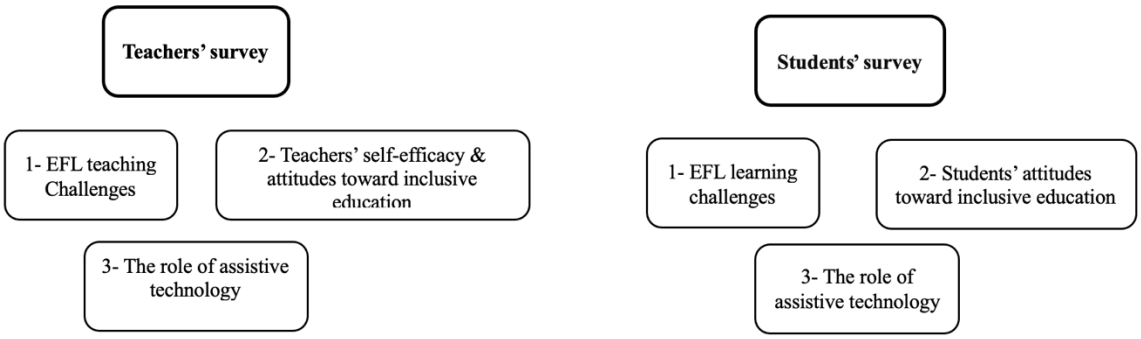
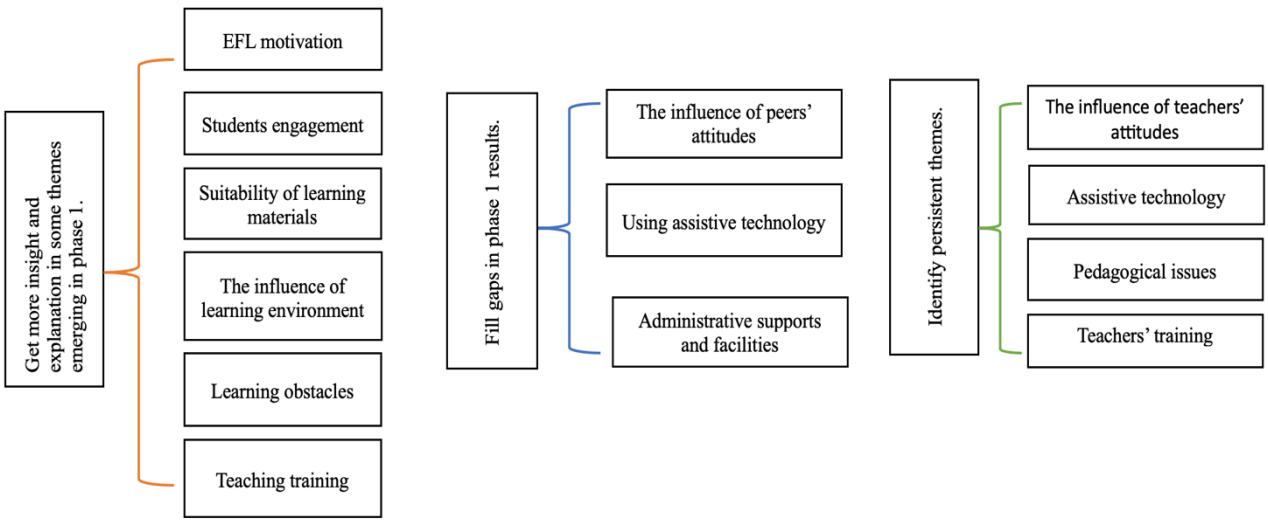


Figure 5-3

Phase 2 Aims



The surveys contained both close-ended and open-ended questions, so representative data could be obtained from a small sample (McMillan & Schumacher, 2006). The Likert Scale was used to transform qualitative responses into numerical data for quantitative analysis (Allan & Seaman, 2007).

A 5-point Likert Scale was used to minimise survey length and response bias (Meterok, et al. 2015). A Likert Scale with an odd number was used to provide a midpoint option (Chyung, et al. 2017).

A majority of survey questions were multiple choice (83%). However, open-ended questions (17%) were used to hear the voice of participants (see Appendix F and G). Both the teacher and student surveys also collected demographic information of the participants (11 questions for teachers & 10 questions for students). After consenting to participate in the surveys, participants completed the on-line questionnaire using the Qualtrics platform hosted by the University of Sydney. Qualtrics was selected due to claims by the designers that it is fully accessible (e.g., by persons with vision impairments).

5.4 Survey Preparation

The survey was designed based on the principles of Creswell (2012) who suggested a three-step approach: The first step is to identify specific themes from the data collected in the qualitative stage. The second step is to conduct a pilot study to test the survey's workability. The third step is to determine the formation of different elements of categorical data based on the characteristics of the participants.

5.4.1 Step 1: Themes for Designing Survey Questions

The survey questions were designed to fill the gaps identified in the results from Phase 1 including the attitudes of students without disabilities toward inclusive education and the role of assistive technology. It also provided further insight and explanation to some themes emerging in Phase 1. These were, EFL teaching and learning challenges, teachers' self-efficacy and attitudes towards inclusive education and the role of assistive technology. Furthermore, it tested persistent themes emerging from Phase 1. These themes were EFL teaching and learning challenges and teachers' self-efficacy and attitudes towards inclusive education.

5.4.2 Step 2: A pilot study

A pilot study including 17 students and 16 teachers was conducted to test survey workability, the time duration, the clarity of questions and the accessibility of the surveys on Qualtrics. Response fatigue was an important consideration in the survey design and identified in the pilot study in the form of response bias. Response bias became apparent in the data analysis of the pilot study responses. Some respondents provided contradictory answers to similar topics. For example, one participant disagreed with the idea of inclusive education but agreed to study with students with disabilities in the same classroom.

The surveys also were tested during the pilot study to check the accessibility of the surveys in Qualtrics by a student with a visual impairment. This student identified one question in the survey which he needed assistance to understand as his screen reader software did not communicate the question clearly. The screen reader scrambled the words in the question so he was unable to understand the question. Other feedback included the survey was long, and the formatting of the survey was not consistent between a mobile phone and computer-based web browser. Based on this feedback the survey was updated to ensure all participants were able to fully interact with the survey. The student with visual impairment confirmed that the survey was fully accessible after updating.

Feedback and insights from the pilot study provided an opportunity to update the surveys with guidance from an expert from *Sydney Informatic Learning Hub.* Some questions were updated, a number of scales were reduced and the length of some questions was reduced. This involved reducing the 5-point Likert Scale to 3-point for many questions based on the feedback and expert advice. These updates resolved the problems of the length of the survey, how the surveys were displayed on a mobile phone and the screen reader problems. It is expected that response bias was reduced by reducing the length of the questions and response scales.

5.4.3 Step 3: The design of different surveys for teachers, and students with and without disabilities

Phase 2 included two separate surveys. The first was designed for students with sensory disabilities or without disabilities, and the second for EFL teachers at the targeted university. The surveys were conducted online due to the COVID-19 Pandemic. The surveys were available in both Arabic and English languages. The surveys were written in English and then translated to Arabic with the Arabic translation checked by an official translation office.

Twenty-six survey questions and 10 demographic questions were designed for students with and without disabilities. The demographic questions collected information regarding gender, age, nationality, impairment, year at university, years studying EFL, work experience, and internet and computer accessibility at home. Survey questions topic included motivation and difficulties learning EFL, the availability and type of administrative support, peer attitudes towards inclusive classrooms, teachers' attitudes, and the accessibility and use of assistive technology.

Eleven demographic questions were designed for EFL teachers. These questions included: gender, age, nationality, impairment, qualification, teaching experience, Years teaching students with disabilities, type of impairments students identified with, professional learning in the principles of inclusive education and participation in any teachers' association or other support network providing access to additional resources. Another 28 questions were designed to collect information on the use and adaptation of teaching methods, teachers' attitudes towards inclusive classrooms, importance and

effectiveness of teachers' training, as well as, the accessibility of assistive technology. Other questions were designed to test teachers' self-efficacy.

5.5 Ethics Considerations

After designing the surveys, ethics approval was sought from the Sydney University Human Research Ethics Committee (HREC). At the same time, the researcher conducted the pilot study and updated the surveys and sought ethics approval from the Saudi University. The modified surveys were also approved by HREC before distribution in Phase 2. In this phase, data management involved the storage of the data from the pilot and actual study, the official translation of the survey, approvals from both universities and consent forms from each participant. Participants were offered the opportunity to receive feedback regarding the results of the survey, with a tick box and a space for their email addresses at the end of the survey.

5.6 Survey Data Collection

Once ethics approvals were received from both universities, students and teachers who participated in Phase 1, and others who met the eligibility criteria were notified of the opportunity to participate in this study with an email from the Saudi university administration. The administrative office then distributed the surveys to students and teachers who agreed to participate. All participants (10 students with disabilities and 5 EFL teachers) from Phase 1 also agreed to participate in Phase 2 once directly contacted. After a few weeks, an insufficient number of responses was received, so the surveys were distributed through social media. In total, 151 students and 143 teachers accessed the survey, however; only 55 students and 37 teachers completed all the questions.

5.7 Survey Data Analysis

All students' responses were given in Arabic. One of the teachers responded in English, with the rest responding in Arabic. Hence, most of the survey responses were read and interpreted in Arabic with notes and results recorded in English. For analysis, data were exported from Qualtrics into Excel, then checked by an official translation office. Missing data were then deleted. Then, a Statistical Package for Social Science (SPSS) file was created by importing the data from Excel. Descriptive thematic analysis was conducted by analysing the percentage and means of graphs and charts generated in SPSS. These interpretations were then checked by an English-speaking statistical expert from the host university and were used to answer the research gaps from Phase 1.

5.8 Phase 2 Limitations

There were some limitations arising during the Phase 2 data collection. These limitations included the timing of survey distribution, which was during exam period, this reduced the number of targeted participants available. The literal translation from English to Arabic was also changed to a simplified translation. Other limitations included the presence of missing data because it was not compulsory to answer all the survey questions. Also, there was a wider range of participants who were able to access the survey than originally intended, as the survey was distributed through the university and social media channels.

5.9 Trustworthiness, Validity and Reliability

The trustworthiness of data in Phase 2 was ensured by implementing a number of steps to ensure accessibility, formality and survey workability. For accessibility, the instructiveness of the survey questions and display in Qualtrics was tested with a visually impaired student to ensure this was not a limitation to survey completion. Participants were also informed that the survey could be read through their screen reader, to reduce the likelihood of them requiring assistance. The participants were also able to make personal contact with the researcher if they required clarification or had any questions at any point during the survey.

Prior to the data collection, ethics approvals were obtained from both universities. This was facilitated by the official translation of the targeted university ethics approval documents. Other officially translated materials used in the study were the survey questions and some of the data collected in Arabic.

Concerning the workability of the survey, an expert from Sydney Informatics Learning Hub was first consulted to discuss this topic. Following this consultation, it was decided that the survey should include a number of elements which improved workability. Specifically, these were the opportunity to skip questions, or quit the survey at any point, and voluntary participation. The survey then was tested with a pilot study and updated based on some feedback received from the volunteer participants, regarding the survey design, length and clarity.

Survey validity is important in contributing to the reliability of this study. Hence a number of activities were undertaken to improve the content, internal, external and construct validity of the data collected during Phase 2. The survey questions were designed to fill the gaps from Phase 1, clarify persistent themes and fully answer the research questions. Internal validity was checked through the inclusion of sub-questions to gather additional details and clarify some responses. External validity was not explicitly tested; however, it is expected the participants involved were representative of the target populations because the participants were self-nominated and randomly selected. Construct

validity was tested by the analysis of the pilot study, checking that the questions asked and responses given could be interpreted in a way relevant to the research questions and objectives.

Survey questions generating duplicated data were purposely removed to reduce the length of the survey. This was expected to reduce fatigue and improve the reliability of responses throughout the survey; however, this was not explicitly tested.

Chapter Six
Phase Two Results

In Phase 1, interview data relevant to Research Questions 1(a-b) and 2(a, b and d) were collected. Consistent with the mixed-methods approach applied, Phase 2 involved a more comprehensive survey of 55 students and 32 teachers. The purpose of Phase 2 was to fill the gaps in Phase 1 data, extend the results of Phase 1, and collect data relevant to Research Question 2(c). Quantitative and descriptive analyses were used to interpret and analyse the data. The results presented in this chapter are divided according to the participants (students and teachers).

6.1 Student Survey Results

6.1.1 Demographic Profile

Table 6-1 outlines the demographic profile for 55 students who partially or wholly completed the student survey. As shown in Table 6-1, 74.5% were female and 25.5% male. The students were 87.3% Saudi, while 12.7% were non-Saudi students. A number of the students (16.4%) had a hearing impairment. One only student (1.8%) was visually impaired, and another (1.8%) was movement impaired. With regards to work experience, 72.7% of the students had no work experience, 16.4% had full time and 10.9% had part time work experience. A majority of students (83.6%) lived in a city. Almost all (98.2%) students had access to the internet at home and 90.9% had access to a computer at home. The students' ages ranged between 18 and 48 years (M= 22.76; SD = 4.876). The students surveyed had been at university between 1 and 6 years (M =2.85; SD = 1.499). Finally, the number of years they had studied EFL at university ranged between 0 and 9 years (M = 2.17; SD = 2.014).

Table 6-1

Demographic Profile of Students who Completed the Survey

Variable	Group	n	%
Gender	Male	14	25.5
	Female	41	74.5
Nationality	Saudi	48	87.3
	Non-Saudi	7	12.7
Impairment (if applicable):	Hearing	9	16.4
	Visual	1	1.8
	Movement	1	1.8
Work experience:	Part-time	6	10.9
	Full-time	9	16.4
	No experience	40	72.7
Do you currently live in: - Selected Choice	City	46	83.6
	Rural area	3	5.5
	Regional	3	5.5
	Other	3	5.5
Do you have access to the internet at home?	No	1	1.8
	Yes	54	98.2
Do you have access to a computer at home?	No	5	9.1
	Yes	50	90.9
Age	Mean ± Std. Deviation 22.76 ±4.		76
Year at University:	Mean ± Std. Deviation 2.85±1.4		99
Years studying EFL at university:	Mean ± Std. Deviation 2.17±2.0		4

6.1.2 Evaluation of Agreement about Learning English

In this section, the students participating in the survey were asked to assess their interest in learning English on an adapted 5-point Likert scale with (1) *strongly disagree* and (5) *strongly agree*. Students were most keen to learn English because they thought *it will improve my communication with English speakers* with mean and standard deviation of 4.45 (SD = .98), followed by *it will enable*

me to understand other cultures with mean of 4.35 (SD = 1.03). The next most popular motivations for studying EFL were: *I want to learn English to get a job* (M = 4.31; SD = 0.97) *and I want to learn English because it makes me more confident* (M = 3.74; SD = 1.20). Overall, all reasons scored highly (>3.74) (Table 6-2).

Table 6-2
Evaluation of Motivations for Learning English

Items		SD (1)	D (2)	N (3)	A (4)	SA (5)	Mean	SD	Rank
I want to learn English because it will improve my communication with English speakers.	n	3	-	1	16	35	4.45	0.978	1
	%	5.5	-	1.8	29.1	63.6			
I want to learn English because it will enable me to understand other cultures.	n	3	-	4	15	32	4.35	1.031	2
	%	5.6	-	7.4	27.8	59.3			
I want to learn English for travelling.	n	2	3	11	17	21	3.96	1.081	6
	%	3.7	5.6	20.4	31.5	38.9			
I want to learn English to get a job.	n	2	1	4	18	29	4.31	0.968	3
	%	3.7	1.9	7.4	33.3	53.7			
I want to learn English because it is international language in the era of globalisation.	n	3	-	6	22	23	4.15	1.017	5
	%	5.6	-	11.1	40.7	42.6			
I want to learn English because it gives me the access to English learning resources.	n	2	1	6	19	24	4.19	0.991	4
	%	3.8	1.9	11.5	36.5	46.2			
I want to learn English because it makes me more confident.	n	3	6	11	16	18	3.74	1.200	7
	%	5.6	11.1	20.4	29.6	33.3			
OVERALL							**4.16**	**0.777**	**High level**

6.1.3 Evaluation of the Teacher's Actions in the English as a Foreign Language Class

In this section, the students were asked to identify supportive activities implemented by teachers in their EFL classroom. The most helpful activity was *Providing supportive learning environment* with mean rating of 4.35 (SD = .88), therefore; ranked as more helpful than all the other adjustments suggested. The next most helpful activity was *Encouraging respectful behaviour in the classroom* with mean of 4.31 (SD = 0.981), followed by *Adjusting assessments and exams* with mean of 4.29

(SD = 0.936). Though still helpful, *Encouraging group work* was the least commonly implemented activity with mean of 3.72 (SD = 1.03) (Table 6-3).

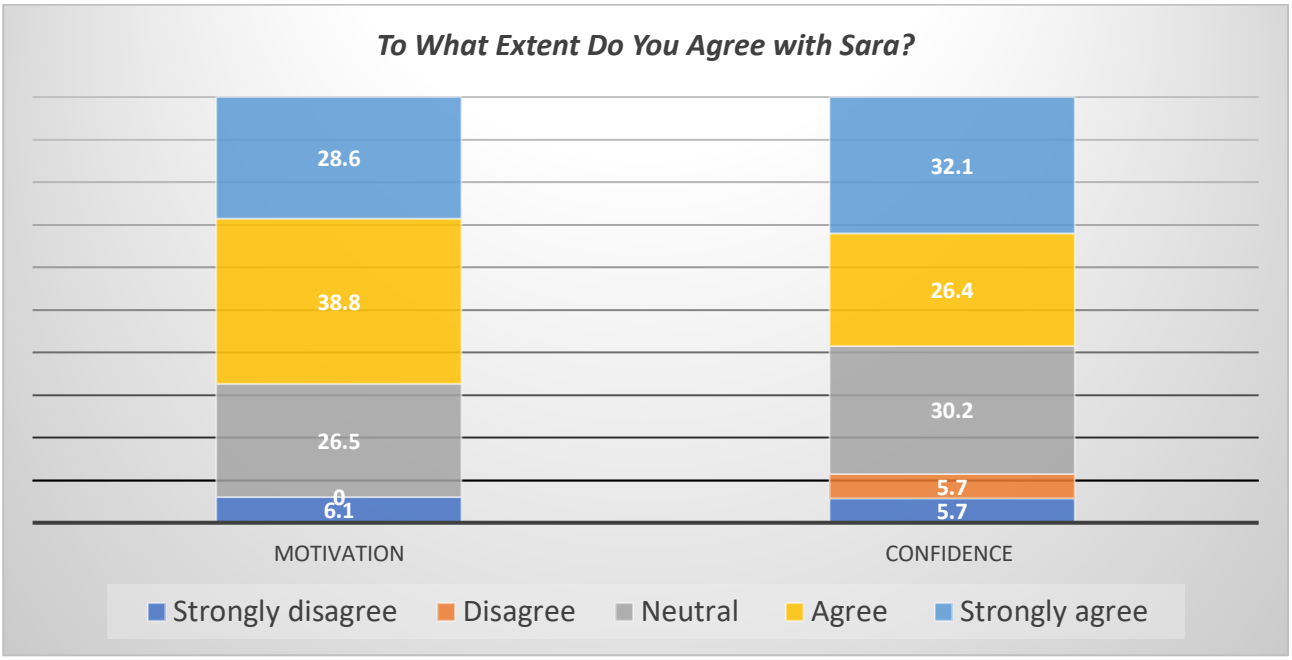
Table 6-3
Teacher's Actions in the EFL Classroom

		SD (1)	D (2)	N (3)	A (4)	SA (5)	Mean	Mode	Rank
Meeting regularly	n	3	1	12	28	10	3.76	0.970	7
	%	5.6	1.9	22.2	51.9	18.5			
Encouraging group work	n	2	4	13	22	12	3.72	1.026	9
	%	3.8	7.5	24.5	41.5	22.6			
Adapting resources to make more accessible	n	2	-	3	31	17	4.15	0.841	6
	%	3.8	-	5.7	58.5	32.1			
Providing access to assistive technology	n	2	-	4	23	23	4.25	0.905	4
	%	3.8	-	7.7	44.2	44.2			
Providing regular and tailored assistance	n	2	-	4	26	20	4.19	0.886	5
	%	3.8	-	7.7	50.0	38.5			
Adjusting assessments and exams	n	2	1	2	22	25	4.29	0.936	3
	%	3.8	1.9	3.8	42.3	48.1			
Encouraging respectful behaviour in the classroom	n	2	2	1	20	27	4.31	0.981	2
	%	3.8	3.8	1.9	38.5	51.9			
Adjust the classroom configuration	n	2	4	11	23	12	3.75	1.027	8
	%	3.8	7.7	21.2	44.2	23.1			
Providing supportive learning environment	n	2	-	2	22	26	4.35	0.883	1
	%	3.8	-	3.8	42.3	50.0			
Overall							**4.06**	**0.725**	**High level**

6.1.4 Factors Which Would Improve Students' Motivation and Confidence

Figure 6.1 shows the students' responses when they were asked about Sara report (*Sara is part of an EFL class that enrols students with and without disabilities, she reported that this classroom increased her motivation and confidence to learn English as a foreign language*.). Students thought the Sara report had positive influence on both their confidence (M = 3.74, SD =1.15) and motivation (M = 3.84; SD = 1.05).

Figure 6-1
To What Extent Do You Agree with Sara's Report



When participants were asked to explain why they selected this level of agreement, 26 out of 55 answered. Their answers were categorised according to factors which would improve their motivation and confidence, factors which would not improve their motivation and confidence, factors which would have no impact on their motivation and confidence and responses which did not answer the question.

There were a number of different factors which would improve their motivation and confidence. Inspiration is one of these factors; *"there are people in the classroom who learn it despite their disabilities, which increases my encouragement to learn it*" and *"she inspires me to continue learning English in different ways"*. Productivity and enthusiasm was another factor; "*the existence of individual differences makes a person more productive and enthusiastic*" and "*noticing other people's levels and abilities increases my desire to reach a higher level"*. The role of the learning environment was also highlighted "*the educational environment in the classroom is attractive for learning English because there is a variety of methods"* and "*because of individual differences and everyone loves to learn, there is no impossible, no matter how difficult things are, you will pass them and learn, and the environment is encouraging because there are a number of students with different skills and different characteristics"*. Social factors included students who were "*against introversion"* and *"it is a reason to increase the insistence on learning the language"*.

There was only one student who reported that studying in a classroom with Sara would not improve their motivation and confidence, who said *"it is difficult to integrate for me".*

Some students said that having students with disabilities in their classroom would have no impact on their motivation and confidence because of their intrinsic motivation to learn EFL. *"There is no clear reason except that the love of learning increases while others around you learn with disabilities"*, "*because learning the language and its motivation is only related to me, and no one else has the ability to motivate or discourage me except me"* and *"because my mother speaks English and I know how important English is".* One student reported that it was irrelevant whether students with disabilities were present because they had other extrinsic motivations to learn EFL,*"English is an international language and learning it will benefit me in many ways, but on the other hand it has nothing to do with me being confident".* Other students could not see a link between their motivation and confidence, and the presence of students with disabilities in their classroom *"I do not see that this factor has an impact on my motivation and confidence in learning English"*, *"I don't understand what would be motivating in this example"* and *"It makes no difference to me if there is a disabled student in the class with me or not".*

Some students responded basing their answers on the perceived impacts for the students with disabilities, "Sara", instead of providing insights into how learning alongside with students with disabilities affected their motivation and confidence. "*The capabilities of people with disabilities are often less than the normal rate, so the person with disabilities may feel some difficulties and challenges compared to those of his age, and this may cause some frustration",* "*there may be her fans who are excited about her"* and *"it is natural for them to integrate with society, we do not isolate them and tell them that you are part of society".* Some students provided responses which did not entirely align with the question; "*should not mix too much", "the reason for the increased efficacy has not been explained", "what is the relationship of people with disabilities with my feeling of confidence or encouragement in class?"* and *"when you learn another language, you feel encouraged to talk to people who speak it and when you feel like you understand them and they understand you, you will feel motivated to learn more and crave more for learning".*

6.1.5 Assessment of Difficulties in an English as a Foreign Language Class

In this section, all categories had a 3-point Likert scale which was coded 1 *Never*, 2 *Sometimes*, 3 *Always*. The average score for all categories was 1.92 (SD = 0.406). 'Sometimes' was the dominant rating for 9 of 11 categories. The most frequent difficulty was *Fear of making mistakes* with a mean score of M = 2.33; SD = 0.683, while the lowest score (least frequent difficulty) was for *Configurations of the classroom* with a score of M = 1.60; SD =0.670 (Table 6-4). These results

indicate that the atmosphere in the classroom and social environment was a more important factor for students' confidence, than their physical environment.

Table 6-4
Assessment of Difficulties in an English as a Foreign Language Class

		Never (1)	Sometimes (2)	Always (3)	Mean	SD	Overall Degree
Learning content	n	11	33	7	1.92	0.595	**Sometimes**
	%	21.6	64.7	13.7			
Fear of making mistakes	n	6	22	23	2.33	0.683	**Always**
	%	11.8	43.1	45.1			
Peers' negative reactions	n	14	25	12	1.96	0.720	**Sometimes**
	%	27.5	49.0	23.5			
Lack of motivation	n	21	24	5	1.68	0.653	**Sometimes**
	%	42.0	48.0	10.0			
Negative attitude towards English courses.	n	23	17	11	1.76	0.790	**Sometimes**
	%	45.1	33.3	21.6			
Teaching methods	n	10	24	16	2.12	0.718	**Sometimes**
	%	20.0	48.0	32.0			
Classroom activity	n	17	21	11	1.88	0.754	**Sometimes**
	%	34.7	42.9	22.4			
Configurations of the classroom	n	25	20	5	1.60	0.670	**Never**
	%	50.0	40.0	10.0			
Learning environment	n	13	22	15	2.04	0.755	**Sometimes**
	%	26.0	44.0	30.0			
Learning resources accessibility	n	18	20	12	1.88	0.773	**Sometimes**
	%	36.0	40.0	24.0			
Administrative challenges; exam adjustment, financial and health support	n	18	17	15	1.94	0.818	**Sometimes**
	%	36.0	34.0	30.0			
Overall					**1.92**	**0.406**	**Medium level**

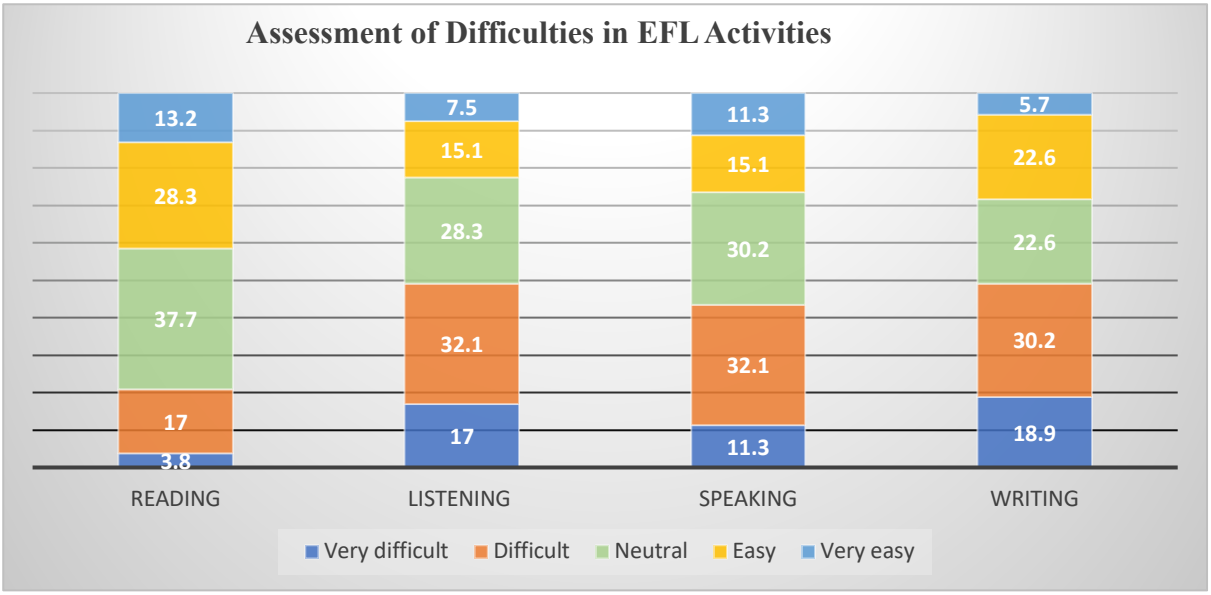
6.1.6 Assessment of Difficulties in EFL Activities

Figure 6.2 shows difficulties faced by students on a 5-point Likert scale, coded 1 *Very difficult* up to 5 *Very easy*. All categories had a mean score ranging from 2.60 to 3.40, corresponding to Neutral rating. The highest mean score was for reading (M = 3.30; SD = 1.030), indicating that reading

activities is the easiest, followed by speaking with mean score of M = 2.83; SD = 1.172, followed by writing (M = 2.66; SD = 1.192), then listening (M = 2.64; SD = 1.162).

Figure 6-2

Assessment of Difficulties in EFL Activities



6.1.7 Satisfaction with the Modified Activities

When participants were asked, *Have you undertaken adapted classroom activities?*, 31 students (58.5%) answered *yes* while 41.5% answered *no*. Of those who answered *yes*, 6.5% indicate that they were extremely satisfied, 19.4%, were very satisfied, 48.4% moderately satisfied, 19.4% slightly satisfied and 6.5% not at all satisfied (Table 6.5) with the modified activities.

Table 6-5

Satisfaction with the Modified Activities

		Frequency	Percent	Valid Percent	Cumulative Percent
If Yes, to what extent were you satisfied with the adapted activities?	Not at all satisfied	2	3.6	6.5	6.5
	Slightly satisfied	6	10.9	19.4	25.8
	Moderately satisfied	15	27.3	48.4	74.2
	Very satisfied	6	10.9	19.4	93.5
	Extremely satisfied	2	3.6	6.5	100.0
	Total	31	56.4	100.0	
Total		55	100.0		

When participants were asked, *How have these classroom activities been adapted to suit your needs?* Three students suggested that the content and form of the materials should be adapted; "*giving*

each student an activity appropriate to their abilities", "it should match the level of knowledge of the English language of the students" and *"taking into account the hearing impairment in communicating information correctly to meet the learning difficulties of the hearing impaired and the deaf".*

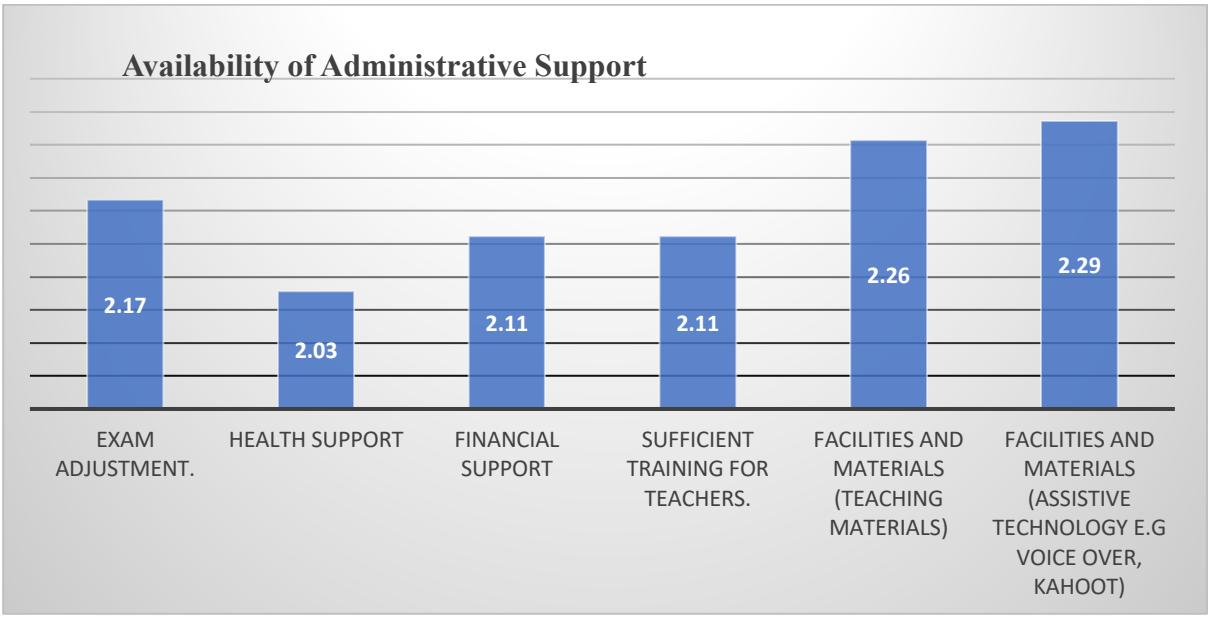
Other responses were: "*activities should be more than that*", "*providing the necessary materials and a stimulating environment*", "*forming groups and forcing each student to answer"* and "*student participation in technology in education".*

6.1.8 Assess the Availability of Administrative Support

Figure 6-3 shows that students' perspectives (3-point Likert scale) on the availability of administrative support, which was coded 1 *Unavailable*, 2 *Not Sure* and 3 *Available*. The average score for each category ranged between 2.03 and 2.29. The highest rank was for *Facilities and materials* (*assistive technology e.g., voice over, Kahoot)* with a rating of M = 2.29; SD = 0.860, while the lowest rank was *for Health support* with a score of M = 2.03; SD = 0.845.

Figure 6-3

Availability of Administrative Support



When participants were asked, *Do you think these administrative supports were helpful/appropriate?* The majority (87.5%) answered with Helpful/Appropriate, while 12.5% answered with Not helpful/Not appropriate.

6.1.9 Evaluate the Usefulness of Modifications and Support for Learning

Table 6-6 shows the students' perspectives (3-point Likert scale) on the usefulness of modifications and learning support which were coded 1 *Not helpful*, 2 *Neutral* and 3 *Helpful*. All items were considered as helpful by students, with an overall mean score of 2.39 to 2.89 except for modifying the student's class schedule, which had an average rating of 2.31. *Allowing access to a computer and assistive technology* was considered most helpful with the highest mean score of M = 2.89; SD = 0.398.

Table 6-6

Evaluate the Usefulness of Modifications and Support for Learning

		Not Helpful (1)	Neutral (2)	Helpful (3)	Mean	SD	Overall Degree
Providing an optional assignment or assessment task	n	6	10	20	2.39	0.766	**Helpful**
	%	16.7	27.8	55.6			
Working with instructional material at a lower level	n	1	7	28	2.75	0.500	**Helpful**
	%	2.8	19.4	77.8			
Modifying the student's class schedule (e.g., allowing an extra study period or additional intervention)	n	6	13	17	2.31	0.749	**Neutral**
	%	16.7	36.1	47.2			
Providing an alternative form of a test to the student (e.g., short answers instead of an essay)	n	3	8	25	2.61	0.645	**Helpful**
	%	8.3	22.2	69.4			
Providing students with more time to complete tasks	n	1	5	30	2.81	0.467	**Helpful**
	%	2.8	13.9	83.3			
Changing the location of testing to reduce potential distractions	n	4	5	27	2.64	0.683	**Helpful**
	%	11.1	13.9	75.0			
Note-taking assistance or scribing for a student	n	2	5	29	2.75	0.554	**Helpful**
	%	5.6	13.9	80.6			
Allowing access to a computer and assistive technology	n	1	2	33	2.89	0.398	**Helpful**
	%	2.8	5.6	91.7			
Preferential seating	n	1	7	28	2.75	0.500	**Helpful**
	%	2.8	19.4	77.8			
Overall						**2.65**	**High level**

6.1.10 Evaluation of Students' Perspectives on the Inclusion of Students With and Without Disabilities in the Same Classroom

Table 6-7 shows the evaluation of students' perspectives on the inclusion of students with and without disabilities in the same classroom. Students agreed or strongly agreed with all items except *I would feel disadvantaged if students with and without disabilities were taught in the same classroom as me*, which received a neutral rating (M = 2.58; SD = 1.422). Students most strongly agreed (M = 4.56; SD = 0.773) that *All classrooms should be equipped with movable furniture to facilitate the needs of all students*.

When the students were asked on a scale 1-5 *how important is the attitude of your teacher toward students with disabilities, in motivating you to engage in the classroom?,* 50% answered extremely important, 13.9% said very important, 16.7% neutral, 13.9% slightly important and 5.6% not at all important.

6.1.11 Ranking of the Characteristics that Contribute to Teachers' Ability to Create a Supportive Learning Environment

Figure 6-4 shows the students' perspectives of the characteristics which contribute to teachers' ability to create a supportive learning environment. The most important characteristic was teacher confidence with mean score of M = 3.88; SD = 0.250, followed by teaching methods with mean score of M = 3.47; SD N= 0.254, while the lowest rank was for teacher behaviour (e.g., patience, tone, efforts, deliberate interaction) with a mean of M = 2.06; SD = 1.043.

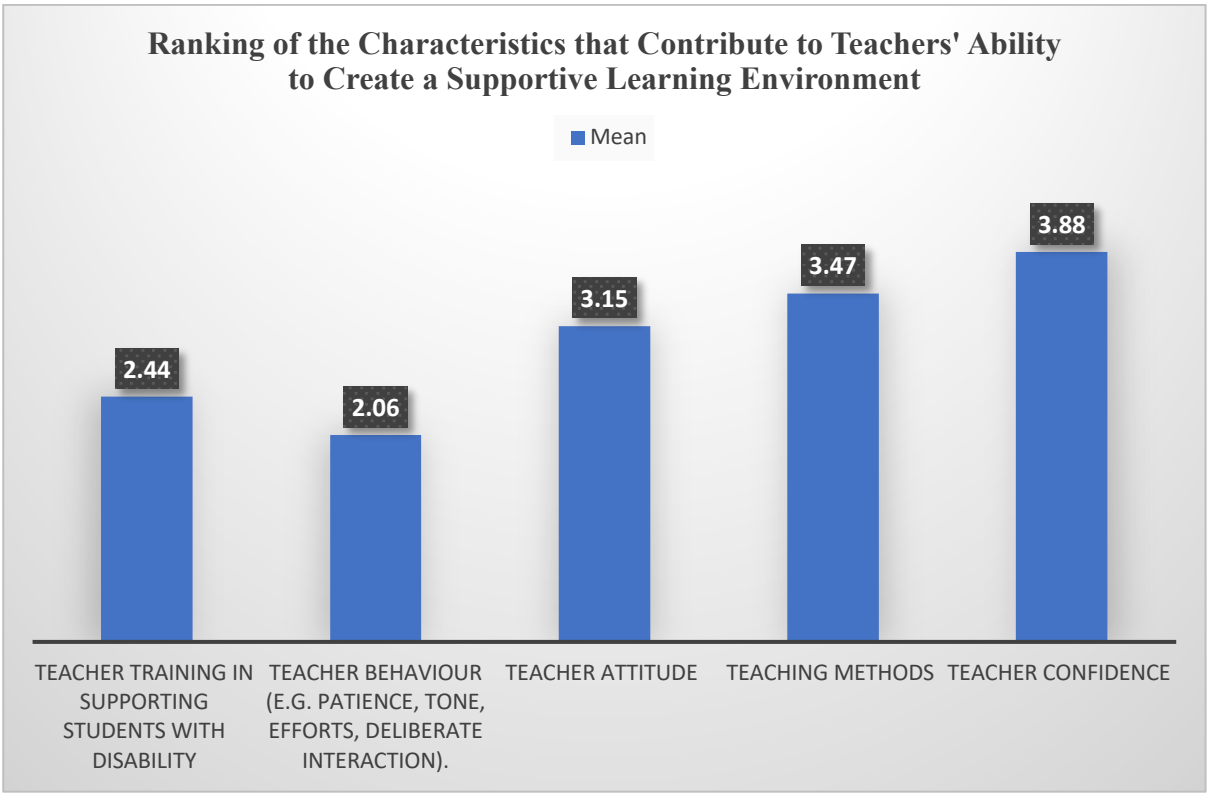
Table 6-7

Evaluation of Perspective Regarding the Inclusion of Students with and without Disabilities in the Same Classroom

		SD (1)	D (2)	N (3)	A (4)	SA (5)	Mean	SD	Overall Degree
Students with and without disabilities should study in the same classroom	n	3	1	9	12	11	3.75	1.180	Agree
	%	8.3	2.8	25.0	33.3	30.6			
I would be happy to work in a group including students with and without disabilities	n	2	1	12	6	15	3.86	1.175	Agree
	%	5.6	2.8	33.3	16.7	41.7			
I would feel disadvantaged if students with and without disabilities were taught in the same classroom as me	n	12	5	10	4	5	2.58	1.422	Neutral
	%	33.3	13.9	27.8	11.1	13.9			
Students with disabilities may require extra support (e.g., extra time from the teachers).	n	1	1	2	18	14	4.19	0.889	Agree
	%	2.8	2.8	5.6	50.0	38.9			
All classrooms should be equipped with movable furniture to facilitate the needs of all students.	n	1			12	23	4.56	0.773	Strongly agree
	%	2.8			33.3	63.9			
A variety learning resources are required to support the achievements of all students	n	1			13	22	4.53	0.774	Strongly agree
	%	2.8			36.1	61.1			
All students should be provided specific training on how to access and use a range of assistive technologies	n	1		1	13	21	4.47	0.810	Strongly agree
	%	2.8		2.8	36.1	58.3			
All classrooms should be equipped with WiFi and assistive technology to increase students' engagement	n	1		1	11	23	4.53	0.810	Strongly agree
	%	2.8		2.8	30.6	63.9			
Overall							**4.06**	**0.619**	**High level**

Figure 6-4

Ranking of the Characteristics that Contribute to Teachers' Ability to Create a Supportive Learning Environment

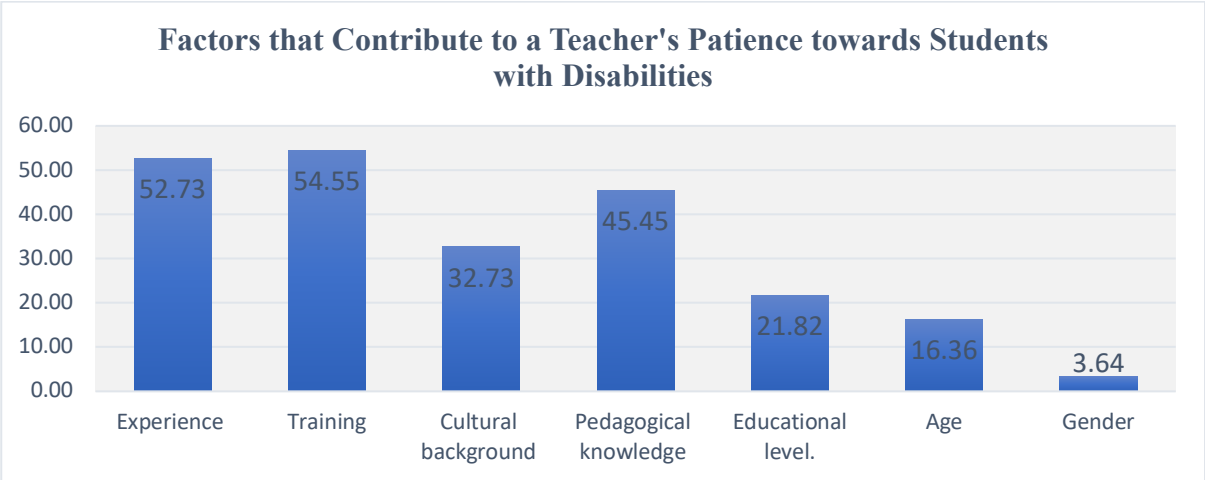


6.1.12 Factors that Contribute to a Teacher's Patience Towards Students with Disabilities

Figure 6-5 shows the students' perspectives on the factors that contribute to a teacher's patience towards students with disabilities. Training came in the first place with a choice of 54.55% from all students, followed by experience with a choice of 52.73%, followed by educational knowledge with a choice of 45.45%, while the last rank was gender with a percentage of 3.64%.

Figure 6-5

Factors that Contribute to a Teacher's Patience towards Students with Disabilities



6.1.13 Accessibility of Assistive Technologies

Table 6-8 shows students' perspectives on accessible assistive technologies which were coded 1 I do not have access to, 2 I have access but do not use it in my classroom, 3 I have access to and 4 I have access to and I use it in my classroom. Three items (i.e., Projectors, Computer and Online Translator) scored between 2.59 and 3.21 (I have access to), while the other five items had an average score indicating I have access but do not use it in my classroom.

Table 6-8

Accessibility of Assistive Technologies

Assistive Technologies		I do not have access to (1)	I have access but do not use it in my classroom (2)	I have access to (3)	I have access to and I use it in my classroom (4)	Mean	SD	Overall Degree
Computer	n	5	6	13	11	2.86	1.033	**I have access to**
	%	14.3	17.1	37.1	31.4			
Interactive whiteboards	n	14	3	5	12	2.44	1.353	I have access but do not use it in my classroom
	%	41.2	8.8	14.7	35.3			
Projectors	n	4	1	13	16	3.21	0.978	**I have access to**
	%	11.8	2.9	38.2	47.1			
iPad	n	14	2	11	7	2.32	1.224	I have access but do not use it in my classroom
	%	41.2	5.9	32.4	20.6			
Voice-over	n	18	4	8	3	1.88	1.083	I have access but do not use it in my classroom
	%	54.5	12.1	24.2	9.1			
Siri	n	10	7	14	2	2.24	0.969	I have access but do not use it in my classroom
	%	30.3	21.2	42.4	6.1			
Online Translator	n	8	4	16	6	2.59	1.048	I have access to
	%	23.5	11.8	47.1	17.6			
Speech to text	n	10	7	12	4	2.30	1.045	I have access but do not use it in my classroom
	%	30.3	21.2	36.4	12.1			
Overall						**2.51**	**0.740**	**Medium level**

6.1.14 Effectiveness of Assistive Technologies that Contribute to a Comprehensive EFL Classroom

Finally, Table 6-9 and Figure 6-6 show students' perspectives on the effectiveness of assistive technologies that contribute to a comprehensive EFL classroom. A 3-point Likert scale was used and coded 1 *Not influential*, 2 *Slightly influential* and 3 *Influential*. All items had a high mean score corresponding to influential, except one item (increased engagement with teachers (M = 2.23; SD = 0.690). The greatest impact of assistive technologies was improving confidence, with the highest mean score of M = 2.63; SD = 0.646.

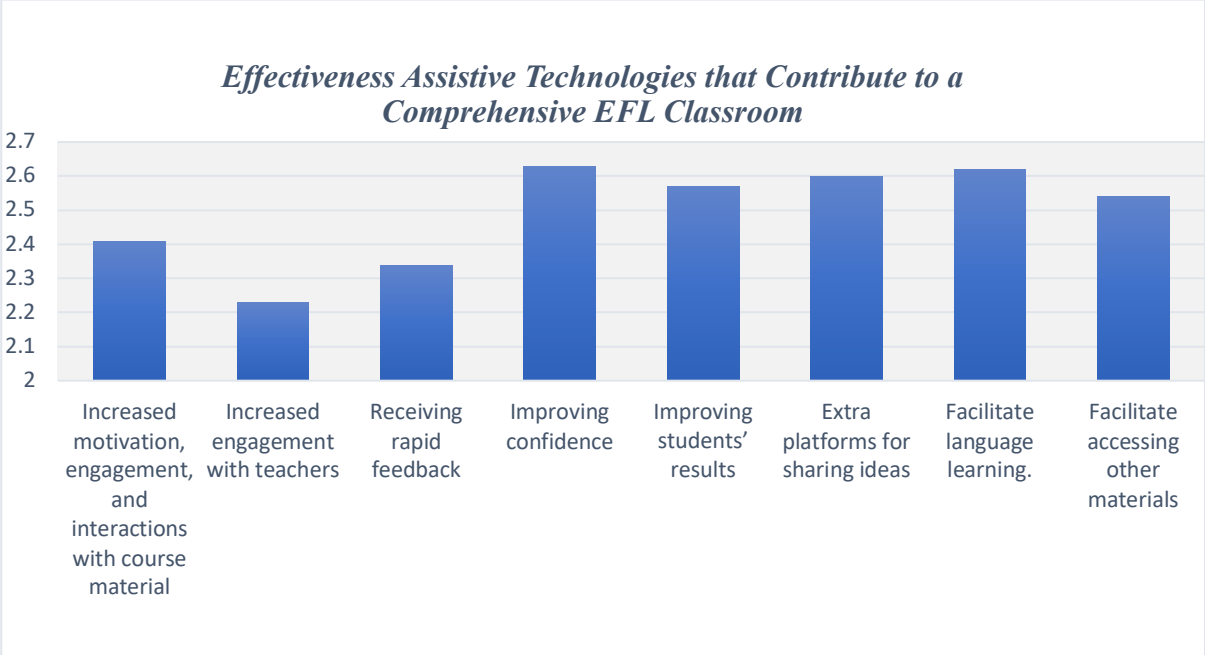
Table 6-9

Effectiveness of Assistive Technologies that Contribute to a Comprehensive EFL Classroom

		Not Influential (1)	Slightly Influential (2)	Influential (3)	Mean	SD	Overall Degree
Increased motivation, engagement, and interactions with course material	n	3	14	17	2.41	0.657	**Influential**
	%	8.8	41.2	50.0			
Increased engagement with teachers	n	5	17	13	2.23	0.690	**Slightly influential**
	%	14.3	48.6	37.1			
Receiving rapid feedback	n	5	13	17	2.34	0.725	**Influential**
	%	14.3	37.1	48.6			
Improving confidence	n	3	7	25	2.63	0.646	**Influential**
	%	8.6	20.0	71.4			
Improving students' results	n	4	7	24	2.57	0.698	**Influential**
	%	11.4	20.0	68.6			
Extra platforms for sharing ideas	n	2	10	23	2.60	0.604	**Influential**
	%	5.7	28.6	65.7			
Facilitate language learning.	n	2	9	23	2.62	0.604	**Influential**
	%	5.9	26.5	67.6			
Facilitate accessing other materials	n	2	12	21	2.54	0.611	**Influential**
	%	5.7	34.3	60.0			
Overall					**2.49**	**0.456**	**High level**

Figure 6-6

Effectiveness Assistive Technologies that Contribute to a Comprehensive EFL Classroom



6.2 Teacher Survey Results

6.2.1 Demographic Profile

Table 6-10 outlines the participants' demographic profile for 35 teachers. As shown, 80.0% from the sample were female, but only 20.0% were male. About nationality, 85.7% were Saudi while 14.3% non-Saudi. Only one participant 2.9% had hearing impairment. With regards to education, 57.1% of participants had a masters degree, 17.1% had a bachelor degree and 17.1% had a Ph.D., 8.6% had other education level (e.g., diploma 5.7% and intermediate education 2.9%). In addition, 17.1% had other qualifications or professions while 82.9% had not. A number of the participants (22.9%) had received professional learning in the principles of inclusive education while 77.1% had not. More than half (54.3%) were a part of a teachers' association or other support network where they could access extra resources or find people with extra experience. The participants' ages ranged between 23 and 55 years with a mean and standard deviation of M = 34.60; SD = 7.341.

The years of teaching experience ranged between 0 and 31 years with a mean and standard deviation of M = 7.37; SD = 7.260. The average years of teaching students with disabilities was M = 1.40; SD = 5.397 years. Six teachers identified having taught students with disabilities. These disabilities were hearing impairments (3), autism (1), visual impairment (1), and a psychological disorder (1).

Table 6-10

Teacher Demographic Profile

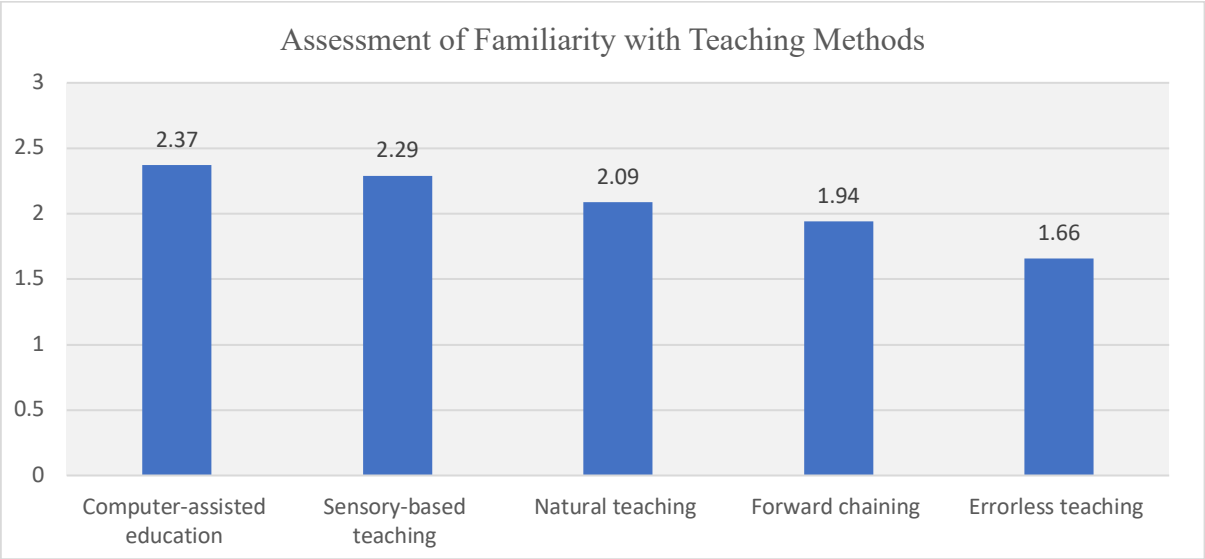
Variable	Group	n	%
Gender	Male	7	20.0
	Female	28	80.0
Nationality	Saudi	30	85.7
	Non-Saudi	5	14.3
Education	Bachelor	6	17.1
	Masters	20	57.1
	PhD	6	17.1
	Other	3	8.6
Other qualifications or professions	No	29	82.9
	Yes	6	17.1
Have you received professional learning in the principles of inclusive education?	No	27	77.1
	Yes	8	22.9
Have you taught students with disabilities?	No	26	81.4
	Yes	6	18.6
Are you part of a teachers' association or other support network where you could access extra resources or find people with extra experience?	No	16	45.7
	Yes	19	54.3
Age	Mean ± Std. Deviation (34.60 ±7.341)		
Years Teaching Experience	Mean ± Std. Deviation (7.37±7.260)		
Years Teaching students with disabilities	Mean ± Std. Deviation (1.40±5.397)		

6.2.2 Assessment of Familiarity with Teaching Methods

In this section, the teachers participating in the survey were asked to assess their familiarity and utilisation with the teaching methods on a 3-point scale. Computer-assisted education was the more commonly used method (51.4%) and a further 34.3% of teachers were familiar with the method. The mean rating out of three for this question was 2.37. The mean rating of sensory-based teaching was M = 2.29; SD = 0.789, with 48.6% of teachers having used it and a further 31.4% familiar. Natural teaching was the next most common with a mean rating of M = 2.09; SD = 0.781 followed by forward chaining with mean rating of M = 1.94; SD = 0.838. The lowest ranked teaching method was for errorless teaching with mean of M = 1.66; SD = 0.765 (Figure 6-7).

Figure 6-7

Assessment of Familiarity with Teaching Methods



As a result, when participants were asked about which of the previous methods would they like to receive training in, answers were as follows: 60% for errorless teaching, 25.7% for each of natural teaching and forward chaining separately, 11.4% for sensory-based teaching and 8.6% for computer-assisted education.

6.2.3 Reasons for Using Teaching Strategies

In this section, the teachers were asked about reasons for using teaching strategies. The highest percentage of reasons were recorded as follows. Self-expressive strategies were used to motivate students by 15 (42.9%) of the 35 teachers. Also, 42.9% of teachers used mastery strategies to optimise students' learning outcomes, 34.3% used communication strategies to promote peer learning, 31.4% used comprehension learning and four-style strategies to help to design an inclusive EFL classroom. Finally, 28.6% used comprehension learning to engage students to learn EFL (Table 6-11).

Table 6-11

Reasons for Using Teaching Strategies

Teaching Strategies		Motivate Student	Optimise students' Learning Outcomes	Promote Peer Learning	Helpful to Design an Inclusive EFL Classroom	Engage Students to Learn EFL
Mastery strategies (focuses on increasing student's abilities to remember and summarise).	n	11	15	1	1	7
	%	31.4	42.9	2.9	2.9	20.0
Understanding strategies (evokes student's capacities to reason, be logical, use evidence).	n	8	9	2	8	8
	%	22.9	25.7	5.7	22.9	22.9
Interpersonal strategies (help students to relate personally with the curriculum).	n	8	5	9	7	6
	%	22.9	14.3	25.7	20.0	17.1
Self-expressive strategies (highlight students' ability to imagine and create).	n	15	7	3	3	7
	%	42.9	20.0	8.6	8.6	20.0
Four-style strategies (combines the four strategies simultaneously to encourage students to develop a balanced and dynamic approach to learning foreign language).	n	5	12	1	11	6
	%	14.3	34.3	2.9	31.4	17.1
Use technologies such as Non-Visual Desktop Access and Job Access with Speech to look for information.	n	6	11	5	7	6
	%	17.1	31.4	14.3	20.0	17.1
Comprehension learning strategy (e.g., summarising, question generation, predicting, and clarification).	n	5	12	2	11	5
	%	14.3	34.3	5.7	31.4	14.3
Communication strategies.	n	4	7	12	2	10
	%	11.4	20.0	34.3	5.7	28.6

6.2.4 Adaptations of EFL Teaching Methods for Students with Disabilities

When participants were asked about adaptations of EFL teaching methods for students with disabilities, 20% had adapted their teaching methods while 80% had not and 37.1% offered adaptions to all students (Table 6-12).

Table 6-12

Adaptations of EFL Teaching Methods for Students with Disabilities

		n	%
Have you adapted your EFL teaching methods for students with disabilities?	No	28	80.0
	Yes	7	20.0
Do you offer adaptions to all students?	No	22	62.9
	Yes	13	37.1

Two teachers indicated the types of adapted EFL teaching methods they had used. These methods include *"learning by playing and singing"* and *"use of visuals and images in our class to help the hard of hearing students to understand".*

Two other teachers made justifications for adjusting their teaching methods; *"modifying the curriculum using sign language symbols for the hearing impaired to suit their abilities",* and "*separate exam rooms, longer deadlines and exams period, extra resources, one-on-one time (when needed), no participation required for students with anxiety, no attendance percentage was calculated for the student with depression, hearing impaired students were seated in the front row and the material was sent to them via LMS".*

6.2.5 Teachers' Attitude Toward the Inclusion of Students with Disabilities

All items in this section were measured on a 5-point Likert scale which was coded 1 *Strongly disagree*, 2 *Disagree*, 3 *Neutral*, 4 *Agree* and 5 *Strongly agree*. Overall teachers' attitudes toward the inclusion of students with disabilities rated highly with a mean score of 4.01 (SD = 0.815). All categories had a mean rating score greater than 3.40. *A teacher's positive attitude can improve students' learning outcomes* had the highest mean score of M = 4.34; SD = 0.998, while the lowest mean score (M = 3.49; SD = 1.173) was for the item *Students with disabilities should be included in the same classroom as other students* (Table 6-13).

Table 6-13

Teachers' Attitude Toward the Inclusion of Students with Disabilities

		SD (1)	D (2)	N (3)	A (4)	SA (5)	Mean	SD	Overall Degree
Students with disabilities should be included in the same classroom as other students	n	1	7	10	8	9	3.49	1.173	Agree
	%	2.9	20.0	28.6	22.9	25.7			
Students with disabilities would be confident and motivated to learn EFL in an inclusive classroom	n	2	4	7	10	12	3.74	1.221	Agree
	%	5.7	11.4	20.0	28.6	34.3			
Students' specific needs should be addressed while designing an EFL inclusive classroom	n	2	-	4	13	16	4.17	1.043	Agree
	%	5.7	-	11.4	37.1	45.7			
A teachers' positive attitude can facilitate the design of a successful inclusive classroom	n	2	-	3	11	19	4.29	1.045	Strongly agree
	%	5.7	-	8.6	31.4	54.3			
A teachers' positive attitude can improve students' learning outcomes	n	1	1	4	8	21	4.34	0.998	Strongly agree
	%	2.9	2.9	11.4	22.9	60.0			
Overall Teachers' attitude toward the inclusion of students with disabilities							**4.01**	**0.815**	**Agree**

6.2.6 Activities Considered to be Important in Motivating Students in an Inclusive Classroom

Table 6-14 shows which activities teachers considered to be important in motivating students in an inclusive classroom. The importance of each activity was rated on a 3-point Likert scale. Their ratings were coded 1 *Not important*, 2 *Medium importance* and 3 *High importance*. All items had a mean score greater than 2.33 indicating that teachers considered all the activities important. The category of *Provide an alternate explanation when students are confused* was ranked the highest (M = 2.89; SD = 0.323), while the lowest rank was for the category of *Ensure students understand classroom rules* (M = 2.49; SD = 0.612).

Table 6-14

Importance Level of Activities for Motivating Students in an Inclusive Classroom

Activities for motivating students in an inclusive classroom		Not Important (1)	Medium Importance (2)	High Importance (3)	Mean	SD	Overall Degree
Adapt positive attitude toward teaching	n	3	7	25	2.63	0.646	High Priority
	%	8.6	20.0	71.4			
Treat all students equally	n	3	6	26	2.66	0.639	High Priority
	%	8.6	17.1	74.3			
Ensure students understand classroom rules	n	2	14	19	2.49	0.612	High Priority
	%	5.7	40.0	54.3			
Provide an alternate explanation when students are confused	n	-	4	31	2.89	0.323	High Priority
	%	-	11.4	88.6			
Give meaningful, immediate feedback	n	-	11	24	2.69	0.471	High Priority
	%	-	31.4	68.6			
Use a variety of assessment strategies	n	1	8	26	2.71	0.519	High Priority
	%	2.9	22.9	74.3			
Use of alternative teaching aids in the classroom	n	-	8	27	2.77	0.426	High Priority
	%	-	22.9	77.1			
Overall Priority Level					2.69	0.291	High Priority

When participants were asked, *Do you think that teachers who have high self-belief in their ability are more effective at motivating all students in an inclusive classroom*? 77.1% answered Yes while 22.9% answered No. A small number of participants (7) added reasons for their answers. Teachers who thought that high self-efficacy and self believe was important suggested that *"self-confidence breeds creativity", "teachers are able to manage the educational process with great comfort and effectiveness"* and *"highly confident teachers can handle complicated tasks. Nothing can stop them. A positive attitude is their motto*". Teachers also thought that this was important "*Because this is reflected in dealing with the student, the teacher who is confident of his abilities is more positive in dealing with the student and is more enthusiastic while presenting the scientific material. He also diversifies teaching strategies, takes into account individual differences among students, and diversifies assessment method".* Other teachers thought that confident teachers *"will act as a role model*" and "*if the teacher believes that the students can understand, create, learn; so, the teacher will work hard".* Only one teacher provided an explanation for their answer as no, this was "*confidence does not determine the quality of teaching and is not a condition for it".*

6.2.7 Experience Teaching Students with Disabilities

When participants were asked about their experience of teaching students with disabilities, 25.7% had experience while 74.3% had not; 80% thought that this experience improve confidence in designing inclusive classrooms, while 20% did not (Table 6-15).

Table 6-15

Experience Teaching Students with Disabilities

		n	%
Do you have experience teaching students with disabilities	I don't have experience	26	74.3
	I have experience	9	25.7
Did this experience improve confidence in designing inclusive classrooms?	I think it did not improve my confidence	7	20.0
	I think it improved my confidence	28	80.0

Ten participants provided an explanation for the role of experience in improving their confidence. Teachers considered "*having students with disabilities will force the teacher to revaluate her way of teaching".* During this process, *"the teacher takes into account the individual differences among the students and is able to use more effective teaching strategies and be able to use more effective assessment methods",* and *"through learning more strategies".* This experience was also seen as valuable for developing teachers' self-efficacy and job satisfaction; *"having sufficient and new experience is an absolute necessity for teachers' confidence", "makes me feel happy and do my best to help them*" and *"through gaining other perspectives".* One teacher said, *"I did not have students with disabilities; however, I helped a student from another department in her exam. I had to write the answers for her. I wish I could give her back her ability to see because she was very smart".*

Another theme which emerged from these comments was the teachers' ability to meet students' needs and implement an inclusive classroom. For example, *"including students with disabilities with their peers encourages excellence and a highly aspirational learning environment".* It requires teachers to "*know all the requirements and challenges of the inclusive classroom"* and *"include what is suitable for people with disabilities and individual differences".*

6.2.8 Evaluation of the Accessibility to Administrative Support

Table 6-16 shows teachers' evaluation of the accessibility of administrative support on a 3-point Likert scale which was coded 1 *Never Accessible*, 2 *Sometimes Accessible* and 3 *Accessible*. All categories had mean rating score from 1.66 to less than 2.33. Facilities and materials had the highest mean score of M = 2.20; SD = 0.719 (sometimes accessible), while the last rank was for financial support with the lowest mean score of M = 1.83; SD = 0.514**.**

Table 6-16

Evaluation of the Accessibility to Administrative Support

Support		Never Accessible (1)	Sometimes Accessible (2)	Accessible (3)	Mean	SD	Average Rating
Health support	n	8	18	9	2.03	0.707	Sometimes Accessible
	%	22.9	51.4	25.7			
Financial support	n	8	25	2	1.83	0.514	Sometimes Accessible
	%	22.9	71.4	5.7			
Training for teachers	n	11	16	8	1.91	0.742	Sometimes Accessible
	%	31.4	45.7	22.9			
Facilities and materials (teaching materials)	n	6	16	13	2.20	0.719	Sometimes Accessible
	%	17.1	45.7	37.1			
Facilities and materials (assistive technology e.g., voice over, Kahoot)	n	10	15	10	2.00	0.767	Sometimes Accessible
	%	28.6	42.9	28.6			
Overall Support					1.99	0.491	Sometimes Accessible

6.2.9 Modifications Facilitate the Specific Needs of Students

Table 6-17 shows modifications made by teachers to facilitate the specific needs of students. The most common modification (71.4%) was providing students with more time to complete tasks, followed by allowing access to a computer and assistive technology (68.6%). The next most common modification was providing an alternative assignment or assessment task (65.7%), changing the location of testing to reduce potential distractions (62.9%) and adapting the EFL curriculum for students with disabilities (25.7%).

Table 6-17

Modifications Facilitate the Specific Needs of Students

Modification		Have not made (1)	Have made (2)	Mean	SD	Rank
Adapting the EFL curriculum for students with disabilities	n	26	9	1.26	0.443	8
	%	74.3	25.7			
Working with instructional material at a lower level	n	18	17	1.49	0.507	7
	%	51.4	48.6			
Modifying the student's class schedule (e.g., allowing an extra study period or additional intervention)	n	15	20	1.57	0.502	5
	%	42.9	57.1			
Providing an alternative assignment or assessment task	n	12	23	1.66	0.482	3
	%	34.3	65.7			
Providing students with more time to complete tasks	n	10	25	1.71	0.458	1
	%	28.6	71.4			
Changing the location of testing to reduce potential distractions	n	13	22	1.63	0.490	4
	%	37.1	62.9			
Preferential seating	n	17	18	1.51	0.507	6
	%	48.6	51.4			
Note-taking assistance or scribing for a student	n	15	20	1.57	0.502	5
	%	42.9	57.1			
Allowing access to a computer and assistive technology	n	11	24	1.69	0.471	2
	%	31.4	68.6			

6.2.10 Importance of Training

Table 6-18 shows that 77.1% of teachers thought that their training for supporting EFL students to achieve learning outcomes was extremely important with a mean score of 4.3 (SD = 1.239). Behaviour management training (M = 4.57; SD = 1.008) was considered extremely important by 82.9% of teachers for improving peer learning opportunities in an inclusive classroom.

Table 6-18

Importance of Training

Importance of training		Not at all important (1)	Slightly important (2)	Neutral (3)	Very important (4)	Extremely important (5)	Mean	SD	Degree
How **important** do you think your training is for supporting EFL students to achieve learning outcomes?	n	2	2	4	-	27	4.37	1.239	Extremely important
	%	5.7	5.7	11.4	-	77.1			
How **important** do you think behaviour management training is in improving peer learning opportunities in an inclusive classroom?	n	1	1	4	-	29	4.57	1.008	Extremely important
	%	2.9	2.9	11.4	-	82.9			

6.2.11 Factors Affecting EFL Teachers' Self-Confidence

Table 6-19 and Figure 6-8 show the evaluation of factors affecting EFL teachers' self-confidence for teaching students with disabilities. Here a 5-point Likert scale used in Question 3 of the teachers' survey is condensed and summarised. Using specific teaching methods was highly ranked with a mean score of 2.63 SD = 0.490), while strategies for improving the engagement of students with disabilities had the lowest rank with a mean of 2.17 (SD = 0.785). This insight is very useful for informing the need for training topics.

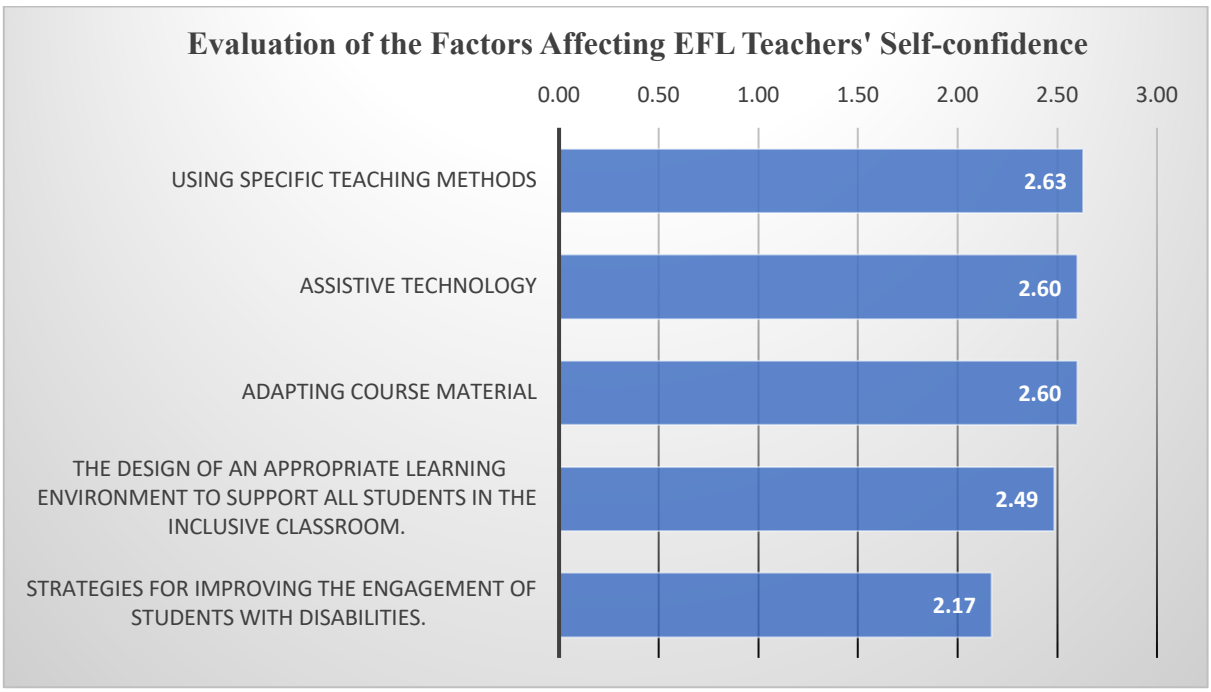
Table 6-19

Evaluation of the Factors Affecting Self-Confidence as a Teacher of English as a Foreign Language

		Not confident (1)	Slightly Confident (2)	Confident (3)	Mean	SD	Degree
Assistive technology	n	3	8	24	2.60	0.651	**Confident**
	%	8.6	22.9	68.6			
Adapting course material	n	2	10	23	2.60	0.604	**Confident**
	%	5.7	28.6	65.7			
Using specific teaching methods	n	-	13	22	2.63	0.490	**Confident**
	%	-	37.1	62.9			
Strategies for improving the engagement of students with disabilities.	n	8	13	14	2.17	0.785	**Slightly Confident**
	%	22.9	37.1	40.0			
The design of an appropriate learning environment to support all students in the inclusive classroom.	n	3	12	20	2.49	0.658	**Confident**
	%	8.6	34.3	57.1			

Figure 6-8

Evaluation of the Factors Affecting EFL Teachers' Self-confidence



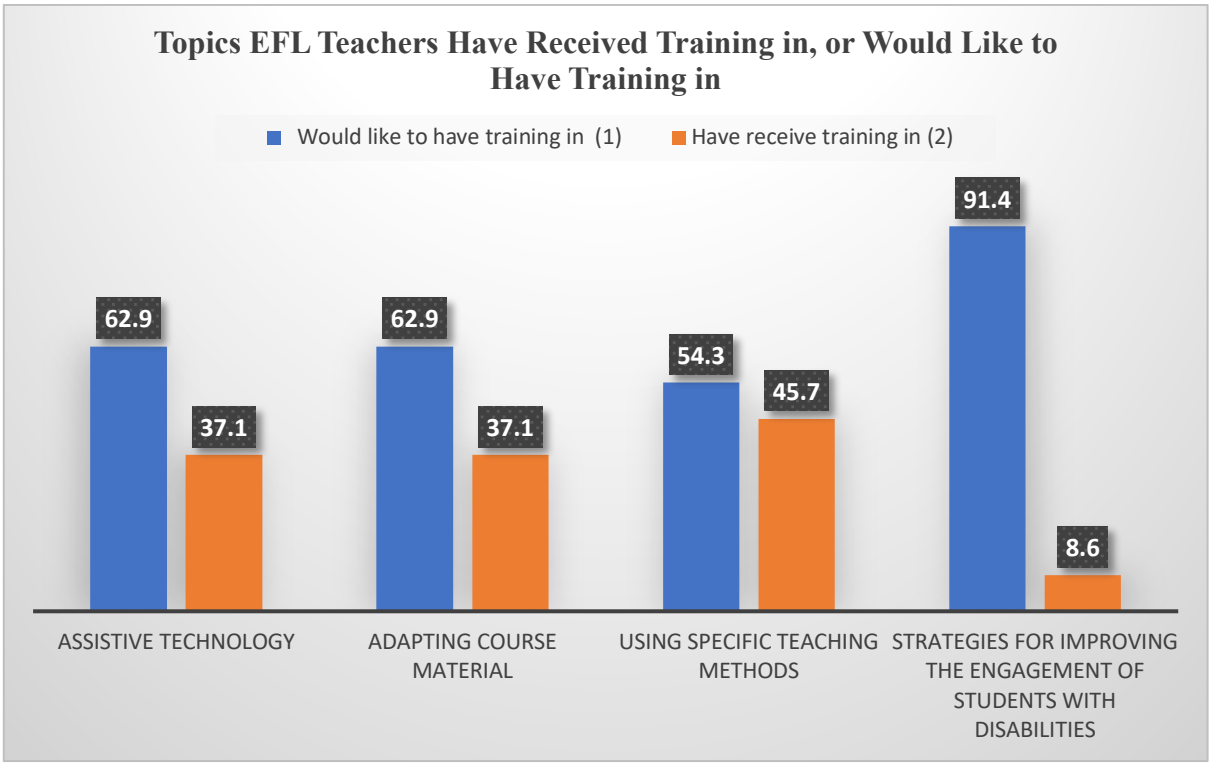
6.2.12 Topics Which Teachers Had, or Would Like Training In

Figure 6-9 shows the topics which teachers had, or would like training in. More than half of the teachers would like training in every topic. The most popular topics teachers would like training in included strategies for improving the engagement of students with disabilities (91.4%) and the design of an appropriate learning environment to support all students in the inclusive classroom (85.7%). Assistive technology and adapting course material were the least popular training topics but still had a high level of interest at 62.9% for each. Many teachers had received training in the use of specific teaching methods (45.7%), while very few (8.6%) had received training in strategies for improving the engagement of students with disabilities.

It was assumed that if teachers selected neither of the options, they were not interested in receiving training in these topics. However, all of the teachers responded to each category.

Figure 6-9

Topics EFL Teachers Have Received Training in, or Would Like to Have Training in



6.2.13 Accessible Assistive Technologies

Table 6-20 shows which assistive technologies teachers had access to and had used in their classrooms. A 3-point Likert scale was used as a measure and was coded 1 *I do not have access to*, 2 *I have access but do not use it in my classroom* and 3 *I have access to and I use it in my classroom*. Two items (computer and projector) had high mean scores of 2.57 and 2.69 respectively. All ratings

were above 1.57. A total of 62.9% did not have access to Siri, while 8.6% did not have access to a projector.

Table 6-20

Accessible Assistive Technologies Use by Teachers

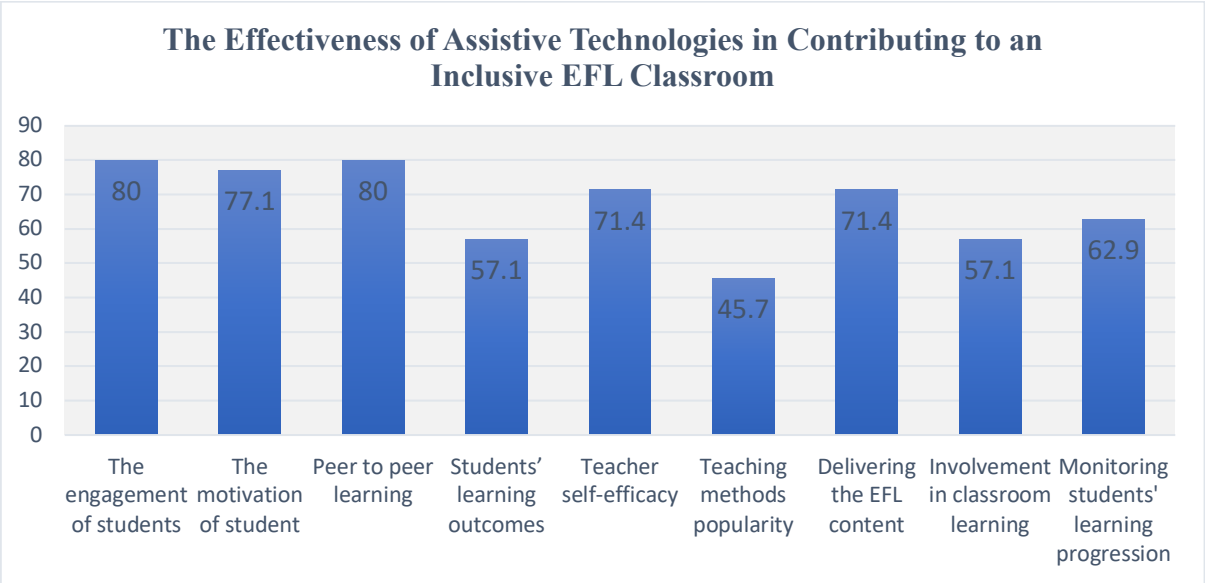
Assistive Technology		I do not have access to	I have access but do not use it in my classroom	I have access to and I use it in my classroom	Most frequent response
Computer	n	6	3	26	I have access to and I use it in my classroom
	%	17.1	8.6	74.3	
Interactive whiteboards	n	11	6	18	I have access to and I use it in my classroom
	%	31.4	17.1	51.4	
Projectors	n	3	5	27	I have access to and I use it in my classroom
	%	8.6	14.3	77.1	
iPad	n	16	9	10	I do not have access to
	%	45.7	25.7	28.6	
Voice-over	n	19	7	9	I do not have access to
	%	54.3	20.0	25.7	
Siri	n	22	6	7	I do not have access to
	%	62.9	17.1	20.0	
Online Translator	n	8	12	15	I have access to and I use it in my classroom
	%	22.9	34.3	42.9	
Speech to text	n	15	11	9	I do not have access to
	%	42.9	31.4	25.7	

6.2.14 The Effectiveness of Assistive Technologies in Contributing to an Inclusive EFL classroom.

Finally, Figure 6-10 shows the effectiveness of assistive technologies in contributing to an inclusive EFL classroom. When teachers were asked to highlight the importance of assistive technology, many teachers (80%) thought that assistive technology improved the engagement of students and peer to peer learning. The teachers also selected student motivation (77.1%), both teacher self-efficacy and delivering the EFL content (71.4%), involvement in classroom learning (62.9%) and teaching methods popularity (45.7%).

Figure 6-10

The Effectiveness of Assistive Technologies in Contributing to an Inclusive EFL Classroom



Chapter Seven
Discussion and Conclusion

This study was designed to explore the concept of inclusive education for English as a Foreign Language (EFL) students with disabilities at a Saudi Arabian university. Using a mixed-methods research design, this study explored the challenges faced by university EFL teachers, students with disabilities and their peers. This study explored the influence of teacher's self-efficacy, attitudes and the use of assistive technology in determining the learning experience of students. The influence of peers' attitudes was also considered.

This chapter presents a thematic discussion of the findings in the context of existing research relevant to the Middle-East and more broadly. The key themes that emerged from the findings in relation to the research questions are: motivations and challenges faced by EFL students and teachers, the definition and benefits of inclusive education, how this relates to the education of students with disabilities in Saudi Arabia and the influence of different definitions of disability. Teachers' and students' perceptions of and attitudes towards inclusive education, as well as, the role of assistive teacher training, teachers' self-efficacy and assistive technology are also discussed. Then, the study limitations, implications, recommendations and conclusions of the study are presented.

The research questions posed for this study were:

1 What are the challenges faced by:
   a) students with disabilities studying EFL in classrooms in a Saudi Arabian university.
   b) EFL teachers teaching students with disabilities in a Saudi Arabian university.
2 How could the learning experience of students with disabilities in inclusive classrooms be influenced by:
   a) teachers' self- efficacy.
   b) teachers' attitudes toward the inclusion of students with disabilities.
   c) the attitudes of students without disability toward the inclusion of students with disabilities.
   d) the use of assistive technologies.

Through the interview and survey, this research found that teachers faced challenges in achieving the goals of inclusive education. This was highlighted during the Phase 1 interviews. Hence, Phase 2 survey questions for teachers were designed to extract more details on this topic. Challenges reported by teachers associated with upholding the principles of inclusive education included poor administrative support and unsuitable learning environments, insufficient teaching strategies and a lack of teachers' self-efficacy. Most of the teachers valued the opportunity to

undertake training relevant to teaching students with disabilities and also expressed a desire to undertake additional training opportunities in the area.

The survey was designed to collect data regarding teachers' attitudes towards inclusive education to expand upon responses provided during the Phase 1 interviews. In Phase 2, it was found that there were positive attitudes towards inclusive education by teachers and students with and without disabilities, except when there were cultural, academic, social and administrative concerns relating to the implementation of inclusive education, based on personal experience. Most of these concerns held by teachers were framed from a medical perception of disability.

Awareness of the value of assistive technology was also investigated in this study in both phases. Many students and teachers were aware of the potential value of technology; however, few were familiar with the term assistive technology. Many teachers and students had also used assistive technology; however, both groups needed more training in its effective use in removing barriers within learning environments in the EFL class.

7.1 Discussion of Key Results

Findings from the interview and survey conducted in this study generally suggested that students with and without a disability identified challenges associated with their motivation toward learning EFL. It was found that low motivation was influenced by factors such as a fear of making mistakes, inadequate support from teachers or peers, insufficient learning and teaching methods, a lack of self-confidence, as well as inappropriate learning resources. In Phase 2, students had neutral or positive attitudes towards the inclusion of students with disabilities. Hence, peer attitudes may be an important consideration if inclusive education is implemented in Saudi Arabian universities in the future (e.g., how they can be part of building a positive learning climate).

In this study, survey findings showed that the use of assistive technology can benefit students and teachers, especially students with disabilities, to access the needed learning and teaching resources. Furthermore, the use of assistive technology could help provide access to learning opportunities for all. Two questions regarding the use, access to, and details of assistive technologies used in university EFL classrooms were included in the survey. These questions were included because students and teachers interviewed in Phase 1 were unfamiliar with the term 'assistive technology', despite giving the impression that some assistive technologies were already being used. Once an explanation of assistive technology was provided in the survey, both the teachers and students reported using assistive technologies, but pointed out that they were using personal resources as they were not provided through the university.

Interview findings indicated that there were administrative challenges associated with the implementation of special education services to support students with disabilities in EFL classrooms.

In the interview, teachers expressed a concern about health and financial support for all students. In addition, the teachers struggled with resource allocation and administrative processes affecting the development and implementation of an inclusive learning environment. Further details of the types of administrative support desired were collected from teachers and all students during the survey.

7.1.1 Motivation to Learn EFL

In the interviews, students with disabilities reported extrinsic and intrinsic motivations for learning English as a Foreign Language (EFL), with travelling overseas mentioned most commonly. To gain further insights into these motivations, one multiple choice question was included in Phase 2 that asked students to select all the relevant motivations. EFL is popular worldwide because English is considered a lingua franca (Seidlhofer et al., 2017) which increases the number of life opportunities available, such as working in companies involved in international business, trade and commerce (Rao, 2019). These sentiments were echoed by students in both the interview and survey. Many students also mentioned that they wanted to learn English because it is an international language. English as a lingua franca also enables individuals to socialise, engage and learn about other cultures (Zhang & Lütge, 2023). The ability to socialise and be part of the wider community for all persons in the community is a strength of designing inclusive learning environments (Reale et al., 2022).

Other extrinsic motivations to learn EFL reported by students in the interview and surveys included employment and further study opportunities. It is internationally recognised that students who aspire to work or study in western countries need to have a good grasp of the English language before these opportunities become available (Cook et al., 2011). In recent years, employers in Saudi Arabia have also been seeking employees with a high standard of English, especially, in the hospitality industry (Azhar et al., 2018). Therefore, building skills in English for young people with disability provides options for them to gain employment, and develop independence.

Travel was considered as an extrinsic motivation to learn EFL, by students interviewed and surveyed in this study. However, travel could be both an intrinsic and extrinsic motivation. For example, travel could be considered as an intrinsic motivation when the purpose of travel is for enjoyment such as tourism. On the other hand, it appears to be extrinsic if it is needed for work, study or medical tourism, as well as the desire to learn about other cultures and communicate while overseas.

Intrinsic motivations such as the interest to learn a new language were prevalent in this study and are commonly reported in published literature. For example, an intrinsic motivation reported by participants in the survey was the desire to have access to additional learning resources in other topics, and to improve self-confidence. Legak and Wahi (2020) reported a strong link between self-

confidence and intrinsic motivation in language learning, with intrinsic motivation boosting self-confidence.

It appeared that some students surveyed in Phase 2 of this study were highly motivated students. This high level of motivation was interpreted from their desire to have access to additional learning resources in other topics. However, the reason for their intrinsic motivation could not be explicitly identified due to data anonymisation which made it impossible to track their responses across consecutive questions.

Students' accomplishment is directly influenced by their motivation to learn (Afzal et al., 2010). Some teachers interviewed in this research had the same perspective, considering a high motivation as a positive influence on learning outcomes. When learners are motivated to learn a second language, they are more likely to be engaged in the learning process and achieve (MacIntyre & Gregersen, 2012). However, this study did not collect data which allowed an analysis of possible links between engagement, motivation and academic achievement (Afzal et al., 2010).

7.1.2 Challenges Faced by EFL Students

Results from both the interview and survey indicate that students facing excessive challenges in the classroom are likely to have low motivation and experience poor learning outcomes. According to Bakirova (2020), a lack of motivation to learn a second language presents obstacles and difficulties which students will face as they begin and continue with their studies. Students facing excessive challenges also tend to have low motivation (Alhassora et al., 2017). Hence, this may initiate a positive-feedback-cycle where additional challenges decrease motivation and a lack of motivation prevents the students from facing new challenges.

There were common reasons highlighted by the participants in this study for a lack of motivation to learn EFL. One reason was inadequate support from teachers or peers. For example, in the survey at least three students indicated that they were not in favour of having students with disabilities in the same classroom. One surveyed student elucidated that the students with disabilities are "less capable" than students without disabilities. This comment demonstrates that the student has a negative attitude towards students with disability, without providing a clear reason to why this is the case. This same student also opposed studying in the same classroom because they expected that students with disabilities may find it frustrating to study in the same classroom and hence have a decreased motivation to learn. This perspective of a student without a disability represents a view where the student's "deficits" will result in poor outcomes.

In Phase 1 interviews, students with disabilities reported that they had difficulty in engaging with learning materials and communicating with other students because of a lack of encouragement from their teachers, who were also not patient. A lack of encouragement from teachers can frustrate

students and lead to learning challenges (Nair et al., 2014). Students thought that this situation could be improved by teachers undertaking additional training in teaching students with disabilities. This perspective may be seen as a request to change the learning environment, which may lead to improved quality outcomes for all (i.e., a perspective from a social model of disability).

Another challenge which students with disabilities reported during the interviews and surveys was the fear of making mistakes. Making mistakes, being judged, or not meeting expectations can lead to anxiety and reduced motivation to learn languages (Amoah & Yeboah, 2021). This was reported as a challenge faced by more than half of the students interviewed. Interviewed students highlighted that they were afraid to make a mistake and anxious about their teachers' and peers' reactions. Survey results also confirmed that a fear of making mistakes was the most frequent difficulty they faced in the EFL classroom, above other difficulties such as the configuration of the classroom. This result indicated that the atmosphere in the classroom and social environment may be more important for students' confidence than their physical environment.

Results from the students' surveys and interviews indicated that they were not motivated by the teaching methods currently applied in the EFL classroom. Specifically, a low motivation to learn EFL was reported by students who thought their teachers applied repetitive teaching methods such as lecturing the class without initiating student's engagement. Such repetitive and monotonous teaching methods are known to be boring, which leads to disengagement among learners (Pawlak et al., 2020).

Overall, the most prominent challenges reported by the students with disabilities were fear of making mistakes, inadequate support from teachers and peers, and a lack of self-confidence. In general, students considered a good relationship with their teachers as very important. Insufficient teaching methods and a lack of learning resources (e.g., electronic books and visual assistive tools such as Braille) were highlighted as challenges faced by the students who would like a greater choice of resources (i.e., online, text based and verbal) to complement their learning.

The interview responses did not provide sufficient data about peer attitudes which might affect the design of an inclusive classroom. In the survey, students mostly expressed positive attitudes towards studying in an inclusive classroom (i.e., alongside students without disability), hence, concerns of students with disabilities about support from their peers in future inclusive classrooms in Saudi Arabian universities may be unfounded.

Challenges associated with insufficient teaching methods and a lack of learning resources were not confined to students with disabilities. For example, in transitioning from high school to college, students face a multitude of challenges in both social and academic aspects (Morling & Lee, 2019). One major challenge that students face during this transition is the fear of making mistakes. Some students may doubt their ability to succeed at university, which may lower their academic success and increase their stress levels (Mutambara & Veni, 2012). Some EFL students also face challenges

speaking in public as they worry about being mocked by their peers or are afraid of not meeting teachers' expectations (Rosmayanti et al., 2023). Moreover, inadequate support from teachers and peers can exacerbate these fears and insecurities. These challenges and insecurities can make it difficult for students in a new environment to adapt and excel academically.

To overcome these challenges, teachers and educational institutions must be proactive, continually assessing and adapting teaching methods and learning resources to better meet all students' needs and preferences (Pramesworo et al., 2023). Incorporating a variety of teaching strategies, leveraging technology, and providing a variety of learning materials can help in creating a supportive and inclusive learning environment (Sarker et al., 2019). Thus, teachers can ensure that all students are given the best chance to succeed academically. In the current study, students identified that they would benefit from having internet and assistive technology available in the classroom to help them to interact with their peers and engage fully with the learning material.

7.1.3 Challenges Faced by EFL Teachers

This study highlighted that EFL teachers faced administrative and personal challenges in teaching students with disabilities in an inclusive classroom. In this study, the challenges faced by EFL teachers were categorised into administrative and personal challenges. Administrative challenges included the difficulties associated with organising exam adjustments, a lack of specialised exam facilities, a weak internet connection, lack of access to assistive technology, difficulties accessing appropriate learning resources, and financial and heath support for students with disabilities. The personal challenges included a lack of self-confidence and time to adequately prepare for lessons. A lack of training was reported as both an administrative and personal challenge. Administrative challenges were reported in Phase 1 as a major hurdle for both students and teachers. In Phase 2 this was investigated with survey questions regarding the availability of administrative support. Both teachers and students highlighted the presence of some administrative support available in the form of exam adjustments and accessible teaching materials.

In the interview, teachers indicated that creating an inclusive learning environment required departmental and administrative support. Mohammed (2020) explained that there is a lack of administrative support and encouragement available to EFL teachers in Saudi universities, for example, a lack of internet accessibility in the classroom. As explained by Aldehami (2022), administrative challenges can impact teachers' capacity to create inclusive learning environments. In this study, teachers suggested that students with disabilities could be provided departmental supports including exam adjustments, health and financial supports and additional learning resources, to support their learning. Student representatives and training for students and teachers in the effective use of assistive technology were also suggested by the interviewed teachers.

High levels of self-efficacy improve a teacher's perception of their teaching ability, how they treat their students, and how they approach and teach them (Wang & Lim, 2016). In this study, interviewed teachers reported some personal challenges associated with their lack of self-efficacy and time management; they reported that upholding the principles of inclusive education required hard work, additional time, resources and training. The teachers related some of these challenges to insufficient training and experience teaching students with disabilities. One interviewed teacher stated he needed to be trained on preparing for the lessons, providing suitable learning resources and managing the time in class. Teachers were more likely to report personal challenges during the interview than during the survey. However, many of the personal challenges (e.g., lack of self-confidence and time management) reported in the interview were also mentioned to some extent in the survey responses.

In summary, both teachers and students faced administrative and personal challenges, with teachers reporting that some administrative challenges impacted their capacity to create inclusive learning environments. Teachers recognised that upholding the principles of inclusive education required hard work, additional time, resources and training. However, they suggested that the effective use of assistive technology and targeted training could facilitate the implementation of inclusive education in Saudi Arabian universities.

7.2 Inclusive Education and Disability

This section begins with the definition and benefits of inclusive education, followed by its current status in Saudi Arabia. Then, the difference between social and medical models of disability, and the influence of these definitions on teachers' (and others') perceptions of inclusive education are discussed.

7.2.1 Inclusive Education

Inclusive education is a process of systemic reform embodying changes and modifications in content, teaching methods, approaches, structures and strategies in education to overcome barriers with a vision serving to provide all students of the relevant age range with an equitable and participatory learning experience and environment that best corresponds to their requirements and preferences (United Nations, 2016, para 2).

It is also an approach to teaching which enables all students to access course content, fully participate in learning activities, and demonstrate their strengths and learning during assessment (Unit, 2013). Inclusive education is based on the common understanding that education is a human right. This is a moral premise which all teachers should be able to agree with.

7.2.2 Benefits of Inclusive Education

Inclusive education has potential benefits for all students (Moriña, 2019). These benefits include increased access to the general education curriculum, higher levels of student engagement, improved academic and functional skill performance, and better social and behavioural outcomes (Giangreco, 2019). Inclusive education can positively impact self-esteem and motivation, improve academic performance and promote a sense of belonging (Kart & Kart 2021). The presence of students with disabilities in mainstream classrooms also has a positive impact on the achievement of their peers without disabilities (Szumski et al., 2022).

Inclusive education contributes to the learning experience, achievement and future opportunities of all students. For instance, inclusive education builds real world skills such as teamwork, peer-to-peer collaboration (Paul, 2016) and allows students to attain a competency in English (Chan, 2017), which allows students to gain meaningful employment after graduating (Collins et al., 2019). For example, a study by Odame et al. (2021) found that students with a visual impairment who graduated from an inclusive education setting were able to excel at their jobs due to the development of time management, interpersonal and teamwork skills acquired in the inclusive education setting. If academic achievement is considered as the "attainment of learning objectives, acquisition of desired skills and competencies, satisfaction, persistence, and post-college performance" (York et al., 2015, p. 5), inclusive education can make substantial progress towards achieving these academic goals.

7.2.3 Current Status of Inclusive Education in Saudi Arabia

The current system implemented in Saudi Arabia is termed special education instead of inclusive education. Special education is defined as supporting students with disabilities and special needs in accessing and advancing through the education system with individualised accommodations and support, where students with disabilities are always and purposely segregated from other students in mainstream classrooms (Aldabas, 2015). Special education students with disabilities are only given the opportunity to socialise with their peers during breaks and mealtime (Arishi, 2019). In this study, interviewed students explained that they were also segregated according to their impairments. For example, students with a hearing impairment, studied in a different classroom to students with a visual impairment. This is not consistent with inclusive education principles and the decision to segregate students with disabilities is influenced by social expectations and judgments about differences (Hansen et al., 2020).

The segregation of students with disabilities is undesirable because it has significant academic and social effects (Maeda et al., 2021) which may result in isolation and lower academic achievement in comparison students in an inclusive classroom (McCabe et al., 2020). Segregating students with

disabilities denies them access to the general education curriculum, academic and functional skill development opportunities, as well as social and behavioural learning opportunities (Francisco et al., 2020). Segregation also perpetuates a cycle of inequity and diminished opportunities for academic growth (Hansen et al., 2020).

By contrast, inclusive practices have been shown to positively impact academic achievement for students with disabilities. When students with disabilities are included in regular classrooms and teachers utilise effective inclusive practices (Ginja & Chen, 2023; Uttayotha & Scheef, 2021), students with disabilities benefit from a socially inclusive environment. In this environment all students had the opportunity to develop friendships, enhance their self-esteem, and improve their behaviour (Juvonen et al., 2019; Uttayotha & Scheef, 2021; Ziegler et al., 2020).

Molina et al. (2021) reported that inclusive education benefits all students as they acquire the ability to appreciate and honour diversity, recognise and accept varying abilities, which in turn fosters new friendships. Students gain knowledge about skills associated with facilitating others' engagement and learning, cultivating patience, and finding fulfillment in assisting others in their learning and behaviour improvement (Koch, 2020). They also gain advantages from the mental exertion needed to articulate their thoughts and insights, as well as from the valuable input of peers with special educational needs, presenting opportunities for learning (Moriña et al., 2021).

This study has identified that teachers and students in Saudi Arabia have not had an opportunity to witness inclusive education in practice due to the current situation of students with disabilities studying in a segregated classroom. This segregation seems likely to have influenced their perceptions of inclusive education, especially when training or perspectives highlighting the benefits have not been available. Therefore, until training and professional development resources are made available and engaged with, it is expected that (especially) teachers will not be able to fully realise the effects of an environment on the inclusion of students with and without disabilities.

7.2.4 Disability Models

Social and medical models of disability exist (Al-Turkee, 2005). Understandings of disability are relevant to teachers' perceptions and the implementation of inclusive education because a social model of disability considers the social and attitudinal difficulties which students face as a consequence of their environment, not a problem with the students' themselves (Campbell & Oliver, 2013; Office of Developmental Primary Care, 2018). Hence, a social model of disability focuses on removing the barriers within the system and educational contexts to meet the needs of the students instead of trying to change the students themselves to fit into the system or context.

A medical model of disability argues that the problem is a result of an individual person's physical or mental limitations and is not connected to their social or geographical environments

(Campbell & Oliver, 2013; Dewsbury et al., 2004; Office of Developmental Primary Care, 2018; Villa & Thousand, 2005). The use of a medical model of disability does not allow consideration of how external factors such as policy, school type, leadership and the quality of teaching affect students' learning (Alothman, 2014). Definitions of disability impact teachers' perceptions of inclusive education, influencing their choice of teaching strategies and approaches used to facilitate the inclusion and participation of students with and without disabilities (Almalky & Alwahbi, 2023).

7.2.5 Impact of Disability Models on Teachers' Perceptions of Inclusive Education

Some studies have recognised a relationship between a teachers' definition of disability and their perceptions of inclusive education, as well as the likelihood for successful implementation of inclusive education (Moriña & Carnerero, 2022; Thornton & Underwood, 2013). According to Lalvani (2015), interpretations of disability influence educational decision-making by affecting the attitudes of teachers towards the value of implementing inclusive education. In that study, teachers expressed negative attitudes toward inclusion when their interpretations were based on a medical model of disability and equated with impairment and deficit. In a study by Tamakloe (2018), teacher perceptions of disability and normality, their definition of disability, and their religious beliefs influenced their inclusive education attitudes and the practices they implemented. Specifically, teachers applying the medical model of disability had more negative attitudes towards inclusive education than other teachers.

7.2.6 Teachers' Familiarity, Awareness and Perceptions of Inclusive Education

In the current study, teachers were typically not familiar with the term inclusive education. They thought it was a new concept in Saudi Arabia and they did not have any experience implementing inclusive education. Although teachers did not appear to be familiar with the term, their perspectives on supporting the learning of students with and without disabilities covered the basic principles of inclusive education. For example, one interviewed teacher highlighted this by saying "*there is no difference between teaching students with disabilities and students without disabilities*". By this, the teacher meant that all students should have access to equal learning opportunities.

Teachers also appeared to be aware of the benefits of inclusive education and thought it was important for all students to be able to engage with the course content and demonstrate their strengths and learning during assessments. In other examples, an interviewed teacher stated that inclusive education enhances peer-to-peer learning when students with and without disabilities are in the same learning environment. This is because students with and without disabilities learn how to adapt from each other and can support each other's learning through interaction. Another teacher highlighted that providing technology for the students can help them overcome the impact of their disability.

Diverse perspectives were presented by the teachers regarding the requirements of successfully upholding the intent of inclusive education. Some interviewed teachers thought that psychological, health and financial assistance for students with disabilities were needed to implement inclusive education. Other teachers believed that it was essential to provide support which removed barriers due to the impact of the students' disabilities to facilitate equal access to information.

In summary, the findings suggest a range of perspectives and value attributions among teachers regarding inclusive education. While most were not familiar with the term, their beliefs and practices aligned with the fundamental principles of providing equal opportunities and support for all students. Addressing gaps in inclusive education awareness while providing targeted support and training would support the implementation of inclusive education practices in Saudi Arabian universities. Since teachers already demonstrate some understanding and efforts to implement inclusive education, this needs to be reinforced by systematic reforms in administrative processes and support mechanisms to facilitate the implementation of inclusive education.

7.3 Attitude of Students Toward Inclusive Education

Surveyed students expressed positive to neutral attitudes towards the education of students with disabilities within university classrooms. Most of the surveyed students (which included students with and without disabilities) strongly agreed with studying alongside students with disabilities. They highlighted that students with and without disabilities should study in the same classroom as inclusion benefits all learners and they would be happy to work in a group including students with and without disabilities. For example, "*the existence of individual differences makes a person more productive and enthusiastic*" and "*noticing other people's levels and abilities increases my desire to reach a higher level".* Kart and Kart (2021) support this position, highlighting that if students without disabilities constantly engage in group projects and class activities that involve engagement with their peers, a sense of teamwork and mutual support is created (Agran et al., 2020). Luckner and Urbach (2012) also mentioned that students with disabilities in more inclusive settings outperformed those in less inclusive environments both academically and socially.

The attitude of students without disabilities towards their peers with disabilities is an important determiner of the overall inclusion and well-being of students with disabilities in educational settings (Alhumaid, 2023). Some students in the survey presented neutral attitudes towards inclusion of students with disabilities as they felt disadvantaged if students with and without disabilities were taught in the same classroom. However, one-third of students surveyed strongly disagreed with the suggestion that they would feel disadvantaged while being taught in the same classroom as students with disabilities. de Boer et al. (2012) found that students with more neutral attitudes were more likely to accept and include their peers with disabilities than students with a negative attitude. This suggests

that neutral or positive attitudes towards students with disabilities may assist the implementation of inclusive education.

Research shows that many students arriving at universities choose not to disclose their disabilities due to a fear of being stigmatised and a preference to undertake the same university activities as their peers (Grimes et al., 2019; Matthews, 2009). In some cases, this choice to refuse additional assistance is driven by poor experiences with stigmatisation at other levels of their education (Prowse, 2009; Zaussinger & Terzieva, 2018). However, a recent review of teachers' and students' perceptions of disability found that university students who disclosed their disabilities were met with fairly positive attitudes from their peers and course convenors, who did not treat them differently, but implemented effective adaptations which addressed any additional needs (Baker et al., 2012; Moriña & Carnerero, 2020).

In this study, the survey considered perspectives from students with and without disabilities. More than half of the students reported improved motivation to learn when studying in a classroom including students with disabilities, compared to a classroom excluding students with disabilities. This can be interpreted as a generally positive attitude towards studying alongside students with disabilities. Positive attitudes are also important to gain the benefits of peer-to-peer learning such as all students in the classroom being able to interact positively and feel a sense of belonging (El-Koumy, 2020). These topics could be the subject of future research.

Despite the role of peer-to-peer interaction in the implementation of inclusive education, students with disabilities often have more trouble finding study partners and classmates with whom to establish these relationships (Lee & Recchia, 2016; Skär, 2010). Therefore, it is significant that there is a lack of studies regarding university students' attitudes and definitions of disability and inclusive education (Moriña & Carnerero, 2020). Students' concepts of disability can be transformed through education and their experiences, with these changes also positively influencing their attitudes towards inclusive education (Baker et al., 2012; Moriña & Carnerero, 2020). This could be supported by a systematic reform of the education system to promote the principles of inclusion in all aspects of university life.

University students' attitudes and definitions of disability should be prioritised as a future research topic. Understanding these topics is important because students' perspectives directly influence how they interact with their peers in an inclusive classroom (Glenn, 2018). Also, students who are aware of their own conceptions have more control over their actions and are better equipped to assist students with disabilities to overcome the barriers that prevent them from enjoying equal academic opportunities (He, 2009).

Universities could achieve more inclusive learning environments by implementing proactive changes based on the social model of disability, instead of reacting to individual needs (O'Byrne et

al., 2019). Learning environments and inclusive classrooms which value diversity enable students to actively participate instead of requiring them to adapt to a learning environment which views disability as a problem (Grimes et al., 2019).

7.4 Attitudes of Teachers' Towards Inclusive Education

During both the interview and survey, teachers expressed both positive and negative attitudes towards inclusive education. Some teachers presented positive attitudes towards inclusive education as they thought it created a positive learning environment and improved education outcomes. They assumed that including students with and without disabilities in the same classroom encouraged excellence and a highly aspirational learning environment. Providing supportive learning environments to all students, regardless of their diverse needs and backgrounds, is the fundamental philosophy of inclusive education (Arcidiacono & Baucal, 2020).

Some interviewed teachers with positive views toward inclusive education highlighted the positive impact inclusive education could have on eliminating differences and encouraging individual learning and collaboration. Inclusion in education promotes tolerance, understanding, and acceptance of differences among students (Singh, 2016). Paseka and Schwab (2020) highlight that in a classroom that supports inclusive education principals, teachers increasingly recognise students' strengths, provide appropriate support and apply more inclusive practices. It was not obvious from the results of this study whether these practices were known or implemented in special education classrooms in Saudi Arabia. Future research may undertake observations of classes to seek a deeper understanding of the practices used by teacher and students utilise them.

Teachers' attitudes towards inclusive education are shaped by their own experiences of teaching, learning and assessment, so pre-service and in-service training are essential to make educational settings more inclusive (Mag et al., 2017). None of the teachers in this study had experience designing and delivering inclusive education, however, they believed that their attitude toward inclusive education could be impacted by numerous factors including their level of knowledge of the principles of inclusion education and relevant training.

Without sufficient professional development, including learner-centred training opportunities (Hoppey & McLeskey, 2013), teachers may struggle to identify appropriate strategies and instructional modifications to support students with disabilities effectively. This uncertainty can lead to feelings of inadequacy, impacting their self-efficacy in managing inclusive classrooms. According to Abacioglu et al. (2020) teachers often feel ill-prepared to cater to the diverse needs of students with disabilities, as they may not have received specific instruction or possess the professional knowledge to adapt their teaching methods to accommodate all learners. Teachers recognised the possible opportunities for their learning and development in the field of inclusive education as a result of

teaching students with disabilities. This professional development could be facilitated by participation in study groups, professional learning communities, book studies, peer mentoring or coaching and classroom observation (Hoppey & McLeskey, 2013).

All interviewed students agreed that their teachers' patience was important for motivating and engaging them in the classroom. The surveyed students highlighted many factors they thought could affect their teachers' patience in an inclusive education setting. More than half of the students thought that training (54.55%) and experience (52.73%) were important factors. Age (16.36%) and gender (3.64%) were considered by students as the least important factors in teachers' attitudes towards inclusive education. This is confirmed by multiple studies which concluded that gender has no statistically significant effect on teachers' attitudes towards inclusive education (e.g., Avramidis & Norwich, 2002; Orakci et al., 2016).

In the literature, it is reported that pre-service teachers (i.e., university students training to be teachers) consider training as an important determiner of teachers' patience and attitudes (Avramidis et al., 2000). Pre-service teachers surveyed by Avramidis et al. (2000) also had predominantly positive attitudes towards inclusive education. In this current study, surveyed and interviewed students also considered patience from their teachers in the university context as highly beneficial for their learning.

Teachers did not have negative attitudes towards the principles of inclusive education but were frustrated by and recognised the challenges brought about by teaching students with and without disabilities in the same classroom. This is because additional time and resources may be required to adapt teaching methods and learning resources to suit students with diverse needs. A lack of appropriate training, administrative support and resourcing were also considered as challenges specifically related to the education of students with disabilities. However, these are more broad challenges which exist in any university EFL teaching situation and could be addressed by implementing inclusive education practices because special adjustments may not be necessary for all students with additional needs (Cologon, 2022). Hence it is suggested that these perceived challenges (Norwich & Lewis, 2007) could be overcome by implementing inclusive education for all by utilising an inclusive educational framework (e.g., universal design for learning).

Teacher training regarding the definition, practices, benefits and implementation of inclusive education is required as pre-requisite to its implementation. Inclusive education training could potentially include perspectives and insights which can improve teachers' self-efficacy (Crispel & Kasperski, 2021). For example, teachers who have had specific training in inclusive education and are well resourced to effectively implement inclusive education practices in the classroom can positively influence students' engagement and learning outcomes (Lauermann & Berger, 2021). Also, this training positively impacts teacher patience by providing perspectives and insights that deepen

the understanding of diverse student needs. This enhanced understanding equips teachers with effective strategies to navigate challenges related to diverse learning styles.

The wider implementation of inclusive education may improve teachers' self-efficacy in a number of ways. The teachers interviewed who had students with disabilities in their classroom communicated that they were expected to implement multiple teaching strategies and tailor their choice of teaching strategies to address the unique needs of students in their classroom. These teachers considered these adaptation activities as a stressful and time-consuming experience. By contrast, the implementation of inclusive education would reduce this burden on teachers and effectively increase their motivation, as well as the experience they have implementing teaching methods suitable for students with a wide variety of needs.

In both the interview and survey, teachers communicated difficulties they had experienced implementing inclusive education. The lack of departmental support was one of the difficulties that contributed to teachers' reservations towards the implementation of inclusive education. For example, interviewed teachers reported that teachers and students need support from departments in order to create an inclusive learning environment. In the survey, teachers suggested that relevant supports may include providing flexible and suitable infrastructure such as Wi-Fi in classrooms, adequate teacher training, as well as psychological and financial support for students in need. Teachers in the interview suggested that students could also benefit from support accessing learning materials (e.g., with screen read software), subscribing to free programs, or having a braille teacher and/or materials for guidance. If these changes were implemented, it would be easier for all students to access relevant information with appropriate administrative supports.

Some teachers articulated a frustrated attitude towards inclusive education considering it as a detriment to other student learning. For example, one interviewed teacher stated that sign language affects language learning by making the learning process harder. This is because the teacher cannot concentrate on all students at the same time. This teacher also suggested that it would be more reasonable to teach students with a hearing impairment in the same classroom with other students without disabilities if additional support such as a teaching assistant were available. In two cases recorded during the interview, teachers were frustrated with the absence of special and inclusive education training in Saudi Arabia, and instead sought advice or training from international sources.

McLeskey and Waldron (2002) point out that teachers sometimes develop a negative attitude toward teaching students with and without disabilities in the same classroom because the latter may notice the differences between themselves and their peers with disabilities. This study showed that surveyed students did not feel disadvantaged learning alongside students with disabilities. For example, "*the existence of individual differences makes a person more productive and enthusiastic*."

Also, Kart and Kart (2021) indicate that inclusion has mostly positive or neutral effects on the academic achievement of typically developing students in the same grade.

7.5 Teachers' Training

There is a worldwide shortage of teachers trained in the implementation of inclusive education (Demchenko et al., 2021; Tristani & Bassett-Gunter, 2020). In this study, more than 77% of teachers surveyed thought that it was very important to undertake specialised training relevant to inclusive education, but many reported that it was not available to them. Specifically, less than 23% of teachers surveyed reported having received any training relevant to inclusive education, however; teachers recognised that adequate training is a requirement for implementing inclusive education.

Teachers' training has a crucial role in achieving truly inclusive education environments (Crispel & Kasperski, 2021; Miyauchi, 2020). One interviewed teacher mentioned that he had not been provided with an opportunity to undertake inclusive education training, however, he had students with disabilities in his class and took advice and expertise from a colleague in a different country. A lack of training was explored as one of the main challenges facing teachers. It was not clear if this teacher was seeking additional training in the delivery of specialised education practices, or whether he thought that the advice of his colleague was sufficient. Another teacher had personal reasons for seeking out training in inclusive education practices which motivated her to move to Canada to undertake this inclusive education training in person. Upon returning to Saudi Arabia, this teacher's experience allowed her to implement more inclusive practices in her classroom.

Teacher training is relevant to the choice of teaching strategies and methods applied to make the learning environment inclusive (Kurniawati et al., 2017). For example, during whole-class meetings and small group sessions, teachers can teach students teamwork and problem-solving skills so that the classroom becomes a welcoming and engaging environment (Bucholz & Sheffler, 2009). From the interview and survey, it was found that teachers were generally supportive of, and in some case used teaching methods which are associated with inclusive practice. For example, at least two of the interviewed teachers mentioned that they had a regular meeting with their students with disabilities to discuss their needs. In another example, more than 50% of the teachers surveyed already used computer-assisted teaching methods and almost 50% already used sensory-based teaching methods.

In summary, the results of this study shows support from teachers for the integration of assistive technology and other inclusive teaching methods, despite an absence of relevant training and familiarity of terminology specific to inclusive teaching methods. Teachers showed enthusiasm for training and professional development relevant to inclusive education, despite this being unavailable in Saudi Arabia. The two examples provided above demonstrate the need for teachers to either

personally travel or seek advice and resources from overseas in order to gain experience and training relevant to the implementation of inclusive education.

7.6 Teachers' Self-Efficacy

Training is important for developing teachers' self-efficacy. Loreman et al. (2013) reported that teachers with no training in inclusive education present lower levels of self-efficacy when teaching in an inclusive classroom, compared to those with some training. It has been highlighted in this study that in Saudi Arabia, teachers are required to use personal network and resources to understand and learn inclusive education principles and practice. When training, support, advice and/or mentoring were not provided or available locally, some teachers sought advice from their colleagues overseas who had experience in the implementation of an inclusive classroom. For example, one interviewed teacher reported seeking advice and mentoring online from his British colleague who had experience teaching students with disabilities because relevant training and resources were not otherwise available in Saudi Arabia. Hence, it appears that diverse networks were being used as a substitute for specialised training by teachers of students with disabilities in Saudi Arabia.

Surveyed teachers appreciated the importance of self-efficacy in facilitating effective communication, improving confidence, improving teaching skills and educational outcomes. For example, all teachers surveyed mentioned the importance of training in developing teacher self-efficacy. High-efficacy teachers will use different strategies to ensure they give clear and effective instructions (Woodcock & Jones, 2020). In addition to giving clear instructions, high-efficacy teachers will greatly influence student engagement through improved teaching quality and motivation (Fong et al., 2019). Also, more than 77% of the surveyed teachers agreed that teachers who have high self-belief in their ability are more effective at motivating students in an inclusive classroom. In this way, students with disabilities are more likely to engage with their peers in an inclusive and supportive classroom (Farmer et al., 2019). Though one interviewed teacher expressed the opinion that confidence does not indicate a high quality of teaching and being a confident teacher is not a condition for it, teachers' responses from the survey indicated that they were aware of and agreed with the importance of teachers' self-efficacy in creating an effective inclusive education environment.

In the Social Cognitive Theory (SCT) framework used in this study, it is recognised that teachers' self-efficacy contributes to the creation of an effective inclusive education environment (Min, 2023). Teachers with high self-efficacy are better equipped to adapt their teaching practices to meet the needs of students, and therefore, more likely to take on teaching challenges in a proactive way, leading to stronger learning outcomes for students. However, teachers implementing new, inclusive teaching practices are likely to experience challenges and need to be convinced that the changes they are implementing are both possible and worthwhile (e.g., monitoring from well qualified

peers). If people are not convinced that they can achieve the results they want through their own actions, they will have little reason to act or persevere in the face of difficulties (Bandura, 1986). SCT helps to explain a teacher's behaviour in an unfamiliar situation, as teachers with low efficacy levels will tend to avoid challenges (Tadayon, 2011).

Surveyed students thought that teachers' confidence was the most important factor in a teachers' ability to create a supportive learning environment. In this study, confidence was interpreted as the belief an individual has in themselves. Confidence is a critical component of self-efficacy which allows teachers to successfully cope with new tasks, obligations and challenges (Barni et al., 2019). This sentiment was directly reported by surveyed teachers who thought that confidence was important in dealing with students and managing the educational process with greater assurance and effectiveness. Examples provided by surveyed teachers included; "*a teacher who is confident of his abilities is more positive in dealing with the student and is more enthusiastic while presenting the class material*." "*He also diversifies teaching strategies, takes into account individual differences among students, and diversifies assessment methods."* Teachers thought that highly confident teachers can handle complicated tasks. Nothing can stop them. A positive attitude is their motto.

It was recognised by at least one teacher surveyed and interviewed that the learning experiences and engagement of students is, or can be, significantly influenced by the teacher's efficacy. This perspective is consistent with a social model of disability, where the environment is specifically designed to be inclusive. A teacher's self-efficacy could be considered as one of the metrics used to measure a teacher's capability to achieve the desired results of student engagement and learning, taking into consideration that a student can have difficulties or be unmotivated to learn (Wray et al., 2022).

7.7 Assistive Technology and Inclusive Education

Over the past few decades, technology has contributed to problem-solving in many fields. The introduction of technology has played a significant role, especially in accessibility in the education sector (Raja & Nagasubramani, 2018). Assistive technology has greatly improved the quality of education (MacLachlan et al., 2018) and improved the accessibility of the education sector for students with disabilities in Saudi Arabia (Al-Moghyrah, 2017).

Teachers in this study highlighted that assistive technologies helped to equalise learning opportunities, improve self-confidence, help overcome learning challenges, facilitate learning and encourage student participation and interaction with other students, consistent with the principals of inclusive education. For example, one interviewed teacher specifically mentioned the role of electronic books available to all students in improving the accessibility of learning materials.

During the survey, 80% of teachers reported that assistive technology improved the engagement of students and potential for peer-to-peer learning. Inclusive education principals recognise that the barriers which exist between students with disabilities and their peers without disabilities are also removed as engagement between peers is enhanced (Al-Moghyrah, 2017), with peer-to-peer learning contributing to students' critical thinking, autonomy, motivation, collaboration, and communication skills (Stigmar, 2016). Some of the surveyed students mentioned that assistive technology improved their confidence, facilitated language learning and increased their motivation and engagement with course material.

Both teachers and students highlighted the importance of assistive technology to facilitate the engagement and communication of all students, in both the interview and survey. Students and teachers also highlighted that assistive technology helped them to overcome learning and accessibility challenges. One interviewed student with a hearing impairment realised the value of assistive technology for communication with her peers and teachers by using the Voice-over tool on her phone. An interviewed teacher recognised the importance of using assistive technology such as Braille for helping the students with visual impairment to overcome their learning obstacles and improving equity in the classroom. While these reports were positive, they were linked to education being received in a segregated environment. It would appear that the use of these technologies could also have a positive impact within a class where students with and without disabilities were being educated.

Teachers can design effective teaching and learning strategies for the special needs students by developing their digital literacy skills (Tohara, 2021). An interviewed teacher stated that assistive technology provides alternative teaching and learning methods as students would learn different skills and they are encouraged to undertake self-directed learning. When students are enabled to take initiative and solve their own problems, teachers benefit in multiple ways (McKnight, et. al., 2016). For example, an interviewed teacher commented that it may be less time consuming when teaching students with disabilities who have access to digital resources because they do not need constant assistance.

Assistive technologies could be beneficial to adults with disabilities learning EFL in Saudi Arabia (Assulaimani, 2019). In the EFL classroom, teachers can provide rapid feedback by using assistive technologies to track the level of comprehension of students (Kaur & Nadarajan, 2020). Many surveyed teachers (71.4%) in this study highlighted the importance of assistive technology in facilitating delivery of the EFL content. This same assistive technology could provide similar benefits for students without disabilities (McNicholl et al., 2021).

Most of the interviewed teachers had a high level of awareness in the importance of assistive technology; however, they presented their need for training on how to use and integrate assistive

technology in the classroom efficiently. Teachers needed ongoing and professional training sessions to develop their pedagogical content expertise and technology integration competence, to reinforce their confidence and allow them to keep up with technology developments and refinements (Bandura, 1997; Mishra & Koehler, 2006; Sadaf et al., 2016).

Some interviewed teachers also expressed concerns about the lack of assistive technology proficiency of students in the classroom. This was a concern because when students are unable or unsure how to use assistive technology, they may get distracted by having technology in the classroom. This disadvantage could be addressed by further training of teachers and students.

7.8 Strengths and Limitations

This study has several strengths. These include the use of a mixed-method design, its focus on the higher education sector, sample size and rigorous data collection and analysis procedures. The mixed-method design which combined quantitative and qualitative data collection methods, allowed the researcher to gain a more comprehensive understanding of the challenges and learning experience of students and teachers in special education classrooms in Saudi Arabia. The focus on the higher education sector is particularly valuable, as most existing research on inclusive education from Middle-Eastern countries has focused on schools.

Finally, the data collection and analysis procedures, which included instrument testing and detailed reporting of limitations, minimised the risk of bias and error (Kim et al., 2013). Overall, this study was well-designed and conducted, with strengths that outweigh its limitations. The findings of the study are likely to be of interest to researchers and policymakers working in the field of inclusive education.

Some limitations of this study were associated with the targeted participants. Initially, only students in their foundation year at university were targeted, meaning these students had limited experience in a university environment. Hence, the interviewed and surveyed students may not be fully familiar with the services, adjustments and resources specifically allocated to students with disabilities. Also, the study did not question teachers' responses regarding the absence of specialised inclusive-special education training opportunities and whether these were available in Saudi Arabia.

Peer attitudes towards inclusive education were the key focus of Research Question 2c; however, peer attitudes were only considered during the survey. The survey did not differentiate between students with and without disabilities because the same survey was distributed to both groups. This made it impossible to distinguish the attitudes of students without disability from students with disabilities a topic which could be the subject of a future study.

The nature of Phase 1 interviews allowed the inclusion of open-ended questions which allowed participants to provide personalised insights and responses to the questions. However, in Phase 2,

most of the survey questions were multiple-choice. This approach was chosen to reduce the total survey time, but it prevented students presenting personalised responses, instead forcing them to choose between the options presented.

7.9 Implications and Recommendations

The findings of this study have important implications for policy orientation, teacher training, and pedagogical practice in Saudi Arabian universities.

7.9.1 Policy Orientation

Policymakers should develop clear and concise definitions of key terms such as "disability", 'inclusive education' and 'assistive technology'. These definitions should be shared with all stakeholders in the education sector, including teachers, students, parents, and administrators. This would help to ensure that everyone has a common understanding of what special education and inclusive education mean and which should be implemented. It would allow the disability to be discussed in terms of cultural relevance, and focus attention to strengths, human rights and the social model of disability.

There appears to be confusion or overlap in the usage of the terms "integration" and "inclusion" in Saudi Arabia. It suggests a need to discern whether these terms are employed interchangeably or if there are nuanced distinctions in their meanings relevant to the Saudi Arabian education system. Untangling these issues involves clarifying whether "integration" involves individuals with disabilities adapting to existing structures (i.e., based on medical model of disability) and whether "inclusion" signifies creating an environment where diverse individuals, including those with disabilities, are embraced without necessitating significant adaptation on their part (i.e., based on the social model of disability). The question encourages an examination of the specific connotations and applications of these terms within the Saudi educational landscape.

The Ministry of Education should also provide more support to Saudi Arabian universities to implement inclusive education policies and practices. This could include providing funding for training and inclusive education resources (Helmer et al., 2023.), as well as developing guidelines (Srivastava et al., 2015) and materials to support the implementation of inclusive education (Sandoval et al., 2021). The Ministry could also promote research on inclusive education in Saudi Arabian universities (Gibbs & Bozaid, 2022) and work with universities to develop a national inclusive education strategy (Spandagou, 2021). Such research could help to inform policy development and practices, setting the stage for The Ministry of Education to raise awareness and understanding of inclusive education among the students, parents, staff, administrators and teachers.

7.9.2 Teacher Training

In-service training should be available for teachers who are already working in universities (Balbay et al., 2018). This training could be offered through workshops, online courses, or other flexible forms of professional development (Balbay et al., 2018). Teacher training should focus on developing practical skills that teachers need to implement inclusive education in their classrooms. This may include training on how to use assistive technology and how to create a supportive and inclusive learning environment in a university context (Arthanat et al., 2017).

Teacher training programs should provide opportunities for teachers to collaborate with each other (Darling-Hammond & Hyler, 2020) and with experts in the field of inclusive education (Ní Bhroin & King, 2020). This includes collaborations through international support networks (Ackah-Jnr, 2020). Such collaboration can help teachers to learn from each other and to develop best practices for the implementation of inclusive education in Saudi Arabian universities, drawing upon resources and perspectives from a wide range of sources. Teacher training programs should also support teachers to develop their own expertise in the implementation of inclusive education (Kivirand et al., 2021).

7.9.3 Pedagogical Practice

Teachers should use a variety of teaching methods and strategies to accommodate the needs of all learners in the classroom and create a supportive and inclusive learning environment where all students feel welcome and valued (Muñoz Martínez & Porter, 2020; Sanger, 2020). This may include using differentiated instruction, providing students with access to assistive technology, and using a variety of assessment methods, in addition to developing clear expectations for behaviour, providing students with opportunities for collaboration, and creating a classroom culture that is respectful of diversity (Molina Roldán et al., 2021; Sanger, 2020). Teachers should also provide students with opportunities to develop their self-advocacy skills (Krishnan, 2021). This could be done by teaching students about their rights and responsibilities, and by helping them to develop strategies for communicating their needs to teachers. Teachers should monitor student progress and adjust their teaching as needed to make their classes inclusive and provide an opportunity for all students to be successful (Harris et al., 2020). These adjustments may include providing rapid feedback, resources in multiple formats and encouraging the development of a peer support network (Rao, 2021). To be clear, this does not include providing additional support to students who are struggling or modifying the curriculum to meet the needs of individual students.

Overall, there is a need for a more coherent and standardised approach to terminology used in the education sector, alignment between policy intent and implementation, comprehensive teacher training programs, and the integration of assistive technology into both teaching and learning. These

changes would not only enhance inclusive education in Saudi Arabian universities but would also ensure that students with disabilities have equal access to the tools and support they need for their academic success.

7.9.4 Additional Recommendations

The Ministry of Education should develop a national inclusive education policy for Saudi Arabian universities which clearly differentiates between the current special education program implemented and inclusive education. However, before this can happen, it needs to be determined whether these definitions are consistent with the intention of the Saudi Arabian government and their commitments under the ratified Convention on the Rights of Persons with Disability (United Nations, 2006). Students recommended highly personalised adaptations to meet their needs. Teachers thought they needed training in how to teach students with disabilities and how to adapt classroom activities, learning materials and other components of the learning environment to match student needs. The fact that teachers and students thought they needed to adapt activities and resources for students with disabilities instead of initially implementing accessible teaching resources and practices, demonstrates the inherently medical definition of disability which is internalised by students and their teachers. Instead, the use of a social definition of disability would allow students and teachers to view their challenges as a product of their environment and consider adaptations which would benefit all students and teachers. Hence, it is recommended that the social definition of disability is applied alongside the development of national inclusive education policies which support the implementation of inclusive education in Saudi Arabian universities. It is expected that these two changes will complement and reinforce each other.

The envisioned inclusive education policy for Saudi Arabian universities must meticulously delineate the overarching goals of fostering inclusivity, emphasising equitable access to education, cultivating a supportive and inclusive learning environment, and enhancing the academic and social experiences of students with diverse needs and backgrounds. Regrettably, the current situation reveals a disconnect between the Ministry of Education's well-intentioned inclusive education policy and its effective implementation within the context of the studied Saudi Arabian university. Therefore, it becomes imperative for the policy not only to clearly articulate these aspirations, but also to establish clear and actionable steps that universities need to undertake to translate these goals into practice (e.g., establish a disability inclusion action plan or similar). Such steps should include the development and implementation of flexible inclusive education training programs for teachers, the creation of comprehensive guidelines and support materials, and the provision of assistive technology to ensure a truly inclusive educational landscape. It should include disability inclusion matters relating to staff and facilities in the university context (e.g., access to building, digital materials).

The comprehensive inclusive education policy for Saudi Arabian universities should incorporate essential components, including a well-defined timeline for implementation and a robust mechanism for monitoring progress. Recognising the pivotal role of teachers in actualising inclusive education, the Ministry of Education should actively support universities in the development and implementation of inclusive education training programs. These programs ought to align with international best practices, ensuring a globally informed approach. Moreover, to cater to the unique needs of educators in Saudi Arabian universities, the content of these training programs should be carefully tailored. An integral aspect of this policy should mandate the completion of inclusive education training for all teachers, both those in pre-service and in-service capacities. By instating such a requirement, the policy ensures the implementation of consistent and high standard of inclusive education principles and practices across the spectrum of teaching professionals in the country.

To cultivate an inclusive learning environment in Saudi Arabian universities, it is also imperative to develop a comprehensive approach towards assistive technology encompassing guidelines, support materials, and access to these resources. Firstly, universities should embark on the creation of guidelines and support materials for teachers on inclusive education, rooted in international best practices but specifically tailored to the needs of educators in Saudi Arabian universities. These materials should not only be comprehensive but also accessible in various formats, acknowledging the diverse requirements and preferences of teachers, and learning styles of students. Simultaneously, it is crucial to address the technological aspect of inclusive education. Universities must ensure that all students have access to assistive technology, particularly in English as a Foreign Language (EFL) classrooms. This could involve providing essential resources such as Wi-Fi within and outside classrooms, thereby facilitating internet, student-to-teacher and peer-to-peer connectivity. Moreover, considering the130 volveng nature of education, universities should explore the feasibility of providing laptops, tablets, or other devices to students with specific needs, ensuring they have the necessary tools to access the curriculum effectively. By integrating these measures, universities can lay the foundation for an inclusive educational landscape that caters to both the pedagogical and technological needs of students and educators alike.

7.10 Future Research

Future research presents a range of intriguing avenues for exploration. One potential area of focus is to replicate the interview and survey methodologies employed in this study in different university settings or with various levels of university students. Such an endeavour would facilitate a comparative analysis, shedding light on whether students and educators in another institution or stage of university education, hold similar perspectives and encounter analogous challenges.

Additionally, where possible, it would be enlightening to conduct a future study delving into the implementation of inclusive education, in contrast to special education, within Saudi Arabian universities. This could offer valuable insights into the status, feasibility and effectiveness of inclusive education practices within the country.

Further prospective research topics include the exploration of more effective and efficient methods of university teacher training, evaluating the existence or perception of administrative boundaries reported by teachers, examining the economic impacts resulting from prior policy changes related to inclusion, and investigating whether training is the sole facilitator of inclusive education implementation or if factors such as self-efficacy, assistive technology, peer attitudes, the learning environment, specialised support teachers, and available resources play crucial roles. It would be interesting to determine whether improved communication regarding the availability of facilities and services to students and teachers, could improve their attitudes toward the university, support their interaction with the available resources and subsequently, their academic achievement, and inclusion in the university and classroom. Another possible future research topic is the role of university support services in supporting students with disabilities, in the implementation of inclusive education and recognition of challenges facing teachers and students enrolled in inclusive education institutions.

Lastly, exploring the attitudes of students without disabilities toward their peers with disabilities stands as another intriguing avenue for research, offering insights into the social dynamics within an inclusive educational environment. For example, would students without disabilities consider their peers with disabilities as impaired if these students were able to participate fully and perform well in an inclusive classroom.

7.11 Conclusions

This study aimed to explore the implementation of inclusive education for EFL students with disabilities at a Saudi Arabian university and was designed to investigate mechanisms which improve the learning experience of these students. A mixed methods research design was utilised to collect interview and survey data with exploratory sequential design. Five EFL teachers and 10 university students with disabilities were interviewed in Phase 1. Thirty-two EFL teachers and 55 university students were surveyed in Phase 2.

Questions included in the Phase 1 interviews were designed to gather information regarding the challenges faced by teachers and students in an inclusive classroom as well as the impacts of teachers' self-efficacy, the use of assistive technology and the attitudes of both teachers and students with disabilities towards inclusive education. The Phase 2 survey was sequentially undertaken to identify the influence of peer attitudes on the learning experience of students with disabilities in a special education classroom. Further details regarding the challenges faced by students and teachers in this

environment were also gathered. The Phase 2 survey also focused on resolving persistent themes such as the potential role of assistive technology in an inclusive classroom and attitudes towards inclusive education.

Results from Phase 1 revealed that the Saudi Arabian university of interest currently implements a different definition of inclusive education, to that agreed internationally. This offering termed "special education" provides university education to students with disabilities, but only in segregated classrooms. This has a real effect on the social interaction, learning environment and resources available to these students.

At present, a medical definition of disability is used systematically in Saudi Arabia. However, another well-recognised definition of disability, with a social focus, is commonly used in other regions (e.g., Convention on the Rights of Persons with Disability). The social definition recognises that the "disability" is a product of the environment in which the person exists, instead of a defect of the individual themselves. The implications of this study suggest that in some cases, using a social definition of disability may help teachers overcome their opposition to the integration of students with disabilities into their classrooms and realise that disabilities are an environmental consequence.

The interviewed and surveyed teachers expressed mixed attitudes and students expressed positive or neutral attitudes towards the inclusion of students with disabilities. Most teachers appreciated the potential benefits of inclusive education but felt they were not equipped with the skills or resources to implement it. Teachers' attitudes were shaped by their experience and training.

From interview and survey data, numerous suggestions regarding teachers' self-efficacy, the use of assistive technology, improvements to make the learning environment more inclusive, as well as the provision of specialised support teachers and resources, were made by teachers and students. These suggestions were mooted as potential improvements to the current special education curriculum and potential, future inclusive education activities in Saudi Arabian universities. However, it became clear during the interviews, and later surveys, that actually having teachers, students and policy makers understand the principles of inclusive education, may be the best way to advance the implementation of inclusive education in Saudi Arabian universities.

Considering the focus in Research Question 1 on the challenges faced by students and their EFL teachers, results suggested that most challenges are associated with the extrinsic motivations of students. Specifically, students were concerned by a fear of making mistakes, inadequate support from teachers, insufficient teaching methods, inappropriate learning resources and a lack of self-confidence. Challenges faced by teachers included inadequate administrative support such as a lack of training and teaching resources.

Teachers faced a lack of training in how to design and deliver inclusive education. This resulted in the application of teaching methods which did not suit the needs of all students. When teachers

recognise that they are not meeting the students' needs this may lead to low self- confidence and poor self-efficacy. By contrast, teachers with high self-efficacy are more capable of including students with disabilities in their classrooms, by applying a variety of teaching methods and using different teaching resources such as assistive technology.

The term assistive technology was not familiar among teachers and students; however, both groups already used their own assistive technologies such as screen readers, Kahoot and PowerPoint. Participants recognised the benefit of assistive technology in the classroom to access the needed learning and teaching resources and provide equalise learning opportunities for all. However, they were not sure whether the university provided any additional access to assistive technology. In general, teachers supported the appropriate use of assistive technology but expressed the need for training on how to implement it properly.

This study contributes to an understanding of the challenges faced by students with disabilities studying EFL in classrooms in a Saudi Arabian university, the challenges faced by their teachers, and the potential for future implementation of inclusive education in Saudi Arabian universities. These findings may guide the development of more optimal inclusive education and language learning opportunities for students with disabilities, in particular, through the adoption of assistive technologies. This study has contributed to the differentiation of the internationally agreed definition of inclusive education and the special education program (involving segregation of students with disabilities) which is implemented in this Saudi Arabian university. The social and academic benefits of implementing the internationally agreed definition of inclusive education have been recognised, both in this study and more widely, for all students.

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Appendix A

Semi- Structured Interview Schedule (Student)

Research Study: The implementation of inclusive education for EFL students with a disability at a Saudi Arabian university. [Phase 1]

Professor David Evans
Sydney School of Education and Social Work
Faculty of Arts and Social Sciences
Phone: +61 2 9351 8463 | Email: david.evans@sydney.edu.au
Mrs Alanoud Nasser H Alsubaie (PhD student) | Email: aals7535@uni.sydney.edu.au

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PREAMBLE

The aim of this interview is to gain insight and understanding about your experience in learning English in the university classroom. The information gathered from this interview will help in explaining and understanding the different strategies and aspects that are involved in teaching English to students with disabilities.

INTERVIEW QUESTIONS:

1. What motivated you to learn English?
2. How does your EFL teacher motivate you to learn English?
3. What are the common English learning activities in the classroom?
4. You identify with a disability – can you give me an idea of how your disability impacts your daily life? Do you think that your disability makes it more difficult to learn English? In what ways?
5. Do you complete the same assessment and activities as your peers?
6. Do you feel included in the classroom by your teachers and peers?
7. What do you understand to be assistive technologies? Do you have access to assistive technology devices in your learning? (What devices do you have access? How do they help you learn? How do feel about using these devices?)
8. What are barriers you face in learning EFL?
9. How do you think we could solve these problems?
10. What does your teacher do to make you feel included in the classroom? If yes, how? (design of learning environment, resources, learning activities, assessments)

Appendix B

Semi-Structured Interview Schedule (Teacher)

Research Study: The implementation of inclusive education for EFL students with a disability at a Saudi Arabian university. [Phase 1]

Professor David Evans
Sydney School of Education and Social Work
Faculty of Arts and Social Sciences
Phone: +61 2 9351 8463 | Email: david.evans@sydney.edu.au
Mrs Alanoud Nasser H Alsubaie (PhD student) | Email: aals7535@uni.sydney.edu.au

---

PREAMBLE

The aim of this interview is to gain insight into the approach you take in teaching English to students with disabilities. The information from this interview will help in providing an understanding of teacher practices and strategies used in teaching English to students with disabilities.

INTERVIEW QUESTIONS

Teaching English to students with disabilities (attitude)

1. Can you describe your understanding of inclusive practices?
2. Please describe which teaching strategies you use in your EFL classroom that facilitate the inclusion of students with disabilities?
3. How do you think inclusive practices could improve the inclusion of all students in classroom activities? ,
4. What are the challenges you face while teaching English to students with disabilities?

   Provide examples of these challenges you face - personal challenges or system/administrative challenges.
5. How do you resolve these challenges to maintain a quality learning environment for all students?

Self-efficacy

1. Self-efficacy denotes “the belief in one’s capabilities to organize and execute the courses”. Do you think self-efficacy is important when teaching English to students with disabilities? Why?

2. How did you teacher training provide you with the skills and experience to design learning environment that are inclusive of students with disabilities?
3. Which skills do you find useful for the inclusion of students with disabilities? What skills would you like more training?
4. Do you think that you effectively include students with disabilities in EFL classroom? Give an example.
5. How do you get all students to follow classroom rules within the classroom setting? Does this influence their involvement in the lesson and the achievement of overall learning objectivities or outcomes?
6. Which strategies you use to increase involvement ,participation and encourage inclusive behaviour from other student in the classroom?
7. How do you motivate students who show little or no interest in learning English as a foreign language?

Assistive Technology:

1. Please describe to me what you see as assistive technology in the classroom? What are some examples of the assistive technologies that you use in the classroom?
2. How confident are you in integrating assistive technologies into your EFL classroom?
3. How do you think using assistive technologies in you EFL classroom would support learning and participation of all students?
4. How do you think assistive technology would improve the inclusion and motivation of students with disabilities? Can you mention any other benefits?
5. How do the students react to using these assistive technologies?
6. What is the overall impact of these technologies in enhancing the students' language learning?
7. Are they any disadvantages of using assistive technologies in your EFL classroom? If yes, what are they?
8. What are some assistive technologies that you are aware of but do not have in your classroom? How would they enhance the design of your learning activities in your EFL classroom?

Appendix C

Participant Information Statement (PIS)

Research Study:
The implementation of inclusive education for EFL students with a disability at a Saudi Arabian university.

Professor David Evans
Sydney School of Education and Social Work
Faculty of Arts and Social Sciences
Phone: +61 2 9351 8463 | Email: david.evans@sydney.edu.au
Mrs Alanoud Nasser H Alsubaie (PhD student) | Email: aals7535@uni.sydney.edu.au

1. What is this study about?

We are conducting a research study about how students and teachers in universities view and understand the concept of inclusive education. This study seeks to explore understanding of inclusive education in Saudi Arabia, with the aim to enhance teaching and learning within Saudi universities. Taking part in this study is voluntary.

Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about.

2. Who is running the study?

The study is being carried out by the following researchers:

- Dr David Evans, Professor of Special and Inclusive Education, Sydney School of Education and Social Work
- Dr Hongzhi Veronica Yang, Lecturer in Languages, Sydney School of Education and Social Work
- Mrs Alanoud Nasser H Alsubaie, PhD Student, Sydney School of Education and Social Work

Mrs Alanoud Nasser H Alsubaie is conducting this study as the basis for the degree of Doctor of Arts at The University of Sydney under the supervision of Drs Evans and Yang.

3. Who can take part in the study?

We are inviting teachers of English as a foreign language, and their students, in your university to participate in this study. We are inviting ten students with disabilities studying English as a foreign language, and five of their teachers, to participate in an interview with the researchers.

The information collected as part of these interviews will be used to develop a questionnaire. This questionnaire will be used a second phase of this study; this Participant Information Statement only relates to the interviews.

4. What will the study involve for me?

We invite a small number of students with disabilities and teaching staff to participate in an interview. These interviews will involve about 60 minutes or one hour of your time. These interviews will be conducted via Zoom and will be audio recorded for later transcribing and careful analysis. These questions will ask you about your experiences in teaching English as a

foreign language (e.g., designing teaching and learning experiences, use of assistive technologies to support learning). All interviews will be conducted in Arabic.

5. Can I withdraw once I've started?

Being in this study is completely voluntary and you do not have to take part.

Your decision will not affect your current or future relationship with the researchers or anyone else at The University of Sydney.

We do not anticipate your decision will affect your relationship with the university you are employed.

If you change your mind you can withdraw by emailing the local contact for this study [Dr Mona Bani Al-Qahtani; P +966 11 8051213; E English@ksu.edu.sa]. It is your right to withdraw; and there is no consequence for withdrawing.

If you take part in an interview you may refuse to answer any questions that you do not wish to answer.

6. Are there any risks or costs?

Aside from giving up your time, we do not expect that there will be any risks or costs associated with taking part in this study.

7. Are there any benefits?

You will not receive any direct benefits from being in the study.

8. What will happen to information that is collected?

By providing your consent, you are agreeing to us collecting information about you for the purposes of this study.

Interviews will be audio recorded to allow for later analysis.

Any information you provide us will be stored securely during the study (e.g., encrypted computer of the researchers) and throughout the study on a secure server within the University of Sydney. We will only disclose information with your permission unless we are required by law to release information. Information will be erased at the end of the approved retention period for this study.

We are planning for the study findings to be published. You will not be individually identifiable in these publications.

9. Will I be told the results of the study?

You have a right to receive feedback about the overall results of this study. If you wish to receive feedback, please tick the box on the Participant Consent Form. You will be asked to provide your contact details. This feedback will be in the form of a brief lay summary at the conclusion of the study.

10. What if I would like further information?

When you have read this information, the following researcher/s will be available to discuss it with you further and answer any questions you may have:

Mrs Alanoud Nasser H Alsubaie
E: aals7535@uni.sydney.edu.au

Dr Mona Bani Al-Qahtani
E: English@ksu.edu.sa

Ph: +966 11 8051213

11. What if I have a complaint or any concerns?

The ethical aspects of this study have been approved by the Human Research Ethics Committee (HREC) of The University of Sydney [HREC Approval No. 2021/XXX] according to the *National Statement on Ethical Conduct in Human Research (2007).*

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the University:

Human Ethics Manager
human.ethics@sydney.edu.au
+61 2 8627 8176

Dr Mona Bani Al-Qahtani
English@ksu.edu.sa
+966 11 8051213

This information sheet is for you to keep.

Appendix D

Participant Consent Form

University Students

The implementation of inclusive education for EFL students with a disability at a Saudi Arabian university

Professor David Evans
Sydney School of Education and Social Work
Faculty of Arts and Social Sciences
Phone: +61 2 9351 8463 | Email: david.evans@sydney.edu.au
Mrs Alanoud Nasser H Alsubaie (PhD student) | Email: aals7535@uni.sydney.edu.au

Participant Name ----------

I agree to take part in this research study. In giving my consent, I confirm that that:

- The details of my involvement have been explained to me, and I have been provided with a written Participant Information Statement to keep.
- I understand the purpose of the study is to investigate about how students and teachers in universities view and understand the concept of inclusive education.
- I acknowledge that the risks and benefits of participating in this study have been explained to me to my satisfaction.
- I understand that in Phase 1 of this study I will be required to participate in an interview.
- I understand that my participation will be conducted via Zoom and will be audio-visual recorded to assist later analysis of responses. I understand I may ask for audio only recordings of the interview via Zoom.
- I understand that being in this study is completely voluntary.
- I am assured that my decision to participate will not have any impact on my relationship with the research team or the University of Sydney.
- I understand that I am free to withdraw from this study at any time and that I can choose to withdraw any information I have already provided (unless the data has already been de-identified or published).
- I have been informed that the confidentiality of the information I provide will be protected and will only be used for purposes that I have agreed to. I understand that information about me will only be told to others with my permission, except as required by law.

I understand that the results of this study may be published, and that publications will not contain my name or any identifiable information about me.

- I confirm the following:

I consent to recordings (audio-visual) Yes ☐ No ☐

I consent to recordings (audio only) Yes ☐ No ☐

I would like to review my interview transcripts and researcher's notes Yes ☐ No ☐

I consent to being contacted for future studies Yes ☐ No ☐

I consent to my data being used in future research Yes ☐ No ☐

I would like feedback on the overall results of this study Yes ☐ No ☐

If you answered **yes**, please provide your preferred contact details (email/telephone/postal address):

_____

_____

_____

_____

- I understand that after I sign and return this consent form it will be retained by the researcher, and that I may request a copy at any time.

Participant Name _____

Signature _____

Date _____

Appendix E

Ethical Approval

THE UNIVERSITY OF SYDNEY

Research Integrity & Ethics Administration
HUMAN RESEARCH ETHICS COMMITTEE

Thursday, 2 September 2021

Prof David Evans
Education; Faculty of Arts and Social Sciences Email: david.evans@sydney.edu.au

Dear David,

The University of Sydney Human Research Ethics Committee (HREC) has considered your application.

I am pleased to inform you that after consideration of your response, your project has been approved.

Details of the approval are as follows:

Project No.:	**2021/601**
Project Title:	**Exploring Attitudes and Self-Efficacy Towards Inclusive Education in University EFL Classrooms in Saudi Arabia**
Authorised Personnel:	**Evans David; Alsubaie Alanoud; Yang Hongzhi (Veronica);**
Approval Period:	**02/09/2021** to **02/09/2025**
First Annual Report Due:	**02/09/2022**

Documents Approved:

Version Number	Document Name	Version Number
25/08/2021	Version 2	PCF Teacher Ph1 v2 2021/601
25/08/2021	Version 2	PIS Student Ph1 v2 2021/601
25/08/2021	Version 2	PIS Teacher Ph1 v2 2021/601
25/08/2021	Version 2	PCF Student Ph1 v2 2021/601
02/07/2021	Version 1	Email HoS v1
02/07/2021	Version 1	Interview Questions Students v1
02/07/2021	Version 1	Interview Questions Teachers v1
02/07/2021	Version 1	Let Invite Students Ph1 v1
02/07/2021	Version 1	Let Invite Teachers Ph1 v1

Special Condition of Approval

It will be a condition of approval that certified translations of the public

documents (e.g., participant information statement, participant consent form, surveys) are prepared once these have been approved in English. Evidence of certification does not need to be submitted to the ethics office but should remain on file in case of audit. For further information on appropriate certification, please see the ethics office website: https://intranet.sydney.edu.au/research-support/ethics-integrity/human-ethics/guidelines.html#translated-documents

Condition/s of Approval

- Research must be conducted according to the approved proposal.

- An annual progress report must be submitted to the Ethics Office on or before theanniversary of approval and on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethicalapproval of the project including:
  - Serious or unexpected adverse events (which should be reported within 72 hours).
  - Unforeseen events that might affect continued ethical acceptability of the project.
- Any changes to the proposal must be approved prior to their implementation (except wherean amendment is undertaken to eliminate *immediate* risk to participants).
- Personnel working on this project must be sufficiently qualified by education, training and experience for their role, or adequately supervised. Changes to personnel must be reportedand approved.
- Personnel must disclose any actual or potential conflicts of interest, including any financial orother interest or affiliation, as relevant to this project.
- Data and primary materials must be retained and stored in accordance with the relevantlegislation and University guidelines.
- Ethics approval is dependent upon ongoing compliance of the research with the *National Statement on Ethical Conduct in Human Research*, the *Australian Code for the Responsible Conduct of Research*, applicable legal requirements, and with University policies, procedures and governance requirements.
- The Ethics Office may conduct audits on approved projects.
- The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with theabove.

This letter constitutes ethical approval only.

Please contact the Ethics Office should you require further information or clarification.Sincerely,

[REDACTION]

Associate Professor Mark Arnold
Chair, Human Research Ethics Committee (HREC 2)

The University of Sydney of Sydney HRECs are constituted and operate in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2018) and the NHMRC's Australian Code for the Responsible Conduct of Research (2018)

Appendix F

Survey

University Students

Research Study: The implementation of inclusive education for EFL students with a disability at a Saudi Arabian university. **[Phase 2]**

Professor David Evans
Sydney School of Education and Social Work
Faculty of Arts and Social Sciences
Phone: +61 2 9351 8463 | Email: david.evans@sydney.edu.au
Mrs Alanoud Nasser H Alsubaie (PhD student) | Email: aals7535@uni.sydney.edu.au

[Insert Participant Consent Form here]

Demographics

Gender: Female ..... ☐ Male ..... ☐

Age: _____ years

Nationality: _____

Impairment (if applicable): _____

Year at University: _____ years

Years studying EFL at university: _____ years

Work experience: Part-time..... ☐ Full-time ..... ☐ No experience ..... ☐

Do you currently live in: City ..... ☐ Rural area..... ☐ Regional ..... ☐

Other: _____

Do you have access to the internet at home? Yes..... ☐ No ..... ☐

Do you have access to a computer at home? Yes..... ☐ No ..... ☐

MQ1. Record your level of agreement with the following statements about learning English.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I want to learn English because it will improve my communication with English speakers.	☐	☐	☐	☐	☐
I want to learn English because it will enable me to understand other cultures.	☐	☐	☐	☐	☐
I want to learn English for traveling.	☐	☐	☐	☐	☐
I want to learn English to get a job.	☐	☐	☐	☐	☐
I want to learn English because it is international language in the era of globalisation.	☐	☐	☐	☐	☐
I want to learn English because it gives me the access to English learning resources.	☐	☐	☐	☐	☐
I want to learn English because it makes me more confident.	☐	☐	☐	☐	☐

MQ2. Consider each of the following actions a teacher can be undertaken in the EFL classroom. Record you level of agreement for each action in how it makes you feel part of the EFL classroom.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Meeting regularly	☐	☐	☐	☐	☐
Encouraging group work	☐	☐	☐	☐	☐
Adapting resource to make more accessible	☐	☐	☐	☐	☐
Providing access to the assistive technology	☐	☐	☐	☐	☐
Providing regular and tailored assistance	☐	☐	☐	☐	☐
Adjusting assessments and exams.	☐	☐	☐	☐	☐
Encouraging respective behaviour in the classroom	☐	☐	☐	☐	☐
Adjust the classroom configuration.	☐	☐	☐	☐	☐
Providing supportive learning environment	☐	☐	☐	☐	☐

LOQ 1a Sara is part of an EFL class that enrols students with and without disabilities. Sara reports that this classroom increased her motivation and confidence to learn English as a foreign language. To what extent do you agree with Sara?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Confidence	☐	☐	☐	☐	☐
Motivation	☐	☐	☐	☐	☐

LOQ1b Please explain why you selected this level of agreement.

_____

_____

LOQ2 Rate the frequency of the following difficulties have your experienced in EFL classroom?

	Never	Sometimes	Always
Learning content	☐	☐	☐
Fear of making mistakes	☐	☐	☐
Peers' negative reactions	☐	☐	☐
Lack of motivation	☐	☐	☐
Negative attitude towards English courses.	☐	☐	☐
Teaching methods.	☐	☐	☐
Classroom activity	☐	☐	☐
Configurations of the classroom	☐	☐	☐
Learning environment	☐	☐	☐
Learning resources accessibility	☐	☐	☐
Administrative challenges; exam adjustment, financial and health support	☐	☐	☐

LOQ3 Please rate the difficulties of the following EFL activities.

	Very difficult	Difficult	Neutral	Easy	Very easy
Reading	☐	☐	☐	☐	☐
Listening	☐	☐	☐	☐	☐
Speaking	☐	☐	☐	☐	☐
Writing	☐	☐	☐	☐	☐

LOQ4 a) Have you undertaken adapted classroom activities?

Yes .....☐ No .....☐ [Skip to LOQ5]

b) If Yes, to what extend were you satisfied with the adapted activities?

Not at all satisfied	slightly satisfied	Moderately satisfied	Very satisfied	Extremely satisfied
☐	☐	☐	☐	☐

c) How have these classroom activities been adapted to suit your needs?

_____

LOQ5 Rate the availability of the following types of administrative support.

Administrative support	Unavailable	Not Sure	Available
Exam adjustment.	☐	☐	☐
Health support.	☐	☐	☐
Financial support.	☐	☐	☐
Sufficient training for teachers.	☐	☐	☐
Facilities and materials (teaching materials).	☐	☐	☐
Facilities and materials (assistive technology e.g voice over, Kahoot).	☐	☐	☐

LOQ5a, Do you think these administrative supports were helpful/appropriate?

Helpful/Appropriate .....☐ Not helpful/Not appropriate ..☐

LOQ6 To what extent do you think the following modifications are helpful and supportive for your learning?

	Not very helpful	Neutral	Helpful
Providing an optional assignment or assessment task	☐	☐	☐
Working with instructional material at a lower level	☐	☐	☐
Modifying the student's class schedule (e.g., allowing an extra study period or additional intervention)	☐	☐	☐
Providing an alternative form of a test to the student (e.g., short answers instead of an essay)	☐	☐	☐
Providing students with more time to complete tasks	☐	☐	☐
Changing the location of testing to reduce potential distractions	☐	☐	☐
Note-taking assistance or scribing for a student	☐	☐	☐
Allowing access to a computer and assistive technology	☐	☐	☐
Preferential seating	☐	☐	☐
Other:			

AQU1a- To what extent do you agree with the following statements:

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Students with and without disabilities should study in the same classroom	☐	☐	☐	☐	☐
I would be happy to work in a group including students with and without disability	☐	☐	☐	☐	☐
I would feel disadvantaged if students with and without disability were taught in the same classroom as me	☐	☐	☐	☐	☐
Students with disabilities may require extra support (e.g., extra time from the teachers).	☐	☐	☐	☐	☐
All classrooms should be equipped with movable furniture to facilitate the needs of all students.	☐	☐	☐	☐	☐
A variety learning resources are required to support the achievements of all students	☐	☐	☐	☐	☐
All students should be provided specific training on how to acces and use a range of assistive technologies	☐	☐	☐	☐	☐

All classrooms should be equipped with Wi-Fi and assistive technology to increase students' engagement	☐	☐	☐	☐	☐

AQ2 On scale 1-5 how important is the attitude of your teacher toward students with disabilities, in motivating you to engage in the classroom?

Not at all important	Slightly important	Neutral	Very important	Extremely important
☐	☐	☐	☐	☐

AQU3 Please rank the following characteristics (1-5 with 1 being the most important) in the order which you think they contribute to the ability of teachers to establish a supportive learning environment?

Teacher training in supporting students with disability (e.g., Knowing how to access resources and providing disabilities specific advice to the students, knowing the services and facilities provided).	☐
Teacher behaviour (e.g., patience, tone, efforts, deliberate interaction).	☐
Teacher attitude (e.g., reactions, preparedness for class).	☐
Teaching methods (e.g., adjusted course material and exams, use of assistive technology).	☐
Teacher confidence (e.g., problem solving, flexibility).	☐

AQU4 Which of the following do you think would contribute to the patience of the teacher towards students with disabilities?

Experience	☐
Training	☐
Cultural background	☐
Pedagogical knowledge	☐
Educational level.	☐
Age	☐
Gender	☐
Other: _____	☐

ATQ1 Which of these assistive technologies do you have access to?

	I have access to	I do not have access	I have access to and I use in the classroom	I have access to but I do not use in the classroom
Computer	☐	☐	☐	☐
Interactive whiteboards	☐	☐	☐	☐
Projectors	☐	☐	☐	☐
iPad	☐	☐	☐	☐
Voice-over	☐	☐	☐	☐
Siri	☐	☐	☐	☐
Online Translator	☐	☐	☐	☐
Speech to text	☐	☐	☐	☐
Other:				

ATQU2 Rate the **influence** of assistive technology on your learning.

Influence	Not influential		Slightly influential		Influential
Increased motivation, engagement, and interactions with course material	☐	☐	☐	☐	☐
Increased engagement with teachers	☐	☐	☐	☐	☐
Increased interaction with other students	☐	☐	☐	☐	☐
Receiving rapid feedback	☐	☐	☐	☐	☐
Improving confidence	☐	☐	☐	☐	☐
Improving students' results	☐	☐	☐	☐	☐
Extra platforms for sharing ideas	☐	☐	☐	☐	☐
Facilitate language learning.	☐	☐	☐	☐	☐
Facilitate accessing other materials	☐	☐	☐	☐	☐

SECTION B [new survey form]

I would like to receive feedback about the overall results of this study YES ☐ NO ☐

Yes ☐ [participants provide contact details]
No ☐ [participants taken to thank you]

[On answering Yes]

Please provide your preferred email address:

Email: _____

SUBMIT [taken to thank you]

This is the end of the survey. Thank you for participating.

Appendix G

Survey

University Teachers

Research Study: The implementation of inclusive education for EFL students with a disability at a Saudi Arabian university. **[Phase 2]**

Professor David Evans
Sydney School of Education and Social Work
Faculty of Arts and Social Sciences
Phone: +61 2 9351 8463 | Email: david.evans@sydney.edu.au
Mrs Alanoud Nasser H Alsubaie (PhD student) | Email: aals7535@uni.sydney.edu.au

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I wish to complete this survey in:

Arabic.....☐ [take to Arabic language survey]

English .....☐ [take to English language survey]

[Insert Participant Consent Form here]

Demographics

Gender: Female ..... ☐ Male ..... ☐

Age: _____ years

Nationality: _____

Impairment (if applicable): _____

Highest education qualification: Bachelor ..... ☐ Masters ..... ☐ PhD..... ☐

Other: _____

Other qualifications or professions: Yes..... ☐ No..... ☐

If yes: _____

Years teaching experience: _____ years

Years teaching students with disability: _____ years

Type of impairments students identify with. _____

_____

Have you received professional learning in the principles of inclusive education?

Yes..... ☐ No..... ☐

Are you part of teachers' association or other support network where you could access extra resources or find people with extra experience?

Yes..... ☐ No..... ☐

TMQ1a Please rate your familiarity of the following teaching methods.

Teaching methods	Unfamiliar	Familiar but not used	Used	Familiar and used
Natural teaching (to develop communicative skills).	☐	☐	☐	☐
Computer-assisted education (any learning that is mediated by a computer, and which requires no direct interaction).	☐	☐	☐	☐
Sensory-based teaching (use of visual and auditory to enhance memory and learning).	☐	☐	☐	☐
Forward chaining (teaching the learner to initially complete only the first step of the task analysis).	☐	☐	☐	☐
Errorless teaching (uses cues for students to display target learning behaviour).	☐	☐	☐	☐

TMQ1aI Which of the previous methods would you like to receive training in?

TMQ1b Please comment on the effectiveness of the teaching methods you have used within your classrooms.

TMQ2. Indicate the reasons for using the following teaching strategies (Tick all which apply).

Teaching strategies	Motivate Student	Optimise students' Learning Outcomes	Promote Peer Learning	Helpful to Design an Inclusive EFL Classroom	Engage Students to Learn EFL
Mastery strategies (focuses on increasing student's abilities to remember and summarize).	☐	☐	☐	☐	☐
Understanding strategies (evokes student's capacities to reason, be logical, use evidence).	☐	☐	☐	☐	☐
Interpersonal strategies (help students to relate personally with the curriculum).	☐	☐	☐	☐	☐
Self-expressive strategies (highlight students' ability to imagine and create).	☐	☐	☐	☐	☐

Four-style strategies (combines the four strategies simultaneously to encourage students to develop and balanced and dynamic approach to learning foreign language).	☐	☐	☐	☐	☐
Use technologies such as Non-Visual Desktop Access and Job Access with Speech to look for information.	☐	☐	☐	☐	☐
Comprehension learning strategy (e.g., summarizing, question generation, predicting, and clarification).	☐	☐	☐	☐	☐
Communication strategies	☐	☐	☐	☐	☐

TMQ3a, Have you adapted your EFL teaching methods for a students with disability?

Yes ☐ No☐ [skip TMQ4]

TMQ3b What type/s of adaption have you used?

TMQ3c, Do you offer adaptions to all students?

Yes ☐ No ☐

TMQ4 Record your level of agreement with the following statements?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Students with disabilities should be included in the same classroom as other students	☐	☐	☐	☐	☐
Students with disabilities would be confident and motivated to learn EFL in an inclusive classroom	☐	☐	☐	☐	☐
Students' specific needs should be addressed while designing an EFL inclusive classroom	☐	☐	☐	☐	☐
A teachers' positive attitude can facilitate the design of a successful inclusive classroom	☐	☐	☐	☐	☐
A teachers' positive attitude can improve students' learning outcomes	☐	☐	☐	☐	☐

TAQU1a On a scale of 1-5, how do you feel about teaching students without disability in your EFL classroom?

I feel …

Uncomfortable	1	2	3	4	5	Comfortable
Negative	1	2	3	4	5	Positive
Unconfident	1	2	3	4	5	Confident
Unhappy	1	2	3	4	5	Happy

TAQU1b On scale 1-5, how do you feel to teach students who are blind in your EFL classroom?

Uncomfortable	1	2	3	4	5	Comfortable
Negative	1	2	3	4	5	Positive
Unconfident	1	2	3	4	5	Confident
Unhappy	1	2	3	4	5	Happy

TAQU1c On scale 1-5, how do you feel to teach students who with physical impairment in your EFL classroom?

Uncomfortable	1	2	3	4	5	Comfortable
Negative	1	2	3	4	5	Positive
Unconfident	1	2	3	4	5	Confident
Unhappy	1	2	3	4	5	Happy

TAQU1d On scale 1-5, how do you feel to teach students with hearing loss in your EFL classroom?

Uncomfortable	1	2	3	4	5	Comfortable
Negative	1	2	3	4	5	Positive
Unconfident	1	2	3	4	5	Confident
Unhappy	1	2	3	4	5	Happy

TAQU2 Record your level of priority with the following statements:

Statement	~~Not a priority~~	~~Medium priority~~	~~Essential priority~~
Adapt positive attitude toward teaching	☐	☐	☐
Treat all students equally	☐	☐	☐
Create situations for all students to succeed	☐	☐	☐
Understand and know your learners	☐	☐	☐
Value what students say	☐	☐	☐
Use appropriate disciplinary measures	☐	☐	☐
Ensure students understand classroom rules	☐	☐	☐
Give multiple examples of an idea	☐	☐	☐
Provide alternate explanations when students are confused	☐	☐	☐
Implement a range of teaching strategies in classroom	☐	☐	☐
Give meaningful, immediate feedback	☐	☐	☐
Use a variety assessment strategies	☐	☐	☐
Use of alternate teaching aids in the classroom	☐	☐	☐

SEQU 1: Do you think that teachers who have high self-belief in their ability are more effective at motivating all students in an inclusive classroom?

Yes ☐ No☐ [Skip to SEQ3]

If Yes: Why? How?

_____

_____

SEQU3a,Do you have experience teaching students with disability?

I have experience	I don't have experience
☐	☐ [Skip to ADQU1]

SEQ3b Did this experience improve your confidence teaching in inclusive classrooms?

I think it improved my confidence	I think it did not improve my confidence
☐	☐

SEQ3c How does this experience improve your confidence.

_____

_____

ADQU1 Rate your accessibility to the following administrative support?

	Never accessible	Sometimes accessible	Accessible
Health support	☐	☐	☐
Financial support.	☐	☐	☐
Training for teachers.	☐	☐	☐
Facilitate exam adjustment	☐	☐	☐
Facilities and materials (teaching materials).	☐	☐	☐
Facilities and materials (assistive technology e.g voice over, Kahoot).	☐	☐	☐

ADQU 2: Which of the following modifications have you made to facilitate specific needs of your students?

Modification	Have not made	Have made
Adapting the EFL curriculum for students with disabilities	☐	☐
Working with instructional material at a lower level	☐	☐
Modifying the student's class schedule (e.g., allowing an extra study period or additional intervention)	☐	☐

Providing an alternative assignment or assessment task	☐	☐
Providing students with more time to complete tasks	☐	☐
Changing the location of testing to reduce potential distractions	☐	☐
Preferential seating	☐	☐
Note-taking assistance or scribing for a student	☐	☐
Allowing access to a computer and assistive technology	☐	☐

TTQU1 How **important** do you think your training is for supporting EFL students to achieve learning outcomes?

Not at all important	Slightly important	Neutral	Very important	Extremely important
☐	☐	☐	☐	☐

TTQU2 How **important** do you think behaviour management training is improving peer learning opportunities in an inclusive classroom?

Not at all important	Slightly important	Neutral	Very important	Extremely important
☐	☐	☐	☐	☐

TTQU 3: Rate the following items in terms of impacting your confidence as an EFL teacher?

Topic	Not confident	Slightly Confident	Confident
Assistive technology	☐	☐	☐
Adapting course material	☐	☐	☐
Using specific teaching methods	☐	☐	☐

Strategies for improving the engagement of students with disabilities.	☐	☐	☐
The design of appropriate learning environment to support all students in the classroom.	☐	☐	☐

TTQU4 Which of the following topics have you received training in, or would you like to have training in, as an EFL teacher?

Topic	Have receive training in	Would like to have training in
Assistive technology	☐	☐
Adapting course material	☐	☐
Using specific teaching methods	☐	☐
Strategies for improving the engagement of students with disabilities.	☐	☐
The design of appropriate learning environment to support all students in an inclusive classroom.	☐	☐

ATQU1 Which of these assistive technologies do you have access to? (Please tick all which apply).

Assistive Technologies	I do not have access to	I Have access but do not use it in my classroom	I have access to and I use it in my classroom
Computer	☐	☐	☐
Interactive whiteboards	☐	☐	☐
Projectors	☐	☐	☐
iPad	☐	☐	☐
Voice-over	☐	☐	☐

Siri	☐	☐	☐
Online Translator	☐	☐	☐
Speech to text	☐	☐	☐

ATQU2,Do you think assistive technology is effective and supportive for learning?

Yes ☐ No ☐

ATQU3 Select the effects of assistive technologies which contribute to an inclusive EFL classroom (please tick all which apply)?

The engagement of students	☐
The motivation of student	☐
Peer to peer learning	☐
Students' learning outcomes	☐
Teacher self-efficacy	☐
Teaching methods popularity	☐
Delivering the EFL content	☐
Involvement in classroom learning	☐
Monitoring students learning progression	☐

SECTION B [new survey form]

I would like to receive feedback about the overall results of this study YES ☐ NO ☐

Yes ☐ [participants provide contact details]
No ☐ [participants taken to thank you]

[On answering Yes]

Please provide your preferred email address:

Email: _____

SUBMIT [taken to thank you]

This is the end of the survey. Thank you for participating.