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Breaking Barriers in EFL: A Case Study on Innovative and AI-Supported Teaching Strategies for Special Needs Learners in Algerians Classrooms

A dissertation submitted in partial fulfilment of the requirements for the degree of Master's in English Language Teaching

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Dedication

I would like to dedicate this work to my beloved parents, for their unconditional love and support. You have been my source of inspiration throughout my academic journey.

To my dear brothers,

To Amine, for your generous help with SPSS which contributed to the completion of this study, and to Adnane, for your encouragement and support. Your presence has been a constant source of motivation which made this achievement possible.

To my friends who were always there for me.

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Abstract:

This study explores innovative teaching strategies and AI integration in English language teaching (ELT) for learners with special needs, in the light of the increasing interest in inclusive education. Despite inclusive teaching strategies have advanced in developing countries, however there is an evident lack of empirical research on how to use AI technologies effectively in EFL classes for special needs learners, especially in the MENA region. The study aims to address how EFL teachers assist learners with special needs through implementing traditional, communicative, and AI enhanced teaching strategies. Adopting a mixed-methods research design that incorporates structured questionnaire data with open-ended responses from EFL teachers at different educational levels. The study uses SPSS software to analyze quantitative data, while thematic analysis to examine qualitative responses. The results indicate that traditional methods such as translation, grammar lessons, and repetitive drills are effective and helpful at offering structure for some types of special needs learners. whereas approaches that focus on communication and the learner, such as Task-Based Learning (TBLT) and Communicative Language Teaching (CLT), have been demonstrated to significantly enhance learners' interest, language skills, and involvement in the class. Moreover, EFL teachers claim that AI tools can benefit learners with special needs by employing technologies like games and text-to-speech software, however, challenges such as the limited resources, large classes, and insufficient paternal support remains inadequate. In conclusion, the study suggests the necessity of implementing a balanced and inclusive teaching approach that combines traditional methods, communicative approaches, and AI- powered tools. Additionally, it stresses the need in improving the quality of English language education for special needs learners through professional development, institutional investment, and policy reforms. Furthermore, the study provides useful information on the disciplines of inclusive education, educational technology, EFL instructional methods, and practical advice to individuals aiming to create language learning environments that are more accessible.

Keywords: Innovative teaching strategies, AI integration, English Language Teaching, Special Needs Learners.

List of Abbreviations

AI: Artificial Intelligence

ASD: Autism Spectrum Disorder

ADHD: Attention Deficit Hyperactivity Disorder

CLT: Communicative Language Teaching

EFL: English as a Foreign Language

ELT: English Language Teaching

GTM: Grammar-Translation Method

IDEA: Individuals with Disabilities Education Act

MENA: Middle East and North Africa

PBL: Project-Based Learning

SPSS: Statistical Package for Social Sciences

TBLT: Task-Based Language Teaching

UDL: Universal Design for Learning

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General Introduction

Background of the study:

Teaching learners with special needs has been a more crucial field of attention globally in recent years. Learners with unique characteristics who sometimes struggle to obtain an adequate education have received particular attention as societies work to ensure fairness and access for all learners. special needs learners are those who have developmental, physical, intellectual, emotional, or other issues that call for teaching strategies and additional support. the United States' Individuals with Disabilities Education Act (IDEA) indicates that there are thirteen categories of disabilities that may hinder a learner's academic progress if appropriate changes in education are implemented.

Instruction for learners who have unique needs in English as a Foreign Language (EFL) situation offers extra challenges. These involve linguistics barriers, insufficient methods of teaching, unsuitable teacher training, and the lack of inclusive conduct. The need to make sure that all special needs learners have the opportunities and equal chances to learn and achieve becomes more pressing as English grows more vital for worldwide interaction.

Despite several developing countries, particularly in the Middle East and North Africa (MENA), still struggle to find strategies and to teach learners with special needs into regular classrooms, developed countries have made significant advances by implementing inclusive education theories. The use of artificial intelligence (AI) in education has opened new opportunities for designing tailored learning experiences that meet a wide range of learner requirements. Artificial intelligence methods such as speech to text software, adaptive learning platforms, and data driven feedback systems have been successfully that improve learning outcomes. However, for learners with special needs, the implementation of such devices into EFL classes has not been well researched.

Statement of The Problem:

Despite the efforts to promote teaching learners with special needs, many EFL classes are still poorly suited to assist learners with special educational needs. Frequently, teachers lack the required training, tools to customize their teaching method to fit special needs learners. Many schools also have not yet acknowledged the possibilities of artificial intelligence-based technologies to support learners with disabilities. Consequently, learners with exceptional needs are at risk of academic failure, exclusion from society and reduced language learning motivation.

Although the existing studies have highlighted and explored the traditional and innovative teaching strategies in three interrelated theories; constructivism, inclusive education theory, and the universal design for learning (UDL), there is a significant gap regarding the use of artificial intelligence tools in EFL classes for learners with special needs. CLT, TBLT, PBL, and other approaches are mentioned, however, very little has been researched on how artificial intelligence might improve these approaches for learners with special needs. In addition to this, Research studies often ignore practical applications, teachers' viewpoints, and the difficulties experienced when incorporating artificial intelligence in facilitating diverse language instruction.

Aim of the study:

The aim of the present research is its focus on four evolving fields: teaching English to special needs learners, teaching strategies, inclusive education, and educational technology (AI). Teaching learners with special needs requires implementing appropriate strategies to enhance language learning outcomes for learners. This research aims to explore innovative strategies and artificial intelligence integration in English language teaching for special needs learners, to examine the attitudes, opinions, and experiences of EFL teachers regarding the use of AI and propose recommendations for better practices of AI integration for learners with special needs in inclusive and special education.

Research questions:

The main purpose of this study is to explore teaching strategies and artificial intelligence in teaching English for special needs learners and to examine EFL teachers' perspectives towards the use of AI. As a result, this study attempts to analyze the following main question:

How can EFL teachers effectively support special needs learners in teaching English through integrating innovative strategies and artificial intelligence tools?

To explore this question in depth, four sub questions will be addressed:

1. In what ways are traditional teaching strategies employed by EFL teachers to meet the requirements of special needs learners?
2. How do EFL teachers implement communicative and learner-centered approaches to engage learners with special needs?
3. To what extent is artificial intelligence integrated into EFL instruction for learners with special needs?

4. What are the opinions and experiences of EFL teachers regarding the effectiveness of these strategies?

Research Hypotheses:

This study proposes three hypotheses aimed at exploring innovative strategies and AI integration in English language teaching for special needs learners. The four hypotheses together evaluate important elements of English as a Foreign Language (EFL) training for learners with exceptional needs, focusing on the efficacy of teaching methods, the degree of artificial intelligence integration, and teacher opinions.

H1: Teachers who use traditional strategies, such as repetition, and teaching grammar could be effective in supporting the language acquisition for special needs learners.

H2: Communicative and learner-centered approaches like adaptive materials and technology-assisted learning may help in addressing the individual learning needs of special needs learners and enhancing their engagement and participation.

H3: The integration of AI tools in EFL classes for learners with special needs could be minimal due to their technological, pedagogical, and accessibility barriers.

H4: The perceptions of EFL teachers on the effectiveness of the strategies used to teach special needs learners can vary depending on the type of disability.

Literature Review:

In recent years, some studies have been dedicated lately on finding successful ways to teach English to learners with unique educational needs. Much of these studies are based on educational theories including constructivism, inclusive education theory, and Universal Design for Learning (UDL), which have shaped traditional and modern approaches including the Grammar Translation Method (GTM), the Direct Method, Audiolingual method, Communicative Language Teaching (CLT), Content-Based Language Teaching (CBLT), and Project-based Learning (PBL). Though they have mostly concentrated on basic pedagogy rather than customizing education using new technologies, these strategies have been very helpful in conceptualizing inclusive practices.

(Tomlinson, 2014) study underlined differentiated instruction as a main element in inclusive classrooms, where task-based learning and peer tutoring were found to foster language

development in learners with various needs. Particularly in English as a Foreign Language (EFL) setting for special needs students, these techniques have not been extensively studied together with artificial intelligence (AI) tools.

Although adaptive technologies have been more widely used in general education, research on the application of artificial intelligence in special education still remains behind. (Smith, & Okolo, 2021), for example, looked at speech-to-text and text-to-speech programs for dyslexic learners and found encouraging results in written language abilities and involvement. Still, these programs are often researched in conventional EFL environments, where special needs learners face increased language and cognitive demands.

In ELT, applications of artificial intelligence including tutoring systems, speech-to-text apps, and conversational agents (Chabot) have attracted interest. Research by (Xu & Warschauer, 2020) and (Bai, & Wang, 2020) have revealed that these technologies can offer instant feedback, promote autonomous learning, and generate low-stress settings favorable to language development. This research, thus, tends mostly to general learner populations and less to learners needing special education help.

Studies rarely include the opinions and experiences of EFL teachers, whose points of view are essential for grasping the actual application and challenges of AI-assisted teaching in inclusive settings. By looking at how creative approaches and artificial intelligence tools may be properly used in EFL classrooms for special needs learners, the present study seeks to close the gap between theoretical knowledge and actual application. It aims to investigate the educational strategies and efficacy of such integrations used by EFL teachers in an inclusive and special education environment.

Research Methods:

The methodology used in this study to test the hypotheses above is a mixed methods strategy that uses both qualitative and quantitative data to investigate the innovative teaching strategies and integration of artificial intelligence (AI) in English language teaching for learners with special needs. This method was selected to allow for the measurement of trends and patterns by statistical analysis (quantitative) and the examination of personal experiences and teacher reflections via open-ended questions (qualitative), therefore providing a more complete knowledge of the current topic. A descriptive case study, which is appropriate for exploring current behaviors,

beliefs, and pedagogical practices in a particular educational environment, is the particular design inside this mixed-methods framework. Distributed to EFL teachers from primary, middle, and secondary schools, from different geographical regions during the academic year 2024-2025. A questionnaire organized into quantitative and qualitative parts was the primary data-gathering method. Using SPSS software, Likert five points scale questions, descriptive and inferential statistics frequency, percentage, mean scores examined the quantitative data from the questionnaire. The open-ended replies made up the qualitative data, which were thematically analyzed to find common themes, attitudes, and experiences shared by EFL teachers who teach special needs learners.

Limitation of the study:

This study focuses on exploring innovative strategies and artificial intelligence integration in English language teaching for special needs learners. The study aims at a particular teacher population. Therefore, the study's limitations are the limited sample size, which comprised a small number of EFL instructors from educational levels and regions, that could restrict the generalizability of the results. Moreover, the study design omitted classroom observations or real-time assessments of teaching strategies because of time limits, hence depending only on data collected via questionnaires, which naturally on participants' self-reporting may therefore create bias. Although offering qualitative analysis, the questionnaire's emphasis on open-ended questions might not produce the same amount of information possible via interviews or focus groups. Finally, the research points out that some teachers' views about the role of artificial intelligence in education could be shaped by their lack of knowledge of artificial intelligence tools, thereby reflecting preconceptions rather than real experiences.

Structure of the Dissertation:

The current study is composed of two chapters. Chapter one, "A Theoretical Foundation for Inclusive EFL Teaching in The Age of AI", examines teaching English for learners with special needs in both special education and inclusive settings with an emphasis on how artificial intelligence (AI) could support learning, it aims to underline and explore the major concepts connected to special education, inclusive teaching techniques, and traditional and innovative language teaching approaches. The "Research Methodology and Results' Interpretation" chapter of the research titled "Exploring Innovative Strategies and AI Integration in English Language

Teaching for Special Needs Learners" investigates the research design, study variables, sample selection, and research tools employed, including data analyses methods and participant demographics. Additionally, interpreting the data through presenting findings on teachers' experiences on the teaching strategies and AI tools employed with special needs learners, moreover, the challenges and opinions associated with the integration of AI, and how the results connect to the theoretical framework in chapter one.

**Chapter One: Theoretical
Foundations for Inclusive
EFL Teaching in the Age of
AI**

Chapter One: Theoretical Foundations for Inclusive EFL Teaching in the Age of AI

Introduction:

This chapter establishes the theoretical basis for the current study, examining teaching English for learners with special needs in both special education and inclusive classrooms settings. With a particular focus on how artificial intelligence (AI) could help in different learning, the chapter seeks to highlight and investigate the main ideas related to special education, inclusive methods of teaching, as well as traditional and innovative language teaching strategies. By creating an effective structure leading the following research design and analysis by providing suitable definitions, classifications of special needs, along with effective teaching strategies.

Moreover, the present study is based on three related theoretical points of views Constructivism, Inclusive education, and Universal Design for Learning (UDL). These theories inform collectively the analysis of effective English language teaching strategies namely traditional approaches; Grammar Translation Method (GTM), Direct Method, Audiolingual Method. In addition, innovative methodologies include Communicative Language Teaching (CLT), Task Based Language Teaching (TBLT), and Project-Based Learning (PBL) for learners with special needs in special education and in inclusive classrooms.

With the increasing focus on teaching learners with special needs, education and technology coupled to form a suitable educational situation, suggests an enhanced understanding of how educators can effectively address the different needs of learners. The present research aims to add to the ongoing debate on enhancing learning access, quality, and equity for all learners who have educational needs by facilitating learning with combining pedagogical methods with artificial intelligence technology.

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1. Teaching Strategies in Teaching English Language for Special Needs Learners:

1.1. Teaching English:

Teaching English to special needs learners presents a challenge for teachers, unlike traditional classrooms where all teaching methods may serve. Learners with special educational needs require specific training, appropriate strategies. Teachers should be trained to understand the different disabilities and their impact on language acquisition. Additionally, they need to consider techniques and strategies to deliver knowledge that varies based on the learner's disability or uniqueness. By accommodating teaching methods with the profile of each learner, EFL teachers can create a successful, accessible and meaningful language learning atmosphere.

According to (Brown, 2000) , teaching is facilitating and guiding learning to enable learners to learn. That is to say, the strategy of teaching stresses building encouraging environments where educators empower learners in building their own knowledge and promote participation in the class, hence helping them to develop learning skills.

Similarly, (Harmer, 2009) describes teaching as a multifaceted and dynamic process. He highlights that teaching is not all about delivering knowledge; it requires promoting learning and fostering a supportive environment where learners can thrive. This view is strengthened by (Glickman et al, 2023) who view teaching as a developing process with ongoing evaluation, differentiation, and reflection. Glickman and his colleagues argue that successful teaching demands professional knowledge and the capacity to tailor teaching to fit the learners' different stages of development. This approach points out that teaching serves as a science and art which makes it necessary for teachers to combine theoretical knowledge with adaptable practice.

Based on the above definitions, it can be concluded that teaching is the process that facilitates learners to acquire knowledge when it is accessible, inclusive, and centered on focusing on the particular needs of every learner. This is particularly important where the teacher plays a significant role in guiding and directing learners to enhance their understanding of a particular concept.

Teachers play a vital role not only in education but also in the professional process. They are professionalized in teaching, training, guiding, educating, assessing, and evaluating students to achieve a particular goal in their learning process. Their goal is to enhance academic performance, personal development, and skills acquisition in the classroom. Teachers are

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supposed to use a variety of teaching approaches to fit learners' needs. Therefore, teachers serve as facilitators of knowledge to inspire learners to reach full potential.

(Stones & Morris, 1972) defined “teaching strategy is a generalized plan for a lesson which includes structure, desired learner behavior in terms of goals of instruction and an online of planned tactics necessary to implement the strategy”.

The definition highlights that strategy is an organized and structured plan that is designed to reach a set of goals. In other words, a teaching strategy is an organizational procedure structured to achieve and transmit the subject matter to learners.

1.2. Traditional and Innovative Language Teaching Strategies:

Teaching strategies are essential and needed by all teachers, especially when teaching learners with special needs, as they need a specific learning environment to develop language skills and acquire vocabulary and grammar. Applying teaching methods helps in providing an organized framework for teachers to deliver instructions and insights effectively.

Selecting a teaching method is significantly crucial in the learning process, choosing an appropriate method requires considering various elements such as teaching goals, learner characteristics, and teacher preferences. There are many traditional and innovative teaching strategies, however we will only tackle the most significant ones that marked the historical evolution and the start of language teaching and learning (Faradila et al, 2022). The selection of teaching strategy and the teacher's experience are closely related.

1.2.1. Traditional Teaching Strategies:

(Richards & Rodgers, 2001) argue that conventional teaching methods have been the basis of English language education. Rooted in historical and classical education patterns, these approaches give priority to organized learning spaces, teacher-centered instruction, and a concentration on grammar, vocabulary, and translation. Approaches like the Grammar - Translation Method (GTM), the Direct Method, and the Audiolingual Method recall an age when mastery of linguistic forms and rote memorization were prized above communication competence. (Larsen-Freeman & Anderson, 2011). Although these approaches have greatly influenced the evolution of language teaching methods, their inflexibility and limited adaptability might create problems for different student demands, especially those with special educational needs. (Lightbown & Spada, 2013). Appreciating the progress toward more

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creative, learner-centered approaches in modern education require an awareness of the qualities, strengths, and weaknesses of conventional techniques.

- Grammar Translation Method(GTM):

One of the earliest approaches to language learning was the Grammar Translation Method (GTM), that was used for teaching ancient languages, such as Latin and ancient Greek. (Machida, 2008) claimed that in the 16th and 17th centuries, GTM was utilized in European institutions and colleges. However, GTM was spread in North America during the 19th century, regardless of the emergence of new methods in Europe, GTM continued to be applied even during the 20th century. Despite its initial use in teaching classical languages, the GTM's application expanded, and it is one of the popular approaches for teaching English as a second or a foreign language.

Despite the emergence of other language teaching strategies, the Grammar Translation Method continued to be adopted and gained popularity in North America, its implementation continued into the 20th century proved its impact on language education. Although GTM was created to teach classical languages like Greek and Latin, its application gradually expanded. Consequently, it developed into a well-known method for teaching English as a foreign language and remains relevant in many different educational settings.

Benati, (2018) highlights the aim of the Grammar –Translation Method (GTM) is on focusing on the learner's reading, writing, grammar, and vocabulary development in the target language. It requires memorization of vocabulary and translation of literary texts, to enable learners to engage with foreign literature and in improving listening, speaking, and fluency skills.

Additionally, memorizing is a vital technique in GTM. According to (Larsen-Freeman & Anderson, 2011) common strategies include reading literary texts, understanding the context and translating it to the L1, memorizing list of words in the target language and their equivalents in the native language, fill in the blanks, questions and reading comprehension, and grammar activities.

Based on the above statement, encouraging learners to memorize vocabulary words from the target to the native languages is considered an essential component of the Grammar

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Translation Method (GTM). Reading passages and translating them into the learners' native language are often used to support language learning.

Moreover, The Grammar Translation Method is particularly helpful since it emphasizes reading and writing over listening and speaking. In addition, the use of learners' first language reduces anxiety and stress in understanding a second language verbally or aurally.

- The Direct Method:

The Direct Method emerged as a reaction to the Grammar Translation Method, it was popular in 1878 by Maximilian Berlitz however, many language reformers such as Bertha Karl, Henry Sweet, and Wilhelm Viëtor have significantly contributed to the Direct Method by combining it into English lessons with similar learning objectives. (Burekovic et al, 2023)

The Direct Method puts more emphasis on communication than grammar and strives to improve fluency and the capacity of learners to think in the target language. (Djhauhar, 2021).

More precisely, to achieve the objectives of the direct method, teachers must use the target language exclusively in the classroom while minimizing the learner's native language. This indicates that the primary focus is on speaking and listening skills.

(Krause, 1916) claimed that learners use and experience language in meaningful ways, which enables them to improve in their comprehension of linguistic regulations through direct experience. He also adds that this imaginative and engaging method enhances independent reflection and observation, fostering engagement and active learning.

In other words, engaging learners in meaningful and useful ways to utilize a language may help improve their comprehension of its rules. Krause suggests that being exposed to language patterns facilitates learners' understanding of its structure. Moreover, he also highlights how these innovative and interactive approach permits learners to think critically, which increases their engagement and supports a more dynamic learning style.

Overall, this method is beneficial for its interactive encouragement for learner-centered learning, language is taught through real-life contexts which supports learners' memory and understanding by connecting language to familiar experiences.

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- Audiolingual Method:

This method emerged in the 1940s, it is a language teaching approach. The primary focus of the audiolingual method is to develop oral skills through repetition and structured drills. Listening and speaking are prioritized by emphasizing correct pronunciation and suitable responses. In this method, teachers engage students to practice and memorize dialogues to help in improving vocabulary and language structures. (Hu, 2024)

This method, as highlighted by Hu, aims to improve learners' vocabulary and comprehension of language structures by practice and memorizing dialogues.

1.2.2. Innovative Teaching Strategies:

Creative teaching techniques have developed to produce more dynamic, learner-centered, and inclusive educational settings in reaction to the constraints of conventional language instruction approaches. Real-world communication, critical thinking, and active student involvement are prioritized by approaches such Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), Project-Based Learning (PBL). (Richards J. , 2006). Unlike conventional approaches that tend toward grammatical correctness and rote memory, these creative techniques stress meaningful interaction, problem-solving, and the individualization of learning experiences. Such approaches mentioned by (CAST, 2018) and (Florian & Black-Hawkins, 2011) are especially appropriate for educating students with special educational needs since they closely fit the ideas of inclusive education and Universal Design for Learning (UDL). Moreover, the inclusion of technology including artificial intelligence (AI) has increased the possibilities of these approaches by providing adaptive learning tools, real-time feedback, and personal support. Developing efficient and fair English language teaching practices in the varied classrooms of today depends on knowledge of the theoretical underpinnings and practical uses of creative teaching techniques.

- Communicative Language Teaching (CLT):

It evolved as a reaction to the drawbacks of the grammar translation method and the audiolingual method which are considered as traditional language teaching. It highlights the significance of using language effectively in real-life situations. CLT is student-centered in which it encourages learners to interact with their peers in addition to this, making errors are considered as a natural part in the process of learning. (Rambe, 2017)

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The principle idea of CLT is to use language through authentic communication. (Richards J., 2006) claims that the main feature of CLT include Emphasizing communication as the main objective of learning, combining the four language skills listening, speaking, reading, and writing, application of genuine materials and real-life circumstances, and the teacher's function as a facilitator instead of a knowledge conveyor. Moreover, empirical research has presented benefits linked to CLT (Savignon, 2002) emphasizes that when learners are exposed to communicative activities tend to acquire higher levels of fluency and interactive skills.

To summarize, the emphasis of the Communicative Language Teaching (CLT) approach is on using language in authentic contexts. It is a learner-centered approach that motivates learner engagement through peer communication. Furthermore, this approach regards mistakes as a natural and helpful aspect of language learning. CLT method centers on using language in real-life and in meaningful interaction, which helps learners to share their social, cultural, and emotional ideas.

- **Task-Based Language Teaching (TBLT):**

The focus of TBLT method is to engage learners in real-life, meaningful tasks that enable learners to use language in more authentic situations. (Bula-Villalobo & Murillo-Miranda, 2019).

(Nunan, 2004) claims that tasks in TBLT are exercises which rely on learners to use language for meaning rather than form. In addition to this, there are three stages in TBLT according to (Willis, 1996) including **pre-task** where the teacher introduces the topic and task, **task cycle** in which learners often work in pairs or groups to complete a particular task, then learners analyze the language used during the task and practice specific forms as needed which is the last stage called **language focus**.

(Careless, 2007) highlights in his study that TBLT enhances motivation, engagement, and language proficiency of learners. TBLT has been modified for EFL (English as a Foreign Language) settings to fulfill curriculum needs while preserving its emphasis on meaningful communication. (Butler, 2011)

So, involving learners in more interactive, meaningful, and real-world activities can help in enhancing language use. Task Based Language Teaching helps in improving the learners' participation, motivation, and critical thinking. Tasks are usually done in groups or pairs,

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enhancing cooperative learning and peer support. Furthermore, TBLT method allows teachers to design tasks based on ability level, making it adaptable for diverse learners.

- Project-Based Learning:

Project-Based learning is a learner-centered teaching approach which has attracted great interest as it fosters deeper learning by means of involvement in actual projects. Emphasizing its capacity to promote critical thinking, problem-solving, and teamwork, (Thomas, 2000) characterizes PBL as "a model that organizes learning around projects." Learners in PBL settings actively investigate difficult problems or questions that call for continuous research and solution creation (BELL, 2010).

Compared to conventional teaching, studies indicate PBL increases learner enthusiasm and information retention (Krajcik & Blumenfeld, 2006). Moreover, it lets learners acquire transferable abilities including self-management, communication, and teamwork (Grant, 2002). Though it has benefits, efficient execution calls for deliberate scaffolding, teacher direction, and curricular objective alignment (Larmer et al, 2015). Among the difficulties are guaranteeing strict academic results across initiatives and handling varied learner needs.

To clarify the above definitions, Project-Based Learning is a learner-centered approach that increases knowledge by means of practical projects through involving learners in investigating challenging topics. Additionally, Project-Based Learning fosters critical thinking, problem-solving and collaboration, it also enables learners to develop vital abilities including self-management and communication unlike traditional education.

To sum up, traditional approaches such as Grammar Translation Method and Audiolingual Method focus on memorization and repetition which can be beneficial for learners with Attention Deficit Hyperactivity (ADHD), mild learning disabilities, and auditory impairments or verbal communication, however, traditional strategies often neglect the learners' needs (Richards & Rodgers, 2001). This shows the importance for designing innovative and flexible teaching methodologies, namely Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), and Project-Based Learning (PBL) that emphasize interaction, learner autonomy, and authentic language use which can be helpful for cognitive disability learners.

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1.3. Theories of Language Learning:

Theories of language acquisition clarify how learners effectively acquire a new language and direct teachers in selecting suitable and efficient teaching strategies. Theories of language learning including constructivism, inclusive education theory, and universal design for learning (UDL) offer understanding the mechanisms by learners understand and practice new language structures and provide strong foundations for creating learning environments that meet the various requirements of all learners.

- Constructivism:

The constructivist theory of learning, developed by (Piaget, 1972) and (Vygotsky, 1978) suggest that learners build their knowledge actively through experience and social interaction. In terms of acquiring language, constructivism encourages learner centered education in which learners are supposed to participate in language in meaningful speech and interaction with the emphasis of real-world language use, student autonomy. This approach promotes both CLT and TBLT. The principle idea of constructivism is designing activities to fit learners who have cognitive and social development disabilities. (Burner, 1996)

This theory is a learner-centered approach, which suggests that learners are asked to use language in meaningful conversations, it also promotes learner engagement. Constructivism supports approaches like Task-Base Language Teaching (TBLT) and Communicative Language Teaching (CLT), which both aim at teaching language through authentic communication. Furthermore, as noted by Burner (1996) the focus of constructivism is on the development of educational activities that are appropriate for learners with cognitive and social development needs.

- Inclusive Education Theory:

Inclusive education is founded on the idea that all learners with or without disabilities have the right to learn in general education settings. (Stainback & Stainback, 1992) claim to collaborate between general and special teachers to create an accessible and adaptive curriculum to satisfy various demands. Additionally, learners with limited opportunities such as those with impairments, (UNICEF, 2017) indicates that inclusive education is necessary to maintain equality in learning outcomes. Therefore, inclusive education theory is particularly essential as it supports research on how traditional and current EFL teaching methods could

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be changed to promote effective learning for all learners, including those with specific educational needs.

The definition by Stainback and Stainback (1992), indicate the importance of cooperation between general and special need education to develop an adaptable and useful curriculum that satisfy the different needs of every learner. In addition to this, UNICEF (2017) illustrates that inclusive education is important for every learner to determine how to modify both traditional and current English strategies to foster effective learning for all learners.

- The Universal Design for Learning (UDL):

Particularly developed by (Cast, 2018) to create learning environments that meet all learners. UDL fosters the usage of representation, expression, and involvement, which EFL teachers are allowed to provide learners with visual, aural, and interactive approaches to teach vocabulary, grammar, and communication. UDL reflects the use of artificial intelligence technology, which can provide services for learners with impairments (Edyburn, 2010)

In simpler words, the aim of the Universal Design for Learning is to create a suitable learning environment that supports all learners. Various means of participation are anticipated in this theory that makes lessons more accessible and efficient for all types of learners by enabling EFL teachers to teach vocabulary, grammar, and communication through visual and auditory methods. Most importantly, UDL promotes the use of artificial intelligence which could offer learners with special needs useful resources.

From the previous definitions of learning theories, we conclude that Constructivism stresses active learning via social interaction and real-world experiences that encourage teacher cooperation to modify teaching methods. Inclusive Education Theory supports the notion that all students, regardless of their aptitude or background, have the right to access education in a supportive atmosphere. Universal Design for Learning (UDL), on the other hand, offers several forms of representation, involvement, and expression that help to create accessible, interesting, and individualized learning paths within a flexible framework. These theories taken together help teachers to design flexible language learning environments where every learner has the chance to succeed.

To clarify, Communicative Language Teaching (CLT), Task Based Language Teaching (TBLT), and Project-Based Learning (PBL) most closely fit the ideas of constructivism,

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inclusive education, and universal design for learning, as the three strategies support learner interaction, collaborative learning, and multiple means of interaction that promote engagement particularly for learners with special needs. By contrast, conventional approaches like the Grammar Translation Method and Audiolingual Method provide difficulties in inclusive settings because of their lack of flexibility and explicit grammar. Hence, we conclude that the need to move toward communicative and task-based strategies is crucial for an effective EFL environment.

1.4. Definition and Purpose of Inclusion:

(Stainback & Stainback, 1992), “inclusion facilitates integration in school systems when general and special education personnel, as well as curriculum and instructional procedures, are combined to provide educational experiences to meet the needs of the students in an integrated setup”.

As quoted by Stainback, that inclusion in schools can be more effective when teachers of general and special education cooperate and design adaptive and appropriate lessons to meet all the learners’ needs. Similarly, this point was highlighted by (Ainscow, 2020) in which he claims that the goal of inclusive education is to adapt to a learning system which fits all learners. According to (UNICEF, 2017), inclusive education is an educational system that involves supporting all learners to learn, despite their skills or needs. In essence, establishing suitable classrooms in which all learners, including those with special needs, are met through inclusive education. Inclusion in the context of teaching English as a foreign language (EFL) refers to integrate learners with various learning needs. The primary aim of this practice is to provide equitable learning opportunities and promote a supportive learning environment for all learners, the implementation of inclusion in EFL classrooms is associated with key strategies and challenges.

1.5. Practical Strategies for Inclusive EFL Teaching:

A study conducted by (Suprayogi et al, 2017) highlights that teachers’ role is to implement differentiated instruction in order to meet the needs of learners. This approach in EFL classrooms is crucial for taking part in acknowledging the different needs of learners and helps teachers to include appropriate teaching methods to accommodate the various learning styles of learners.

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In the same vein, some several strategies were suggested by (Hidayah & Morganna, 2019) including:

- **Active learning:** learners are involved directly in the learning process through activities such as role-playing, games, and storytelling.
- **Peer tutoring:** teachers engage learners in cooperation activities by pairing learners who have higher proficiency to support learners with special needs.
- **Collaborative learning:** learners with various abilities are required to complete tasks together by improving mutual support and social interaction.
- **Direct instruction:** a teacher-led method that helps learners who require continuous routine and clear direction.

In inclusive EFL settings, teachers play a crucial role as facilitators, guides, and curriculum designers to fit the requirements of special needs learners. By implementing these strategies teachers can help create a more dynamic and inclusive learning environment.

1.6. Defining Special Needs Learners:

The term Special needs learners, broadly refers to those who have difficulties or disabilities that make it harder for them to learn or access knowledge compared to regular learners. (First 5 California, 2017) special needs are learners who have recognized disabilities, health issues, or conditions in their mental health that necessitate early intervention, special education services, or other specialized assistance; as well as learners who may not have identified conditions but still require specialized services, support, or monitoring.

The term special needs learners highlight the disabilities or challenges that may hinder the ability of learning and knowledge. As the First 5 California Department of Education mentioned that these learners may struggle with health conditions or mental health issues that require special education or trained assistants in order to succeed academically and developmentally. This definition emphasizes the importance of adaptive learning strategies to ensure inclusive and equitable learning opportunities for all learners.

Special needs learners will likely face a range of problems due to their unique characteristics and individuality. (Heward & Orlansky, 1992) claimed that learners with social abnormalities have difficulties adjusting their behavior to the surrounding environment. This category of learners known as “barrels”.

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According to the definition given by Heward and Orlansky, learners with social abnormalities are those who have struggles to adapt their behavior to their environment. This type may face challenges interacting with the social world and sometimes have difficulty fitting with peers.

The term “barrels” is used to explain that learners with special needs have unique needs and behavior, highlighting their variations in socialization.

Another study by (Hallahan et al, 2019) special needs learners are individuals with physical, cognitive, behavioral, or learning challenges who need special education and related services in order to reach their full potential.

Based on the above statement, learners with special needs are unique learners in which they need special education due to their lack of participation in a standard educational environment. Moreover, learners with special needs demand special education because of their differences from normal learners or their peers including intellectual ability, learning process, emotional regulation, and physical capabilities. These differences can include conditions such as autism, communication disorders, impaired hearing, and impaired sight.

Therefore, by acknowledging this category of learners, teachers can offer the necessary appropriate teaching strategies by designing effective lessons tailored to their needs. Additionally, for an effective learning environment, personal data of each learner should be given to the class teacher so that the teacher is aware of the learners’ individual needs. Personal data encompasses the qualities, challenges, abilities, and the developmental level of a learner.

1.7. Types of Special Needs Learners:

For an effective implementation of appropriate teaching practices in English as a Foreign Language (EFL) context, educators should first comprehend the different categories of special needs. The **Individuals with Disabilities Education Act, (IDEA)** provides a framework by classifying disabilities into thirteen, these classifications can help teachers to create specific and individualized teaching strategies (National Dissemination Center, 2012).

- **Autism:** Autism Spectrum Disorder (ASD) is neurological and developmental disability that have an impact on a child’s behavior, learning, and social

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interaction.

- Autism generally appears in the first two years that is why it is known as “developmental disorder”. Other characteristics often attached with communication and interaction challenges, restrictive and repetitive behaviors such as echolalia which is a behavior in which an autistic person repeats words or phrases (National Dissemination Center, 2012).
- **Deafness:** It is defined as a severe hearing impairment that hinders learners from processing linguistic information through hearing, with or without using amplification devices, which negatively impacts the learner’s educational performance. (National Dissemination Center, 2012)
- **Deaf Blindness:** deaf- blindness as concomitant (simultaneous) hearing and visual impairment, the combination of which causes such severe communication and other developmental and educational needs that they cannot be accommodated in special education programs. (National Dissemination Center, 2012)
- **Emotional Disturbance:** a condition characterized by the following traits: challenges in learning that cannot be explained to intellectual, sensory, or health issues. Difficult ies in making relationships with peers and teachers. Inappropriate behaviors in normal situations. Depression and unhappiness. A tendency to experience physical symptoms. (National Dissemination Center, 2012)
- **Hearing Impairment:** a permanent or fluctuating disability that has a negative impact on learner’s academic achievement. (National Dissemination Center, 2012)
- **Intellectual Disability:** cognitive and adaptive behavior that has huge social effects. (National Dissemination Center, 2012)
- **Multiple Disabilities:** multiple disabilities refer to the presence of one or two impairments like intellectual disability combined with blindness or orthopedic impairment that causes educational needs that cannot be met by special education programs. (National Dissemination Center, 2012)
- **Orthopedic Impairment:** a serious and severe disability that affects learner’s educational performance. The term orthopedic impairment covers cognitive disabilities (such as poliomyelitis and bone tuberculosis), and impairment from other causes (such as cerebral palsy, amputations, fractures, or burns that result in contractures. (National Dissemination Center, 2012)
- **Other Health Impairment:** means having reduced strength, vitality, or alertness that includes highly sensitivity to environmental stimuli. This condition is caused by a

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chronic or acute health issues such as asthma, ADHD, diabetes, epilepsy, heart conditions, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome which can negatively impact the academic achievements of the learner. (National Dissemination Center, 2012)

- **Specific Learning Disability:** a psychological disorder involved in comprehending or using language, whether in written or spoken. Learners who have this disability may have challenges in reading, writing, spelling, listening, thinking, or performing in mathematical calculations. Specific learning disability encompasses cognitive disabilities such as minimal brain dysfunction, dyslexia, and developmental aphasia. Yet the term does not cover learning disabilities primarily caused by visual, hearing, or motor disabilities, emotional disturbance, or environmental, cultural, or economic disadvantages. (National Dissemination Center, 2012)
- **Speech or Language Impairment:** refers to communication conditions including stuttering, poor articulation, language impairment, or voice impairment. (National Dissemination Center, 2012)
- **Traumatic Brain Injury:** refers to an acquired brain injury caused by an external physical force, which leads to a total or partial functional disabilities or psychosocial impairments. The phrase includes both open and closed head injuries that affect cognitive aspects such as, language, memory, attention, reasoning, abstract thinking, judgement, problem-solving, sensory and motor skills, psychosocial behavior, physical functions, information processing, and speech. (National Dissemination Center, 2012)
- **Visual Impairment:** indicates that the learner's academic performance is impacted by a visual impairment, even after treatment. The term includes both partial sight and blindness. (National Dissemination Center, 2012)

Understanding the different disabilities of learners by IDEA is essential for EFL (English as a Foreign Language) teachers, as it helps them to apply inclusive and effective teaching strategies to support all learners. For example, EFL teachers can accommodate learners with special needs by adapting differentiated instruction including visual, auditory, and kinesthetic to suit the learning style of each learner. In addition to this, the use of simple and clear language helps in reinforcing understanding and creating a supportive learning environment where all learners feel valued and supported.

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Various EFL teaching methods have been covered in the previous sections in addition to the different requirements of special needs learners. The following table offers a comparative summary of how various teaching strategies can be properly matched with particular learner difficulties as well as the justification for these pairings.

Table 1.1. EFL Teaching Methods Vs Learner Disabilities

Teaching Method	Best Suited Disabilities	Why It Works
Grammar-Translation Method (GTM)	ADHD, Mild Intellectual Disability, Hearing Impairment	Structured, repetitive tasks; use written text and L1 for clarity
Direct Method	Speech or Language Impairment (mild), Hearing Impairment	Focuses on speaking/listening; may support pronunciation with strong visual cues
Audiolingual Method	ADHD, Autism(mild), Language Impairment	Emphasizes repetition, drills, and routines that support memory and structure
Communicative Language Teaching (CLT)	Emotional Disturbance, Autism Spectrum Disorder	Encourages peer interaction, real-life use of language, social development
Task-Based Language Teaching (TBLT)	Intellectual Disability, Visual Impairment, ADHD	Tasks promote critical thinking, peer collaboration, and adaptable roles
Project-Based Learning (PBL)	Autism, Orthopedic Impairment, Multiple Disabilities	Encourages teamwork, problem-solving, and differentiated task roles
AI-enhanced Methods (e.g., gamified tools, pronunciation software)	Speech/Language Impairments, Visual Impairments, Cognitive Disability	Offers real-time feedback, personalized pace, multisensory support (voice, text, visuals)

This table demonstrates how EFL teaching strategies could fit the requirements of learners with special educational needs. These are recommendations; individual learners could need more differentiation and tailored strategies. The table emphasizes that although conventional techniques can give structure for some learners, modern strategies offer the engagement and flexibility required to meet a broader spectrum of needs. Moreover, the use of artificial intelligence techniques opens interesting paths for easily accessible and tailored language learning opportunities.

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1.8. Integrating Artificial Intelligence with Pedagogical Strategies:

Recent developments in pedagogy highlight the change from traditional (teacher-centered) education to more learner-centered approaches that give differentiation and engagement strategies suited to particular learner needs. Particularly for special needs learners, teaching methods are quite important in building inclusive and flexible learning environments in these changing educational settings. Strategies such cooperative learning and multimodal education help guarantee that different learners may access and process knowledge in ways that fit their skills and preferences.

Alongside these educational changes, artificial intelligence (AI) has become a powerful force in the classroom, providing tools and systems that improve instructional delivery, tailor learning experiences, and assist teachers in data driven decision-making. The inclusion of artificial intelligence into English Language Teaching (ELT) plans offers creative possibilities such as adaptive learning platforms, speech recognition technologies, and real-time feedback systems that fit perfectly with current teaching approaches.

Teachers may build vibrant and responsive learning environments by connecting artificial intelligence with pedagogical approaches. For example, natural language processing-powered language learning apps can support scaffolding strategies (Holmes et al, 2019) while AI-driven assessment tools can guide varied instruction (Woolf, 2010). From this perspective, artificial intelligence provides smart and adjustable assistance for teachers trying to satisfy the demands of different learners, hence improving the efficacy of basic teaching methods rather than replacing them. (Chen et al, 2020).

1.9. AI integration in Teaching Special Needs Learners:

Artificial intelligence (AI) is becoming crucial in many sectors, especially in education. (Luckin et al, 2016) defines artificial intelligence in education as a smart computer system and algorithms that can mimic human cognitive processes such as learning, problem solving, and decision making to assist and improve the teaching and learning process. its implementation has become a transforming power in education; particularly for special needs learners, as some artificial intelligence techniques can foster diversity, improve engagement,

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and enable personalized learning. Additionally, AI establishes a more equitable and learner-centered opportunity where all learners may actively engage in the learning process. Furthermore, the use of artificial intelligence in teaching special needs learners can significantly help teachers to tailor educational materials, approaches, assessments, and other processes to fit all the learners' particular needs. (Ali, 2024)

Improved academic achievement has been connected to artificial intelligence in special education. A study in **Saudi Arabia** showed that artificial intelligence applications improved the academic ability of learners with modest intellectual disabilities, especially in reading comprehension and fluency. Furthermore, by means of its ability to examine student data, artificial intelligence enables the creation of focused interventions that increase learning results even more. Furthermore, AI's ability to examine student data enables the creation of focused interventions, therefore improving learning results. (Alsolami, 2025).

Specifically, the increase of artificial intelligence has significantly improved, especially when teaching learners with special needs by allowing teachers to design lessons and tests that suit learners' needs. Plus, artificial intelligence may help mild intellectual learners grow in reading comprehension and fluency.

By personalizing learning resources to fit different learning requirements, AI promotes inclusion. For instance, artificial intelligence agents can customize material and communication tactics depending on personal disability, such as offering voice-activated support for visually impaired learners. This customization guarantees fair access to educational resources, hence helping the aim of universal good education. (Chedraw et al, 2024).

1.10. Application of AI in EFL:

More precisely, some applications of AI in EFL education involving:

A study conducted by (LU, 2018) in which he discussed how can AI assist learners in enhancing their pronunciation. Moreover, (Salmanova, 2025) emphasizes the use of AI gamification has significantly contributed in improving conventional teaching methods by providing adaptive learning experiences. This learning systems integrate real-time feedback, and personalized learning outcomes to enhance motivation and engagement.

AI applications in EFL education such as pronunciation tools as mentioned by Lu (2018) and gamified learning systems highlighted by Salmanove (2025) can notably help learners with

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special needs by providing them with individual, repetitive, and pronunciation aids that enable learners with speech or hearing issues progress. While real-time feedback helps learners who suffer from cognitive, or attention issues learn more easily. When teachers apply artificial intelligence tools learners can benefit from motivation and encouraging learning.

Artificial Intelligence plays a crucial role in education, particularly for learners with special needs; it enhances engagement, supports diversity, and enables personalized learning by adopting teaching materials and methods. AI can improve academic performance, especially for learners with intellectual disabilities. Additionally, AI fosters inclusion by adapting appropriate strategies based on learners' needs.

Therefore, the implementation of Artificial Intelligence in EFL contexts enables teachers observe progress of learners by creating more inclusive and successful methods for teaching languages.

Table 1.2. Key Literature on EFL Strategies, Theories, and AI for Special Needs Learners

Theme	Author (s)	Year	Contribution	Relevance to the study
Teaching Definition	Brown	2000	Teaching involves guiding and facilitating learning, not just delivering knowledge.	Emphasizes active learner involvement and adaptability, crucial for inclusive teaching.
	Harmer	2009	Teaching is dynamic, requires fostering environments where learners thrive.	Highlights teacher's role in responsive teaching.
	Glickman et al	2023	Teaching requires ongoing differentiation and evaluation.	Supports flexible strategies for special needs learners.
Teaching Strategy Definition	Stones and Morris	1972	Defined teaching strategy as a structured plan designed to achieve instructional goals.	Establishes strategic basis for selecting ELT methods.
Traditional Strategy – GTM	Machida	2008	Focuses on grammar, translation, and memorization using L1.	Suited for learners needing structured and written focus (ADHD).
	Benati	2018		
	Larsen-Freeman	2011		

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Traditional – Direct Method	Burekovic Djhauhar Krause	2023 2021 1916	Promotes immersive, speaking-focused instruction using only target language.	Helps speech/ language impaired learners using real-life context and interaction.
Traditional – Audiolingual	Hu	2024	Repetition and drills focus on oral skills and structured language use.	Useful for autism, ADHD; routine-based structure and supports predictability.
innovative – CLT	Richards Rambe Savignon	2006 2017 2002	Encourages real-life communication, peer interaction, and fluency over grammar.	Promotes social skills and autonomy; helpful for emotional disturbance and ASD learners.
innovative – TBLT	Nunan Willis Careless	2004 1996 2007	Learning through meaningful tasks with real-world relevance and collaboration.	Enhances encouragement and adaptation for learners with visual impairments.
innovative – PBL	Thomas Bell Krajcik Grant	2000 2006	Learners participate on long-term projects encouraging critical thinking and collaboration.	Encourages teamwork and problem-solving: ideal for diverse needs, particularly for learners with orthopedic issues.
Theoretical- Constructivism	Piaget Vygosyky Burner	1972 1996	Knowledge is built actively through experience, supports CLT and TBLT.	Groundwork for learner-centered and socially interactive EFL strategies.
Theoretical- Inclusive Education	Stainback and Stainback UNICEF	1992 2017	Advocates for equal access to education through collaboration and adaptation.	Foundational for understanding the inclusion for special needs learners in mainstream EFL classes.
Theoretical- UDL	CAST Edyburn	2018 2010	Provides multiple means multiple means of representation, expression, and engagement, includes AI.	Supports personalization and accessibility via AI.

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Special Needs Categories	National Dissemination Center (IDEA).	2012	Defined 13 disability categories with unique needs such as (ASD, ADHD, and Deafness).	Guides how EFL strategies should align with learner-specific challenges.
AI in special Education	Luckin Aliu Alsolami	2016 2025	AI enhances personalization, provides real-time feedback, promotes engagement and outcomes.	Shows how AI complements pedagogical approaches for special needs.
AI in EFL	Lu Salmanova	2018 2025	AI helps with pronunciation, gamification, adaptive learning, and learner motivation.	Demonstrates practical AI tools supporting ELT for special needs.

The table highlights a synthesized overview of the main teaching strategies, theories, and AI applications relevant to English language teaching for learners with special needs.

While the existing studies have highlighted and explored the traditional and innovative teaching strategies in three interrelated theories: constructivism, inclusive education theory, and the universal design for learning (UDL). These theories contribute in guiding the exploration of effective English teaching strategies particularly Grammar Translation Method (GTM), Direct Method, Audiolingual, Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), and Project based learning (PBL) that tackled general inclusive education strategies for special needs learners, there is a lack of research that particularly examines integrating Artificial Intelligence (AI) tools in mainstream English as a Foreign Language (EFL) classrooms for special needs learners. Moreover, theoretical strategies are listed and discussed such as (task-based learning, peer tutoring, active learning), however few is known about which of these methods when paired with artificial intelligence tools for supporting language development of special needs learners. Moreover, practical applications and teachers' perspectives on how they use AI in special education and in inclusive EFL classrooms are missing in addition to this, the challenges that teachers face when teaching learners with special needs.

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Conclusion:

The chapter has provided the theoretical basis for investigating the teaching practices and the integration of artificial intelligence (AI) in teaching English to learners with special needs in both inclusive and special education environments. This chapter illustrates the necessity to acknowledge the distinctive features of every learner to effectively personalize instructional strategies by identifying special needs learners and categorizing their specific needs. The chapter demonstrates how several traditional and innovative language teaching strategies from the Grammar Translation Method to Project-Based Learning serve different types of learners and how they could be changed for special needs education through applying both traditional and innovative language teaching approaches.

Moreover, the chapter emphasizes the principles of inclusive education, and the crucial part teachers have in creating various lessons in order to support equity and accessibility in EFL classes. By presenting personalized responsive, and adoptive learning environments, it further highlights the transforming power of artificial intelligence in enhancing educational efficacy. Bridging the gap between tailored assistance and flexible learning, solutions powered by artificial intelligence including speech to text software, virtual assistants, and emotion detection systems present major support for learners with different disabilities.

Although artificial intelligence in education is becoming more important, empirical studies focusing on its practical integration into EFL classrooms for special needs learners remain to indicate an important gap in which there is a little research on how specific artificial intelligence tools are suitable, and a lack of teachers' experiences, obstacles, and attitudes towards implementing artificial intelligence. Thus, by exploring not only theories but practical applications and teacher opinions, this study aims to address these gaps and enable us to create more inclusive, equal, and innovative language learning environments.

**Chapter Two: Research
Methodology and
Results Interpretations**

Chapter Two: Research Methodology and Results Interpretations

Introduction:

This chapter describes the research methodology used in the current study titled “Exploring Innovative Strategies and AI Integration in English Language Teaching for Special Needs Learners”. It offers a summary of research design, study variables, sample selection, and research tools. This chapter aims to clarify the process utilized in investigating innovative teaching strategies and artificial intelligence technologies in EFL settings for special needs learners in both inclusive and special education. The methodology is in accordance with the research aim: to discover, investigate, and evaluate innovative teaching strategies and the crucial role of artificial intelligence plays in supporting EFL instruction for learners with special needs. Moreover, this chapter summarizes how data was gathered and analyzed to provide in depth understanding of teaching strategies throughout different educational levels including (primary, middle, and secondary schools), therefore, ensuring the validity, reliability, and relevance of the study.

2.1. An overview of Research Methodology:

Research methodology refers to the systematic plan for conducting research. (Kothari, 2004) , defines research methodology to solve the research problem through giving explanation behind the research methods. Additionally, (Creswell , 2014) states that methodology is the basis for applying certain tools and techniques as well as data gathering.

In research methodology, there are three main approaches including qualitative, quantitative, and mixed- methods. Often quantitative research uses numerical and statistical methods to evaluate hypotheses and examine data (Cohen, Manion, & Morrison , 2011). On the other hand, qualitative approach emphasizes in depth knowledge and investigates complicated issues using interviews, observation, and written data (Denzin & Lincoln, 2011). Mixed methods research offers a more complete knowledge by combining both (Creswell, & Clark, 2017).

Following this, this study explores innovative strategies and the integration of artificial intelligence (AI) in English language teaching for learners with special needs by using mixed methods approach mixing qualitative and quantitative data. The purpose of using mixed methods lies in the complex nature of the topic, which demands both measurable data and in depth

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viewpoints to gain a whole understanding of teachers' experiences, challenges, and attitudes regarding AI supported strategies for special needs learners in EFL classrooms.

Mixed methods paradigm combines both quantitative (descriptive) and qualitative (interpretative) components. This method allows to measure trends and patterns in teaching methods through statistical analysis, open-ended questions help in analyzing the personal experiences and reflections of teachers. The combination of methods ensures data and improves the accuracy of the results and provides more understanding of the educational benefits of artificial intelligence tools for learners with special needs.

Further, quantitative data examined Likert-scale using descriptive and inferential statistics (frequency, percentage, and mean scores) the statistical data was managed and analyzed using SPSS software. While qualitative data (open-ended responses) were thematically analyzed to uncover frequent themes, attitudes, and experiences shared by participants. Thematic coding was used in order to classify data into major concepts connected to the usage of artificial intelligence, views of teaching strategies, and challenges faced when teaching learners with special educational needs.

The study method was strictly followed carefully to ethical standards throughout the research process to guarantee the safety of all participants, they were aware of the purpose of the study and their involvement was totally voluntary by including an informed consent statement in the questionnaire's opening so that the respondents know their rights.

All answers were handled with confidentiality, nonidentifiable information was gathered, only academic objectives guided data use. Moreover, participants' anonymity was maintained throughout the reporting and analytic operations. Additionally, the study design was followed by values of respect, beneficence, and fairness in alignment with ethical norms (Creswell ,2014).

Furthermore, a lot of consideration was given to make sure the participants' engagement would not result in any psychological, social, or professional harm. As (Bryman, 2016) and (Creswell , 2014) highlight, the moral responsibility of researchers underlines to preserve participants' rights and to ensure that the data gathered is managed with honesty and transparency.

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The present study provides insights into the use of innovative strategies and AI in English language teaching for special needs learners; several methodological limitations are acknowledged.

First, the sample was limited to a small number of EFL teachers from particular educational levels and areas. Consequently, the results might not be completely generalizable to all educational environments. Plus, due to lack of time the study did not include classroom observation or real-time evaluations of teaching practices resulting in collecting data through questionnaires which consists of participants' self-reporting where they may give only answers they believe. Moreover, the responses in the open-ended questions may not offer the same amount of information as interviews and focus groups. As a final point, the credibility of some participants' responses on the role of artificial intelligence in education may be influenced by their poor knowledge to AI tools. Consequently, the data could demonstrate preconceptions instead of real experiences.

Despite all of these limitations, the mixed methods paradigm still has its advantages as it provides a fair knowledge of both quantifiable patterns and personal experiences.

2.2. Research Design:

The research incorporates a descriptive case study design within a mixed methods framework that is suitable for investigating present practices, beliefs, and pedagogical strategies in a particular educational setting. This design seeks to illustrate the interaction between traditional strategies, (learner-centered) innovative approaches, and AI based tools employed by teachers for particular learners.

This study provides a descriptive case study as it enables to thoroughly explore a specific educational setting; English language teaching for learners with special needs in addition capturing real experiences. (Yin, 2018, p. 37) "a descriptive case study requires that the investigator begin with a descriptive theory or framework and then use this to guide data collection and analysis". In other words, Yin explains that a descriptive case study should begin with a well-defined theoretical framework which will assist the researcher in paying attention to the data gathering and analysis on ideas as well as guaranteeing the study maintains relevant and structured. Moreover, the case study method facilitates investigating practical teaching strategies and AI integration in

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inclusive and special education as it allows for the gathering of thorough accounts of the challenges teachers encounter and the methods they use. (Merriam, 2009) explains the importance of descriptive case studies in gaining detailed and rich comprehension of EFL educational contexts. Consequently, by including the mixed methods approach aids to promote a whole knowledge of the topic through using Likert five-point scale responses' quantitative data that reveals patterns, frequency, and general perceptions. Whereas open-ended answers provide qualitative data which indicate insights about teacher experiences, opinions, and challenges.

This research design is grounded by three main theoretical frameworks which they form a relation of effective English language teaching strategies as mentioned in the previous chapter including constructivism that emphasizes learner-centered approaches and active knowledge, inclusive education theory which promotes in encouraging fair access to education for every learner. Additionally, UDL help in building adaptable learning environments. Further, these frameworks direct the investigation and understanding of the function of artificial intelligence in enhancing teaching to fit different learners.

The selected design helps the study goals by understanding the EFL context through presenting challenges for learners with special needs because of language challenges, curricular rigidity, and traditional teaching approaches. Language teaching must be adopted to learners' requirements, as (Harmer, 2009) argued. This study highlights how EFL teachers in various educational settings are modifying their approaches to meet learners with educational needs. In addition to this, this research investigates several traditional (Grammar Translation Method, Direct Method, and Audiolingual Method) and innovative EFL teaching strategies (Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), and Project- Based Learning (PBL). These methods are assessed in terms of their appropriateness for inclusive environments and how they correlate with AI technologies. Plus, using a questionnaire distributed to EFL teachers ensures in gaining rich insights into current and appropriate teaching practices, challenges faced, and perceptions toward AI integration to support special needs learners in EFL classes.

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2.3. Variables of the Study:

In educational research, variables are the basic building blocks that enable the methodical investigation of relationships and results. These variables are usually two namely independent and dependent variables. While a dependent variable is one that relies on another, an independent is one that causes or forecasts a change. Ensuring clarity, accuracy, and methodological rigor in a research project depends on defining variables. Clearly defined variables help the researcher to determine a precise range for the study and specify precisely what is being measured or seen. This clarity improves the validity measuring what the study aims to measure and the reliability guaranteeing consistent outcomes across many settings or participants. Operational definitions let one methodically gather data, hence enabling precise measurement and analysis of correlations between variables. Furthermore, well defined variables help the repeatability of the study, hence allowing other researchers to confirm, question, or build on the results of the study. Defining the independent variable innovative teaching strategies and the dependent variable AI integration in English language for learners with special needs is vital in the framework of this study to guarantee the correct design of the research tools, the understandable outcomes, and the significant contribution of the findings to the current body of knowledge on inclusive education and educational technology.

2.3.1. Independent Variable:

The implementation of innovative teaching strategies and the integration of artificial intelligence in English as a Foreign Language (EFL) education for learners with special needs is the independent variable in this study. Aiming to promote engagement, accessibility, and individualized learning, these strategies are modern, research-informed ones that go beyond conventional rote learning and grammar-translation techniques. Among the examples are: technological improvements; group projects; visual and aural aids; task-based learning and differentiated education. By providing flexible material delivery, several assessment choices, these approaches are meant to fit the various learning profiles of learners with special educational needs. Creative ideas usually inspire learner autonomy, foster active involvement, and include multimodal tools fit for various cognitive and sensory requirements. In inclusive EFL classes, such strategies are absolutely vital for lowering learning obstacles and improving language acquisition success.

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This variable intends to clarify the function of these creative ideas in producing efficient and inclusive English language learning settings by looking at their application and teacher interpretation.

2.3.2. Dependent Variable:

The English language teaching (ELT) for special needs learners is the dependent variable in this study. This variable describes the degree that includes improvements in special needs learners' reading, writing, speaking, and listening skills, and way teaching practices are included to facilitate language acquisition among learners with different learning problems. The degree of English language teaching for special needs learners is determined by judging how often and well teachers use various teaching strategies, their opinions of these approaches, and the observed influence on learner's learning and participation. Central to knowing how teaching strategies can be used to create inclusive and efficient English language learning settings, English language teaching is a dependent variable shaped by elements including teacher training, institutional support, and pedagogical innovation.

2.4. Research Plan:

Using a mixed-methods approach, this study seeks to investigate teaching strategies and the integration of artificial intelligence (AI) in English language teaching (ELT) for special needs learners. The study aims to find the teaching techniques used by EFL teachers to guide special needs learners in mastering English language and assess how AI-driven technologies could improve their learning experience. A mix of quantitative and qualitative approaches will be used: questionnaires will be distributed to EFL teachers in order to collect general opinions and experiences, and open-ended replies will offer deeper understanding of AI-based teaching practices. Selected by means of purposive sampling, the sample will consist of English teachers from inclusive and special education environments teaching special educational needs.

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2.5. Research Questions:

The main research question guiding this study is:

How can EFL teachers effectively support special needs learners in teaching English through integrating innovative strategies and artificial intelligence tools?

To explore this question in depth, four sub questions will be addressed:

1. In what ways are traditional strategies employed by EFL teachers to meet the requirements of special needs learners?
2. How do EFL teachers implement communicative and learner-centered approaches to engage learners with special needs?
3. To what extent is artificial intelligence integrated into EFL instruction for learners with special needs?
4. What are the opinions and experiences of EFL teachers regarding the effectiveness of these strategies?

2.6. Hypotheses of the study:

This study proposes four hypotheses aimed at exploring innovative strategies and AI integration in English language teaching for special needs learners. The four hypotheses together evaluate important elements of English as a Foreign Language (EFL) training for learners with exceptional needs, focusing on the efficacy of teaching methods, the degree of artificial intelligence integration, and teacher opinions.

H1: Teachers who use traditional strategies, such as repetition, and teaching grammar could be effective in supporting the language acquisition for special needs learners.

H2: Communicative and learner-centered approaches like adaptive materials and technology-assisted learning may help in addressing the individual learning needs of special needs learners and enhancing their engagement and participation.

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H3: the integration of AI tools in EFL classes for learners with special needs could be minimal due to technological, pedagogical, and accessibility barriers.

H4: the perceptions of EFL teachers on the effectiveness of the strategies used to teach special needs learners can vary depending on the type of disability.

2.7. Population and Sample size of the Research:

The study targets EFL teachers in primary, middle, and secondary schools from different geographical regions. These teachers either specialized in special education programs or inclusive classes. Aiming to choose people with direct expertise in teaching English to special needs students, the sampling technique employed is purposive sampling which guarantees the insightful and pertinent data gathered. Only twenty-two from fifty questionnaires were usable for this research.

2.8. Tools of Research:

This study highlights on exploring innovative strategies and AI integration in English language teaching for special needs learners, targeting EFL teachers from different educational levels and cultural areas during the scholastic year 2024-2025. A mixed-methods research design will be used in this study to gather comprehensive data on the innovative strategies and AI integration into English language teaching for special needs learners.

The main data collection tool was a questionnaire, structured into both quantitative and qualitative sections, as it was the most appropriate instrument for reaching the objectives of the study. The aim of the questionnaire was to collect teachers' views on the efficacy of several teaching methods and the use of artificial intelligence (AI) in teaching English to special needs learners. It intends to evaluate traditional, communicative, and learner-centered approaches, investigate how artificial intelligence (AI) tools might improve learning, and highlight obstacles and support requirements.

The questionnaire consists of thirty-four questions, including five sections beginning with a personal information section, it gathers demographic and professional data like age, gender,

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academic qualification, years of experience, and teaching level. The second section consists of eleven questions which emphasizes traditional teaching strategies by using a Likert five-point scale to evaluate teacher engagement on techniques including translation, grammar instruction, and drill-based learning for special needs learners. The third part is composed of eighteen questions that assesses communicative and learner-centered approaches, investigating opinions on the use of real-life communication, visual aids, group work, and feedback in improving student involvement and language proficiency. The final part encompasses five questions on the role of artificial intelligence in teaching special needs learners through measuring attitudes on personalized learning platforms, assistive technology, and the efficacy of artificial intelligence tools in enhancing educational results for learners with special needs by focusing on their integration into school. The questionnaire ends with open-ended questions inviting instructors to discuss their views and suggestions on the use of artificial intelligence in special needs education, the obstacles they encounter, successful solutions they have applied, and the assistance they need.

The questionnaire was validated and piloted by three teachers before full distribution to ensure clarity and relevance. Data were collected by multiple modes of distribution (hard copies and Google forms) as they ensured accessibility and response rates.

Table N (3) illustrates the Likert five-point scale.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Source: prepared by the student

2.9. Data Analysis Methods:

- **Alpha Cronbach’s test:** is a statistical measure to assess the reliability of the questionnaire.
- **Frequency and Percentages:** to determine the traits of the study sample and their reactions to the direction of the words of questionnaires
- **Means and Standards Deviations:** The mean is the average; it indicates the usual value in a set of numbers. On the other hand, the standard deviation indicates how the distribution of the numbers are; it informs if the values are around the average or widely dispersed.

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- **Weighted arithmetic mean:** To determine the degree of decline of the answers of the members of the study sample on each of the terms of the study variables.

To identify the values of the arithmetic mean and discover the corresponding category, the following method was followed:

The range is calculated as the maximum value minus the minimum value: $5 - 1 = 4$. Then, the range is divided by the number of the categories, which are 5 categories: $4/5 = 0.8$.

The value (0.8) is added to the minimum threshold of the scale, resulting in the following:

Table N (4) illustrates the levels of the Likert five-point scale.

Weighted Average	Level
[1; 1.80[Very Low
[1.80; 2.60[Low
[2.60; 3.40[Medium
[3.40; 4.20[High
[4.20; 5[Very High

Source: Prepared by the student

2.10. Presentation and Discussion of Study Results:

In this section, the results of the research questions mentioned will be presented and analyzed.

2.10.1. Characteristics of the Study Sample:

The characteristics of the study sample refer to the personal data connected to the study sample of EFL teachers. Aiming at identifying their demographic characteristics, which were titled “personal information” in the distributed questionnaire and consisted of (age group, gender, academic qualification, years of teaching experience, and teaching level). This is to understand their influence on the study under consideration and can be elaborated as follows:

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- **Age Group Variable:** the sample for this variable in the study was divided into four age categories, as it is shown in the table below:

Table N (5): Distribution of sample members based on Age Group

Age Group	Frequency	Percent
Below 25 years	2	9.1
25- 35 years	7	31.8
36- 45 years	8	36.4
Above 45 years	5	22.7
Total	22	100

Source: Prepared by the student based on SPSS software outputs.

The data illustrates that the age group (36-45 years) has the highest percentage at 34.4% followed by 31.8% in the age group (25-35 years). While the smallest group, those under 25 years makes only 9.1%. Those above 45 years represent only 22.7% of the sample. This, to some extent, demonstrates that the sample is composed only of middle-aged individuals, which could affect views on teaching strategies and AI integration.

- **Gender Variable:** the study's sample for this variable was either male or female, as indicated in the table below:

Table N (6): Distribution of sample members based on Gender

Gender	Frequency	Percent
Male	4	18.2
Female	18	81.8
Total	22	100

Source: Prepared by the student based on SPSS software outputs.

The sample has 4 males (18.2%) and 18 females (81.8%). The gender distribution shows a higher representation of females than males in this sample. This result may refer to the reality of work in teaching special needs learners as it requires females' teachers to be more emotional and flexible to better understand the needs of learners.

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- **Academic Qualification Variable:** according to this variable, the academic qualification of the sample was distributed as illustrated in the following table:

Table N (7): Distribution of sample members based on Academic Qualification

Academic Qualification	Frequency	Percent
Bachelor's (Bsc)	6	27.3
Master's	14	63.6
PhD	2	9.1
Total	22	100

Source: Prepared by the student based on SPSS software outputs.

The majority of the EFL teachers hold a Master's degree (63%), (27.3%) with a Bachelor's degree, and (9.1%) with a PhD. Most of teachers in this distribution have advanced academic qualification, which could improve their ability to interact and apply innovative strategies, such as the inclusion of artificial intelligence in English language teaching for special needs learners. Among these academic qualifications, two teachers are professors of special education.

- **Years of Teaching Experience Variable:** this variable refers to the accumulation of years employed in a certain field. It provides the foundation for knowledge improvement and personal growth. The table below presents the responses of the sample.

Table N (8): Distribution of sample members based on years of teaching experience

Years of teaching experience	Frequency	Percent
Less than 5 years	4	18.2
6-10 years	9	40.9
11-15 years	1	4.5
More than 15 years	8	36.4
Total	22	100

Source: Prepared by the student based on SPSS software outputs.

Based on the statistical data, the highest number of EFL teachers (40.9%) have between 6-10 years of teaching experience; those with more than 15 years of experience comply with (36.4%). This suggests that most of the EFL teachers are highly experienced teachers who have probably

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faced various educational changes and teaching difficulties. On the other hand, new teachers (18.2%), who possess less than 5 years of experience and teachers with (11-15) years of experience (4.5%), offer to a certain degree an additional range of viewpoints on the teaching strategies and AI integration.

- **Teaching level Variable:** the teaching level variable of the sample was distributed as highlighted in the following table:

Table N (9): Distribution of sample members based on teaching level

Teaching Level	Frequency	Percent
Primary	7	31.8
Middle School	9	40.9
Secondary	6	27.3
Total	22	100

Source: Prepared by the student based on SPSS software outputs.

The data shows that most of EFL teachers teach at the middle school level (40.9%), which may indicate that middle school EFL teachers are engaged with innovative strategies and AI-based tools, followed by those teaching at the primary level (31.8%) could probably focus on foundational skills. while the secondary level (27.3%) might find challenges related to advanced material and learner particular requirements.

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2.10.2. Reliability of The Study Tool:

Table N (10): illustrates the overall reliability coefficient of the questionnaire Cronbach's Alpha Coefficient for the entire questionnaire

Cronbach's Alpha	N of Items
0.786	34

Source: Prepared by the student based on SPSS software outputs.

Cronbach's Alpha illustrates how positively items are related, that is being a reliability coefficient. A result near one indicates the degree of reliability in this test. Cronbach's Alpha 0.786 which identify that the 34 items are reliably measuring teaching strategies and AI integration in English language teaching for special needs learners.

2.10.3. Descriptive Statistical Analysis of study results:

In this section, the results of the study hypotheses will be presented and analyzed.

– **Teaching Strategies:**

To answer the research question number one “in what ways are traditional teaching strategies employed by EFL teachers to meet the requirements of special needs learners”? we use means and standards deviations of the responses of the study sample towards the teaching strategies items.

– **Traditional Teaching strategies for Special Needs learners:**

In this part, we answer the research question in relation to how EFL teachers employ traditional teaching strategies towards special needs learners.

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Table N (11): means, standards deviations and level of the responses of the study sample; EFL teachers towards traditional teaching strategies

N	Items	Mean	Standard Deviation	Level
1	Translating texts enhances the comprehension of special needs learners.	3.77	1.02	High
2	Translating texts and passages helps maintain special needs learners' interest in the class.	3.73	0.88	High
3	Teaching grammatical rules improves special needs learners' creative writing skills.	3.95	0.84	High
4	Grammatical activities help assess the understanding of special needs learners.	4.14	0.77	High
5	Translating from the target language to Arabic (or local dialect) efficiently builds vocabulary.	3.77	1.11	High
6	Translation-based teaching is time-saving and simplifies explanations.	3.45	1.10	High
7	Authentic listening activities (e.g., real-life audio recordings) are difficult for special needs learners.	2.82	1.22	Medium
8	Repetitive drills and memorization improve pronunciation in special needs learners	4.45	0.67	Very High
9	Drill-based methods accelerate learning for special needs learners.	4.00	1.06	High
10	Memorizing vocabulary and grammar patterns helps special needs learners gradually develop their speaking skills.	4.14	0.64	High
11	Overemphasizing listening and speaking skills may hinder the development of other language skills.	2.77	1.11	Medium
Traditional Teaching Strategies		3.72	0.43	High

Source: Prepared by the student based on SPSS software outputs.

This table shows the means and standard deviations of the EFL teachers' responses towards the dimension of “**traditional teaching strategies**” and the level of the research question “in what ways are traditional teaching strategies employed by EFL teachers to meet the requirements of special needs learners”? Which was measured on eleven items. The results shown in the table indicate that the general mean for the dimension of “**traditional teaching strategies**” has reached (3.72) of the total scale area and a standard deviation of (0.43), which indicates the level of employing traditional teaching strategies to meet the requirements of special needs learners in English language teaching is evident, to a high degree, in EFL teachers. It also noted that statement

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No. (8) “Repetitive drills and memorization improve pronunciation in special needs learners”. has a highest estimate with a high mean of (4.45) and a standard deviation of (0.67), and statement No. (11) “Overemphasizing listening and speaking skills may hinder the development of other language skills” shows the lowest estimate with a mean of (2.77), which identifies a mean with a medium degree and a standard deviation of (1.11).

Based on the above results, one can conclude that EFL teachers strongly prefer traditional teaching methods when teaching special needs learners. Consequently, these methods are seen as effective for improving vocabulary, understanding, pronunciation, and speaking skills, which provide a clear structure and support, making learning easier for special needs learners. However, the medium degree demonstrates some concerns on the necessity of using real-life listening materials and emphasizing speaking and listening. To sum up, although traditional methods are favored, a balanced communicative learner approach may be helpful for addressing special needs learners.

- Communicative and Learner-Centered Approaches:

The research question number two “how do EFL teachers implement communicative and learner-centered approaches to engage learners with special needs”? will be answered in this part.

Table N (12): Means, Standards Deviations and Level of the Responses of the Study Sample of EFL Teachers Towards Communicative Learner-Centered Approaches.

N	Items	Mean	Standard Deviation	level
1	Encouraging special needs learners to communicate enhances their speaking skills.	4.55	0.51	Very High
2	Listening to audio materials improves the listening comprehension of special needs learners.	4.41	0.66	Very High
3	Using pictures or real-life objects (realia) enhances learning for special needs learners.	4.86	0.35	Very High
4	Prioritizing listening and speaking skills encourages special needs learners' participation.	4.05	0.65	High
5	Lack of native language support makes comprehension and learning more challenging.	3.50	1.14	High

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6	Providing positive feedback encourages student engagement in the learning process.	4.18	1.22	High
7	Pronunciation practice is particularly challenging for special needs learners.	3.68	1.3	High
8	Encouraging learners to imitate words modeled by the teacher enhances pronunciation.	4.32	0.56	Very High
9	Engaging special needs learners in real-life communication enhances their fluency.	4.55	0.80	Very High
10	Group discussions and task-based activities improve educational progress for special needs learners.	4.45	0.67	Very High
11	Making errors is a natural part of the learning process for special needs learners.	4.23	0.68	Very High
12	Large class sizes present challenges for special needs learners.	4.05	1.6	High
13	Balancing communication, accuracy, and grammatical correctness is difficult to achieve.	3.95	0.89	High
14	Focusing on real-life communication rather than grammar benefits special needs learners.	4.00	0.97	High
15	Introducing relevant vocabulary increases special needs learners' motivation.	4.00	0.61	High
16	Participation in meaningful communication improves English proficiency in special needs learners.	4.50	0.59	Very High
17	Designing enjoyable and meaningful tasks helps develop social and communication skills.	4.68	0.56	Very High
18	Providing guidance and support strengthens the self-esteem of special needs learners.	4.59	0.50	Very High
Communicative Learner-Centred Approaches		4.25	0.34	Very High

Source: Prepared by the student based on SPSS software outputs.

The table highlights the means and standard deviations of the EFL teacher's responses towards the dimension of **communicative learner-centered approaches** and the level of the research question "how do EFL teachers implement communicative and learner-centered approaches to engage learners with special needs"? Based on eighteen items. The results illustrated in the table indicate that the general indicator for the dimension of "**communicative learner-centered approaches**" has reached **(4.25)** of the total scale area, which present that the level of approaches implemented

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by EFL teachers in order to engage learners with special needs in English language teaching stemmed, to a very high degree, from the EFL teachers. It is noted that the highest estimate with a very high mean (**4.86**) and a standard deviation of (**0.35**) as seen in statement No. (3) “Using pictures or real-life objects (realia) enhances learning for special needs learners. Moreover, in statement No. (5) “Lack of native language support makes comprehension and learning more challenging” has the lowest estimate with a mean of (**3.50**), which indicates a mean with a high degree and standard deviation of (**1.14**).

To sum up, the most used strategy in teaching special needs learners is Communicative Language Teaching (CLT), if the goal is to promote communication. Implementing Task Based Language Teaching (TBLT) when the purpose is in completing meaningful tasks is encouraged; using pictures or realia can align with both CLT and TBLT, depending on the way they are used. Moreover, EFL teachers highly believe in communicative learner-centered approaches as these approaches help the language development and promote interaction, motivation, and assist in the development of social and communication skills. Additionally, group discussions, task-based learning, and offering positive feedback are considered a vital aspect in enhancing an inclusive and supportive learning environment for special needs learners.

- Role of Artificial Intelligence in Teaching Special Needs Learners:

This section answered the research question number three related to “To what extent is artificial intelligence integrated into EFL instruction for learners with special needs?”

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Table N (13): Means, Standards Deviations and Level of the Responses of the Study Sample EFL Teachers Towards the Role of Artificial Intelligence in Teaching Special Needs Learners.

N	Items	Mean	Standard Deviation	Level
1	Personalized learning platforms enhance the teaching of special needs learners.	3.91	0.75	High
2	Visual teaching methods provide concrete representations of abstract concepts for special needs learners.	4.36	0.65	Very High
3	Assistive technology tools improve the quality of education for special needs learners.	4.23	0.68	Very High
4	Sensory processing tools help adjust visual and auditory inputs for special needs learners.	3.95	0.65	High
5	Using educational games makes learning easier and more engaging for special needs learners.	4.59	0.73	Very High
The Role of Artificial Intelligence		4.20	0.46	Very High

Source: Prepared by the student based on SPSS software outputs.

The table showcases the means and standard deviations of the EFL teacher's responses towards the dimension of **the role of artificial intelligence** and the level of the research question "To what extent is artificial intelligence integrated into EFL instruction for learners with special needs? measured on five items. The results demonstrated in the table that the general mean for the dimension of "**the role of artificial intelligence**" reached **(4.20)** of the total scale area, which present that the level of integrating AI into EFL instruction for learners with special needs in English language teaching scored to a very high degree from the EFL teachers. It is highlighted that the highest estimate with a very high mean **(4.59)** and a standard deviation of **(0.73)** in statement No. (5) "Using educational games makes learning easier and more engaging for special needs learners". In statement No. (1) "Personalized learning platforms enhance the teaching of special needs learners" has the lowest estimate with a mean of **(3.91)**, which notes a mean with a high degree and standard deviation of **(0.75)**.

By making classes more engaging, tailored, and accessible, EFL teachers have some high expectations on artificial intelligence and digital tools that significantly help special needs learners.

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the use of AI tools in special education can be effective when paired with instructional games, assistive devices to clarify complex concepts and support various learning preferences.

- **Thematic Analyses:**

Thematic analyses were used in order to answer the research question number four “What are the opinions and experiences of EFL teachers regarding the effectiveness of these strategies?” and to explore the experiences, and points of view of English language teachers working with special needs learners. (Braun & Clarke, 2006) describe thematic analysis to identify, analyze, and interpret patterns or themes within qualitative data. Open-ended responses provided data that were evaluated using Braun and Clarke’s (2006) six- step method, which involves familiarizing with data, generating initial codes, searching or identifying themes, reviewing themes, defining themes, and producing the final report. Through this method, the study produced four main themes: **Teaching Challenges, Effective Teaching Strategy, Resources Needed, and The Role of AI in Special Needs Education.**

Theme 1: Teaching Challenges

This theme highlights the difficulties teachers deal with special needs learners. The answers showed ongoing problems connected to:

- **Lack of training and support:** multiple teachers cited inadequate professional growth and insufficient support from parents and schools.

“Lack of trained teachers”.

“no support from the parents”.

- **Diversity of learner needs:** teachers find it difficult to handle different learning preferences, and levels of knowledge.

“individual differences”.

“they have not the same capacity of understanding”.

- **Limited resources:** effective teaching may be influenced by large class sizes, insufficient time, and limited materials.

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“crowded classes”.

“insufficient time”.

- **Barriers to communication:** frequent problems with learners understanding, vocabulary, and pronunciation.

“pronouncing and spelling English words correctly”.

Theme 2: Effective Teaching Strategies

Teachers identify numerous strategies that are useful when dealing with special needs learners including:

- **Visual and multimedia aids:** recognized as pivotal tools to enhance understanding.

“visual aids combined with hand-on activities”.

“pictures and videos”.

- **Game based and interactive learning:** the use of games and real-life help maintain learner engagement.

“using games”.

“game-based learning and authentic strategies”.

- **Multisensory and differentiated methods:** teachers often design lessons using various senses and tailored strategies.

“multisensory teaching, scaffolding”.

“differentiated instruction”.

- **Parental participation and native language use:** understanding was aided by cooperation and explanation in the mother tongue.

“collaboration with parents”.

“using the GTM method”.

Theme 3: Required Assistance and Resources:

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Participants underline the necessity of additional resources and support systems that would improve the level of instruction:

- **Training for specialized teachers:** most answers advocated continuous professional growth.

“need more training to improve the ability to teach learners with special needs”.

- **Adaptive tools and assistive technologies:** like braille books, flashcards, adoptive content were frequently mentioned.

“books of braille”.

“flashcards/ images”.

- **Reduced class size:** educators recommended lowering the number of learners to give more personal attention.

“smaller classes”.

- **Adapted materials and real-life:** real world objects and hands-on tools were considered necessary.

“real situations and game-based resources”.

Theme 4: Role of AI in Special Needs Education

Most teachers viewed artificial intelligence favorably and underlined its possible advantages.

- **Adaptive and personalized learning:** AI tools enable the tailoring of learning environments to fit personal requirements.

“personalize the learning according to the needs of learners”.

- **Tools for communication and feedback:** including text-to speech technologies and real-time feedback, which help to foster involvement.

“speech and text to sign language, offering intermediate feedback”.

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- **Improving accessibility:** many teachers see artificial intelligence as a means of increasing accessibility and inclusiveness of materials.

‘It enriches the learning experience of special needs learners’.

Discussion:

The thematic analysis of open-ended responses stated four main themes that revealed EFL teachers’ experiences and opinions regarding teaching learners with special needs. Teaching challenges highlighted important problems including lack of training, experiencing learners with different requirements, limited resources, and communication difficulties. Despite these obstacles, teachers discovered a number of effective teaching strategies that are designed to keep learners interested and meet their specific needs such as using visual aids, learning through games, using multiple senses, and involving parents. The theme “required assistance and resources” stressed the significance of both educators and learners to have access to a continuous professional growth, adaptable tools, reduced class sizes, and authentic learning materials. Furthermore, many teachers agreed that AI would potentially be helpful in special needs education as it could make learning more personal, increase interaction, and improve accessibility. Ultimately, these results might suggest that EFL teachers face a lot of problems in special needs situations, however targeted approaches and integrating technology like AI could make education more inclusive for various learners.

2.11. Results of The Hypotheses:

As a final point, the results showed that EFL teachers still use conventional methods like translation, teaching grammar, and engaging in repetitive exercises. These methods remain successful for some types of learners, especially those who have problems with language, hearing, or thinking. This result confirms hypothesis 1 “Teachers who use traditional strategies, such as repetition, and teaching grammar could be effective in supporting the language acquisition for special needs learners”. which claims that despite of the fact that traditional methods have some drawbacks, however they supply structure for many special needs learners and predictability they require.

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The analysis indicated that communicative and learner-centered approaches, such as Task-Based Language Teaching (TBLT), Communicative Language Teaching (CLT) were quite common. Teachers expressed the importance of using real-life communication tasks and visual aids. These findings support hypothesis 2 “Communicative and learner-centered approaches like adaptive materials and technology- assisted learning may help in addressing the individual learning needs of special needs learners and enhancing their engagement and participation” shows that these types of approaches follow the study's theoretical framework, which is based on inclusive and constructivist ideas.

The results for Hypothesis 3 “The integration of AI tools in EFL classes for learners with special needs could be minimal due to their technological, pedagogical, and accessibility barriers” were not clear. AI is not yet widely used in EFL classes for learners with special needs, but teachers considered the use of AI would be helpful. As they said, personalized learning platforms, assistive speech technology, and educational games were useful. This illustrates a big difference between the hypothesis and the results. As a result, the hypothesis was predicted based on the Algerian educational system in which teachers have not received the right training on how to use AI tools.

Hypothesis 4” The perceptions of EFL teachers on the effectiveness of the strategies used to teach special needs learners can vary depending on the type of disability” was supported by qualitative findings that allowed to get a full comprehension of how AI and teaching strategies are integrated in real EFL classrooms. The study not only uncovered statistical patterns, but it also included the real-life experiences of teachers who engage in inclusive teaching. Moreover, this indicates the significance of providing different types of instruction and assistance for each learner which is a key part of both UDL and inclusive education which added a degree of validity to the study.

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Conclusion:

This chapter examined the way innovative strategies and artificial intelligence are integrated into English language teaching for special needs learners through using a mixed methods approach. Questionnaires delivered EFL teachers' practices and learner needs in both quantitative data and qualitative analyses.

Moreover, EFL teachers were selected purposively for their relevant experience, and research methods were cautiously designed and reviewed, which provided an adequate foundation for assessing the impact of innovative strategies and artificial intelligence on special needs learners' language acquisition, hence the analyses reported that although EFL teachers continue to depend on traditional methods for basic skills, they favor communicative and learner-centered approaches that promote additional contribution. Additionally, EFL teachers value artificial intelligence for allowing teachers to customize education and assist accessibility.

Therefore, teaching special needs learners is beneficial with a mix of traditional strategies, interactive approaches, and artificial intelligence tools resulting in offering insightful analyses for future studies and educational practices.

General Conclusion

General Conclusion:

The study examined the innovative teaching strategies and AI tools integration in English language teaching (ELT) for learners with special needs. In particular, the study aimed to investigate how EFL teachers use both traditional and learner-centered methods, the extent of the use of AI in inclusive classrooms, and precisely the perceptions of EFL teachers regarding the effectiveness of these strategies. The main purpose was to discover effective approaches to improve educational fairness, access, and language skills for learners with different learning disabilities.

The study is a descriptive case study that includes both quantitative and qualitative data from structured Likert five-point scale surveys and qualitative insights from open-ended teacher responses. Additionally, a sample of 22 EFL teachers from different teaching levels (primary, middle, secondary) across different educational regions during the 2024-2025 academic year participates in the study. Participants are chosen on purpose due to their experience in teaching learners with special educational needs, either in regular or special education settings.

The study encompasses two main chapters. The first chapter provides the groundwork for the study by explaining the theories that were based on: Constructivism, Inclusive Education Theory, and Universal Design for Learning (UDL). Moreover, which explores a variety of traditional and innovative approaches in ELT, such as the Grammar Translation Method (GTM), Direct Method, Audiolingual Method, Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), and Project-Based Learning (PBL). The study investigates how can AI work with these methods to make learning accessible. The second chapter covers research methods and results, including the design, variables, data collection tools, statistical analyses, and a thematic analysis of teacher experiences.

The results showed that EFL teachers are still relying on conventional methods like translation, teaching grammar, and repetition. Which proves effective for learners with language, hearing, or thinking challenges. This supports the first hypothesis, affirming that traditional methods supply structure for many special needs learners and predictability they require.

The analysis indicated that communicative and learner-centered approaches, such as Task-Based Language Teaching (TBLT), Communicative Language Teaching (CLT) are commonly used. Teachers expressed the importance of using real-life communication tasks and visual aids,

reinforcing the second hypothesis that adaptive, interactive methods improve engagement and meet diverse learning needs.

The results regarding the integration of AI tools in EFL classes for learners with special needs, as addressed in the third hypothesis, indicate that while AI is not yet widely used in EFL classes for learners with special needs, teachers considered it helpful. They believe that personalized learning platforms, assistive speech technology, and educational games are beneficial. However, technological, pedagogical, and accessibility barriers still exist, especially due to limited training in the Algerian educational context.

The qualitative data supports the fourth hypothesis, showing that teacher opinions on effectiveness of the strategies vary depending on the type of disability. Real-life experiences of teachers confirm the value of differentiated instruction.

In conclusion, this study concludes that EFL teachers may aid learners with special needs when they use a mix of traditional strategies, communicative approaches, and AI-enhanced tools that are flexible. To make AI a useful and long-lasting part of inclusive teaching, though, it needs support at the system level, which may result in professional development, policy changes, and investments in technology. Additionally, this study serves to make ELT more inclusive by showing that all learners, no matter what their impairment, can access, take part in, and profit from meaningful language education. It demands teachers, schools, and governments to make a new commitment to making sure that new teaching methods are in accordance with accessibility, fairness, and the needs of all learners.

Teachers' Recommendations for improving AI use in Teaching Special Needs Learners:

Based on the responses to the open-ended question, Teachers provided a lot of helpful insights on how to better use artificial intelligence (AI) in the classroom with special needs learners. One important suggestion was to make sure that AI tools are accessible to learners with a wide range of disabilities, such as those that affect vision, hearing, cognition, or speech. Text-to-speech software, audio prompts, and color-coded images were mentioned as beneficial tools for making learning more accessible. Several teachers stressed the crucial role of AI for both teachers and learners to learn how to use AI in a smart and useful way. Teachers were worried that relying too much on AI-assisted technology could make learners less active and less likely to interact with others in meaningful ways. In addition, they highlighted that AI is to some extent a helpful tool,

still not a replacement for teacher direction. Another prominent recommendation was to include teachers in the design of AI tools, which may help to make sure that the tools match genuine teaching demands and reflect the way that inclusive education works. Teachers also emphasized the importance of implementing professional development programs, regular seminars, and ongoing support for remaining up to date on new AI-based methods. They also said that teaching methods should be based on each learner's needs and that AI should only be used when it is needed. Some useful recommendations have been proposed, such as lowering class sizes, using multi-sensory methods, and building communication and self-esteem by focusing on what learners' individual strengths and abilities. To sum up, the answers show a balanced view: EFL teachers see the benefits of AI but want it to be used in a careful, guided, and learner-centered way, with the right training and design that includes every individual.

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Appendices

Appendix 01: Questionnaire of The Study

Dear Teachers,

Thank you for agreeing to participate in this important study on “**Exploring Innovative Strategies and AI Integration in English Language Teaching for Special Needs Learners: A Case Study**”. Your insights and opinions will help assess the effectiveness and applicability of various teaching strategies for special needs students.

This survey should only take a few minutes to complete. Thank you

Submitted by: YOUSFI Soumia

Under the supervision of: Dr. BOUMEDIENE Houda

Part 1: Personal Information

1. Age Group:

- Below 25
- 25 – 35
- 36 – 45
- Above 45

2. Gender:

- Female
- Male

3. Academic Qualification:

- PhD
- Master's
- Bachelor's (BSc)
- Other (please specify): _____

4. Years of Teaching Experience:

- Less than 5 years
- 6 – 10 years

- 11 – 15 years
- More than 15 years

5. Teaching Level:

- Primary
- Middle School
- Secondary

Part 2: Traditional Teaching Strategies for Special Needs learners

Please indicate the extent to which you agree or disagree with the following statements.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Translating texts enhances the comprehension of special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Translating texts and passages helps maintain special needs learners' interest in the class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Teaching grammatical rules improves learners' creative writing skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Grammatical activities help assess the understanding of special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Translating from the target language to Arabic (or local dialect) efficiently builds vocabulary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Translation-based teaching is time-saving and simplifies explanations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Authentic listening activities (e.g., real-life audio recordings) are difficult for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Repetitive drills and memorization improve pronunciation in special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Drill-based methods accelerate learning for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10. Memorizing vocabulary and grammar patterns helps special needs learners gradually develop their speaking skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Overemphasizing listening and speaking skills may hinder the development of other language skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part 3: Communicative and learner -Centered Approaches

Please indicate the extent to which you agree or disagree with the following statements.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12. Encouraging special needs learners to communicate enhances their speaking skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Listening to audio materials improves the listening comprehension of special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Using pictures or real-life objects (realia) enhances learning for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Prioritizing listening and speaking skills encourages special needs learners' participation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Lack of native language support makes comprehension and learning more challenging.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Providing positive feedback encourages student engagement in the learning process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Pronunciation practice is particularly challenging for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Encouraging learners to imitate words modeled by the teacher enhances pronunciation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Engaging special needs learners in real-life communication enhances their fluency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Group discussions and task-based activities improve educational progress for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Making errors is a natural part of the learning process for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
23. Large class sizes present challenges for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Balancing communication, accuracy, and grammatical correctness is difficult to achieve.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Focusing on real-life communication rather than grammar benefits special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Introducing relevant vocabulary increases special needs of learners' motivation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Participation in meaningful communication improves English proficiency in special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Designing enjoyable and meaningful tasks helps develop social and communication skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Providing guidance and support strengthens the self-esteem of special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part 4: The Role of Artificial Intelligence in Teaching Special Needs learners

Please indicate the extent to which you agree or disagree with the following statements.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
30. Personalized learning platforms enhance the teaching of special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Visual teaching methods provide concrete representations of abstract concepts for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Assistive technology tools improve the quality of education for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Sensory processing tools help adjust visual and auditory inputs for special needs learners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Using educational games makes learning easier and more engaging for special needs students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final Notes: Please take a moment to share your insights into the following:

- What are the most significant challenges you face when teaching English to special needs learners?

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- In your experience, which teaching strategies have been the most effective for special needs learners? Why?

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- What additional resources or support would help you improve your teaching methods for special needs learners?

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- How do you perceive the role of AI in enhancing special needs education?

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- What recommendations do you suggest for improving the use of AI in teaching special needs learners?

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Appendix 02 : SPSS Outputs

```
RELIABILITY
/VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18
Q19 Q20 Q21 Q22 Q23 Q24
Q25 Q26 Q27 Q28 Q29 Q30 Q31 Q32 Q33 Q34
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.
```

Reliability

Notes

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Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	22
	Matrix Input	C:\Users\stormpc\OneDrive\Documents\semsem.sav
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

Cases Used		Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26 Q27 Q28 Q29 Q30 Q31 Q32 Q33 Q34 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

[DataSet1] C:\Users\stormpc\OneDrive\Documents\semsem.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	22	100.0
	Excluded ^a	0	.0
	Total	22	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.786	34

```

FREQUENCIES VARIABLES=age_group gender academic_qualification
years_of_teaching_experience
    teaching_level
/ORDER=ANALYSIS.

```

Frequencies

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax	FREQUENCIES VARIABLES=age_group gender academic_qualification years_of_teaching_experience teaching_level /ORDER=ANALYSIS.	
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Statistics

		age_group	gender	academic_qualification	years_of_teaching_experience	teaching_level
N	Valid	22	22	22	22	22
	Missing	0	0	0	0	0

Frequency Table

age_group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 25	2	9.1	9.1	9.1
	25-35	7	31.8	31.8	40.9
	36-45	8	36.4	36.4	77.3
	above 45	5	22.7	22.7	100.0
	Total	22	100.0	100.0	

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	4	18.2	18.2	18.2
	female	18	81.8	81.8	100.0
	Total	22	100.0	100.0	

academic_qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PhD	2	9.1	9.1	9.1
	Master's	14	63.6	63.6	72.7
	Bachelor's (BSc)	6	27.3	27.3	100.0
	Total	22	100.0	100.0	

years_of_teaching_experience

		Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	less than 5 years	4	18.2	18.2	18.2
	6-10 years	9	40.9	40.9	59.1
	11-15 years	1	4.5	4.5	63.6
	more than 15 years	8	36.4	36.4	100.0
	Total	22	100.0	100.0	

teaching_level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	primary	7	31.8	31.8	31.8
	middle school	9	40.9	40.9	72.7
	secondary	6	27.3	27.3	100.0
	Total	22	100.0	100.0	

```
DESCRIPTIVES VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 X1 Q12 Q13 Q14 Q15
Q16 Q17 Q18 Q19 Q20
      Q21 Q22 Q23 Q24 Q25 Q26 Q27 Q28 Q29 X2 Q30 Q31 Q32 Q33 Q34 X3
/STATISTICS=MEAN STDDEV.
```

Descriptives

Notes

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	Split File	<none>
	N of Rows in Working Data File	

Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 X1 Q12 Q13 Q14 Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26 Q27 Q28 Q29 X2 Q30 Q31 Q32 Q33 Q34 X3 /STATISTICS=MEAN STDDEV.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Descriptive Statistics

	N	Mean	Std. Deviation
Translating texts enhances the comprehension of special needs learners.	22	3.77	1.020
Translating texts and passages helps maintain special needs learners' interest in the class.	22	3.73	.883
Teaching grammatical rules improves special needs learners' creative writing skills.	22	3.95	.844
Grammatical activities help assess the understanding of special needs learners.	22	4.14	.774
Translating from the target language to Arabic (or local dialect) efficiently builds vocabulary.	22	3.77	1.110
Translation-based teaching is time-saving and simplifies explanations.	22	3.45	1.101
Authentic listening activities (e.g., real-life audio recordings) are difficult for special needs learners.	22	2.82	1.220

Repetitive drills and memorization improve pronunciation in special needs learners.	22	4.45	.671
Drill-based methods accelerate learning for special needs learners.	22	4.00	1.069
Memorizing vocabulary and grammar patterns helps special needs learners gradually develop their speaking skills.	22	4.14	.640
Overemphasizing listening and speaking skills may hinder the development of other languages skills.	22	2.77	1.110
TTS	22	3.7273	.43824
Encouraging special needs Learners to communicate enhances their speaking skills.	22	4.55	.510
Listening to audio materials improves the listening comprehension of special needs learners.	22	4.41	.666
Using pictures or real-life objects (realia) enhances learning for special needs learners.	22	4.86	.351
Prioritizing listening and speaking skills encourages special needs learners' participation.	22	4.05	.653
Lack of native language support makes comprehension and Learning more challenging.	22	3.50	1.144
Providing positive feedback encourages student engagement in the learning process.	22	4.18	1.220
Pronunciation practice is particularly challenging for special needs learners.	22	3.68	1.393

Encouraging learners to imitate words modeled by the teacher enhances pronunciation.	22	4.32	.568
Engaging special needs learners in real-life communication enhances their fluency.	22	4.55	.800
Group discussions and task-based activities improve educational progress for special needs learners.	22	4.45	.671
Making errors is a natural part of the learning process for special needs learners.	22	4.23	.685
Large class sizes present challenges for special needs learners.	22	4.05	1.362
Balancing communication, accuracy, and grammatical correctness is difficult to achieve.	22	3.95	.899
Focusing on real-life communication rather than grammar benefits special needs learners.	22	4.00	.976
Introducing relevant vocabulary increases special needs learners' motivation.	22	4.00	.617
Participation in meaningful communication improves English proficiency in special needs learners.	22	4.50	.598
Designing enjoyable and meaningful tasks helps develop social and communication skills.	22	4.68	.568
Providing guidance and support strengthens the self-esteem of special needs learners.	22	4.59	.503
CLC	22	4.2525	.34873

Personalized learning platforms enhance the teaching of special needs learners.	22	3.91	.750
Visual teaching methods provide concrete representations of abstract concepts for special needs learners.	22	4.36	.658
Assistive technology tools improve the quality of education for special needs learners.	22	4.23	.685
Sensory processing tools help adjust visual and auditory inputs for special needs learners.	22	3.95	.653
Using educational games makes learning easier and more engaging for special needs students.	22	4.59	.734
AI	22	4.2091	.46793
Valid N (listwise)	22		

تستكشف هذه الدراسة استراتيجيات التدريس المبتكرة ودمج الذكاء الاصطناعي في تعليم اللغة الإنجليزية (ELT) للمتعلمين من ذوي الاحتياجات الخاصة، في ظل الاهتمام المتزايد بالتعليم الشامل. فعلى الرغم من تقدم استراتيجيات التعليم الشامل في الدول النامية، إلا أن هناك نقصاً واضحاً في الأبحاث التجريبية التي توضح كيفية استخدام تقنيات الذكاء الاصطناعي بفعالية في أقسام تعليم اللغة الإنجليزية كلغة أجنبية (EFL) لذوي الاحتياجات الخاصة، خاصة في منطقة الشرق الأوسط وشمال إفريقيا. (MENA) تهدف الدراسة إلى معالجة كيفية قيام معلمي اللغة الإنجليزية بمساعدة المتعلمين من ذوي الاحتياجات الخاصة من خلال تطبيق استراتيجيات تدريس تقليدية، تواصلية، ومدعومة بالذكاء الاصطناعي. تتبنى الدراسة تصميمًا بحثيًا يجمع بين الأساليب الكمية والنوعية، ويشمل بيانات من استبيان باجابات محددة وإجابات مفتوحة موجهة لمعلمي اللغة الإنجليزية في مستويات تعليمية مختلفة. تستخدم الدراسة برنامج الحزم الإحصائية للعلوم الاجتماعية SPSS لتحليل البيانات الكمية، بينما تعتمد التحليل الموضوعي لفحص الإجابات النوعية. تشير النتائج إلى أن الأساليب التقليدية مثل الترجمة، ودروس القواعد، والتدريبات التكرارية تعتبر فعالة ومفيدة في تقديم بنية واضحة لبعض أنواع المتعلمين من ذوي الاحتياجات الخاصة. في حين أن الأساليب التي تركز على التواصل والمتعلم، مثل التعلم القائم على المهام (TBLT) والتدريس التواصلي للغة (CLT)، أثبتت قدرتها بشكل كبير على تعزيز اهتمام المتعلمين، ومهاراتهم اللغوية، ومشاركتهم داخل القسم. بالإضافة إلى ذلك، يرى معلمو اللغة الإنجليزية أن أدوات الذكاء الاصطناعي يمكن أن تفيد المتعلمين من ذوي الاحتياجات الخاصة من خلال توظيف تقنيات مثل الألعاب وبرامج تحويل النص إلى كلام، ومع ذلك لا تزال هناك تحديات مثل قلة الموارد، وكبر حجم الأقسام، وضعف الدعم الأسري. وفي الختام، توصي الدراسة بضرورة اعتماد نهج تدريسي متوازن وشامل يجمع بين الأساليب التقليدية، والمقاربات التفاعلية، وأدوات الذكاء الاصطناعي. كما تؤكد على أهمية تحسين جودة تعليم اللغة الإنجليزية لذوي الاحتياجات الخاصة من خلال التطوير المهني، والاستثمار المؤسسي، والإصلاحات السياسية. بالإضافة إلى ذلك، توفر الدراسة معلومات مفيدة في مجالات التعليم الشامل، وتكنولوجيا التعليم، وأساليب تدريس اللغة الإنجليزية، ونصائح عملية للأفراد الذين يهدفون إلى إنشاء بيئات تعلم لغوي أكثر شمولاً وسهولة.

الكلمات المفتاحية: استراتيجيات التدريس المبتكرة، دمج الذكاء الاصطناعي، تدريس اللغة الإنجليزية، المتعلمون من ذوي

الاحتياجات الخاصة