

Application of Multimodal Teaching in TESOL and its Impact on Learners' Language Acquisition

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Abstract:

The importance of multimodality in TESOL has been apparent in the area of language teaching due to the rapid advancement of technology and the wide range of learning environments. This paper critically evaluates the multimodal teaching method in TESOL and its influence on language acquisition, utilising a theoretical discussion approach. The study employs multimodal theory as its primary research framework and sociocultural theory as its secondary research framework, focusing on the reasons, implementation, and impact of multimodal teaching. The paper provides a brief overview of TESOL's application of multimodality application in TESOL, then identifies its key impacts on learners' language acquisition. These impacts, comprising areas of cognition, affection, and skills, are categorised according to the multimodal and sociocultural theory for detailed analysis. Through the theoretical discussion, this paper unveils that the usage of multimodality in TESOL can greatly build up learners' language skills as well as increase cross-cultural communication capabilities. By evaluating the application and influences in multimodal teaching, the study aims to offer insights that may benefit future research and teaching practice. The paper's conclusion acknowledges its limitations and suggests future directions.

Keywords: Multimodality; TESOL; Theoretical discussion; Language acquisition.

1. Introduction

1.1 Research Background and Current Status

The advancement of modern technology has significantly changed people's daily lives and communication modes. Traditional educational settings have been replaced by multiple complex approaches that encompass auditory, visual, and digital modalities. Lim and his colleagues highlight that critical, creative, and culturally responsive multimodal pedagogies are often assessed and the effect on multimodal learning is drawing public attention [1]. The same changes have been made to language instruction in Teaching English to Speakers of Other Languages (TESOL). In the context of English learner (EL) education, multimodality is seen as both vital and transformational for ELs in the modern day, and as a prerequisite for participating in disciplinary procedures [2].

Language serves as a cultural transmitter. It is widely acknowledged that a foreign language learner will inevitably be exposed to the targeted culture. With the alteration from a traditional TESOL setting to a multimodal one, the competence of students' cross-cultural communication, as a result, changes accordingly. According to Jiang and

Tang, the development of cross-cultural communication abilities is enhanced by the use of multimodal reasonable determination and selection that includes cultural introduction [3]. The process of globalisation makes it imperative to improve one's cross-cultural communication skills alongside the multimodal teaching efficacy in TESOL.

Despite the significance of multimodality in teaching, there are challenges underlying in the field [4]. The first concern is that teachers do not always with an in-depth knowledge of the implications of this pedagogy, revealing a lack of fundamental understanding of the relationships between modalities, critical use of modes, affective demands, and cross-cultural awareness. Second, learners of second language acquisition face various challenges due to their cognitive abilities or the subject's complexity. In addition, multimodality has to look for more suitable ways to process language and develop particular competencies and skills that are pertinent to students in higher education. Last but not least, the evaluation of multimodality and its various modes is still in its infancy as it has to organise language with other modes and at the same time consider the interaction of multiple factors, such as spoken language, eye contact, facial expressions, words,

movements, films, and so forth.

1.2 Research Questions and Objectives

Even though multimodal teaching in TESOL has a lot of potential, a thorough study of its precise implementation strategies, effects, and difficulties is still lacking. Therefore, this study aims to investigate successful methods for integrating multimodal teaching in TESOL, assess its impact on second language acquisition, and identify the primary challenges and opportunities encountered during implementation.

Research Questions:

1. How do multimodal teaching strategies in TESOL influence learners' language acquisition?
2. What are the main challenges and opportunities encountered during this process?

Research Objectives: To examine the application and effectiveness of multimodal teaching strategies in TESOL, assessing their impact on language acquisition and identifying the challenges and opportunities that arise during application to encourage advancements in the area.

Through exploring these research questions and achieving these objectives, this study seeks to provide valuable insights and guidance for the multimodal teaching theory and practice in the field of TESOL.

1.3 Methodology

1.3.1 Theoretical framework

The study integrates Multimodal Theory and Sociocultural Theory to frame the exploration of multimodal teaching in TESOL.

Multimodal Theory, the primary framework, is based on Kress et al.'s idea of Multimodal Discourse which analyses how text integrates with sound, music, vision, colour, and language [5]. In this paper, Multimodal Theory posits that learning extends beyond verbal language to include visual, auditory, gestural, and other modes of communication.

Sociocultural Theory, serving as the secondary framework, highlights the significance of social interaction and cultural environment in the learning process, which strengthens the study. The Sociocultural Theory is a method for instruction and cognitive growth that takes into account the various interactions that people may have with their surroundings, as proposed by Vygotsky [6].

The collective use of these theories establishes a theoretical framework to guide the analysis of multimodal practices and their impacts on TESOL teaching and learning. From this combined perspective, a comprehensive inspection of language acquisition can be achieved, regarding the multimodal teaching practices in a sociocultural envi-

ronment.

1.3.2 Research method

In this research, the methodological approach is a theoretical discussion, involving a comprehensive analysis of existing studies and theories related to multimodal teaching in TESOL. Based on the Multimodal and Sociocultural Theory theoretical framework, this paper constructs a well-organised argument elucidating the strategies and implications of multimodal pedagogies. Through critical analysis, the paper examines the strengths and weaknesses of multimodality in TESOL. By summarising the main arguments, this paper concludes with a discussion for future research and recommendations for further empirical TESOL practices.

1.4 Research's Significance

The significance of this research lies in its innovative approach and anticipated contributions to both theory and practice.

This study introduces a novel perspective on multimodal teaching in TESOL by integrating Multimodal and Sociocultural Theories. It addresses the gap in current literature by focusing on the theoretical and cultural aspects of multimodal teaching, thereby offering fresh insights into enhancing cross-cultural communication capabilities in a globalised context.

The expected contributions of this research are twofold. Theoretically, it aims to extend the understanding of multimodal practices in TESOL, by offering a comprehensive framework that incorporates both Multimodal and Sociocultural Theories. Practically, it seeks to provide empirical insights and guidelines for educators, facilitating the implementation of effective multimodal strategies in language teaching. This, in turn, could significantly impact language acquisition, preparing learners for effective communication in diverse cultural and professional settings.

This paper progresses from theoretical foundations to practical applications, systematically exploring multimodal teaching methods, impacts, and challenges in TESOL. Through this structure, the paper aims to offer an overview of multimodal teaching in TESOL, contributing valuable knowledge and practical recommendations to the field.

2 Multimodal Teaching in TESOL: Methods, Impacts, and Challenges

2.1 Rationale for Multimodal Teaching in TESOL

Although multimodal teaching strategies are increasingly being used in classrooms teaching English as a second

language (ESL) and as a foreign language (EFL), TESOL study on this topic is still in its early stages. Additionally, studies reveal that ESL/EFL teachers are not proficient in creating and implementing multimodal activities. According to Li, ELs showed obvious positive attitudes to the multimodal TESOL curriculum. Those distinct advantages include enthusiasm for learning, in-depth grasping of the knowledge, enhancement of mutual and digital learning, etc [7]. These benefits of multimodal practices uphold the significant role of multimodality in TESOL exercises.

The formation of an English learner's literate identity is a complicated and time-consuming sociocultural process, which relies on various variables, including gender, race, and literacy practices in both home and school [8]. As a prominent concept in language education, multimodality received different acceptance among learners. In research on willingness to communicate (WTC), the use of audio/video media and lecturers' voices/facial expressions were better accepted, while the visual design of PowerPoint presentations was less welcome [9]. By offering various means of teaching methods, multimodality in TESOL can cater to different sensory preferences (visual, aural, kin-aesthetic) and cognitive abilities, resulting in a more comprehensive and personalised learning environment. This approach not only facilitates a deeper understanding and retention of the language but also encourages learners by valuing and incorporating their unique perspectives and experiences into the learning process. Ultimately, recognising and leveraging learner diversity through multimodal teaching enhances motivation, engagement, and success in the ESL/EFL classroom.

Recently, several multimodal technologies have been implemented in education and each implies learners. Application of educational applications like interactional techniques, technology-enhanced learning (TEL) interventions, and personalised displayed approving results in students' learning proficiency. Serving as "educational networks", Massive Open Online Courses (MOOCs) can offer learners personalised learning experiences. Adaptive educational games create an engaging learning setting that is strengthened by an individualised learning experience, invoking both pleasure and inspiration. Integrated technology such as mobile phones, tablets, and other types of portable computing devices assist the general, interactive, and interpersonal aspects of learning in many circumstances. The use of immersive technologies in education, The application of augmented reality (AR) and virtual reality (VR), which produce very lifelike three-dimensional (3D) virtual objects, has been linked to several benefits for academic attainment and appealing content. Classroom technologies, such as the Cloud Classroom, allow

instructors to share teaching materials while also allowing students to obtain learning materials without limits or restraints [10]. Leveraging technological advancement can facilitate students' knowledge acquisition and skill development in modern classrooms.

2.2 Methods of Implementing Multimodality

2.2.1 Semiotic modes in teaching strategies

Teachers' choices of different semiotic modes can shape their students' learning experiences; thus it is essential for them to recognise and implement the suitable ones to perform their pedagogies. The teaching strategies in multimodality can be categorised into several modes including image, writing, layout, and speech among others [11]. It can then be defined as five modes of communication or semiotic modes: linguistic, visual, aural, gestural, and spatial [12].

Firstly, the selection, delivery, structure, and coherence of words and concepts in written or spoken language are all included in the linguistic mode teaching technique [12]. One of the common approaches is translanguaging (TL), which considers multilingualism as its core. This approach is learner-centred by using the learner's linguistic repertoire to enhance students' language and subject proficiency in educational settings. It can also arouse learners' metalinguistic awareness by minimising the barriers between languages while studying languages and content [13].

Second, another teaching tactic is the use of semiotic modes like gestures and place. Authoritative Space (the area at the front centre), Supervisory Space (the supervision motion), Interaction Space (a nearby attitude), and Individual Space (the region behind the teacher's desk) are the four categories of space in a classroom, according to Lim. Distinct pedagogical relationships between instructors and students can be enacted by the places that teachers choose. The gestures themselves may be divided into two categories: Communicating Gestures and Performing Gestures (non-communicative). The last category can be also associated with ideational, interpersonal, and textual meanings—the three categories of meanings found in the SFL framework [14].

Thirdly, visual and aural modes can be achieved through semiotic technologies, such as PowerPoint, whiteboards and video complement the above-mentioned approaches. They can be used to display information (ideational), perform educational relationships between instructors and learners (interpersonal), and arrange the presentation of knowledge (textual) [14].

In the digital era, students' needs become different along with the evolving educational context, teachers ought to choose suitable teaching strategies to exhibit their planned

pedagogy.

2.2.2 Application of multimodal teaching

Learning results are the product of a combination of intraindividual elements, such as previous knowledge, emotions, inspiration, and the contextual circumstances in which the learning occurs [15]. At the same time, Gilakjani et al. asserted that although learners may show a preference for one or more learning modalities—visual, auditory, textual, or kinaesthetic—many achieve optimal learning outcomes through the integration of various multimodal resources [16]. It implies that language students may learn more effectively when exposed to varied semiotic modalities. Thus, the ability of TESOL teachers to choose and combine several communicative modes beyond spoken language, or multimodal pedagogy, holds significant importance in facilitating successful learning.

Verbal mode according to Mustofa et al. is applied by teachers to impart knowledge more frequently than other modes [17]. Despite that, the verbal modality in class is supplemented by other modes, such as gestures and head movement, resulting in a multimodal orchestration. This interplay of several modes creates a feeling of shift and gives the impression of interactional meaning coherence [18].

The synergy of using both pictures and texts in teaching is more effective than using only one modality. In a study concentrating on language learning through picture books, such integration with visuals was found to actively engage learners and improve their comprehension of narrative texts, indicating the superiority of multimodal learning strategies over single-mode educational approaches [19].

Audio-visual tools are of significance for TESOL students in making the learning experience more engaging and effective. In previous studies, educators were inclined to these strategies, primarily due to their ability to mitigate students' disinterest in the English language, address examination-related viewing of the language, and overcome students' reluctance to speak due to fear of making pronunciation errors [20].

Social media has become popular in today's teaching and learning. Eng et al. incorporated five social media platforms in their research on teaching, i.e. Facebook, Twitter, Instagram, Pinterest and WhatsApp. According to their research, this blending with social media has favourable outcomes, such as bridging generation gaps, providing flexibility, enhancing the traditional classroom experience, facilitating various pedagogies, allowing self-paced learning, and fostering an energetic learning environment, among other benefits [21].

The collaborative use of semiotic resources within educational contexts facilitates teaching as well as learning,

which underscores the importance of multimodal competence. Such pedagogy assists educators in selecting and combining various modes of communication to effectively achieve classroom objectives, including capturing students' attention, fostering motivation, clarifying academic goals, and developing communicative relationships [18].

2.2.3 Assessment and feedback

Assessment procedures must take into account the fact that learners are interacting with numerous modalities, semiotic materials, and digital technologies. While admitting the significance of multimodality, Ross et al. provided a paradigm for multimodal evaluation that places a priority on criticality, inventiveness, and the comprehensive character of these tasks [22].

A key aspect of effectively implementing this framework is the development of diverse and personalised feedback mechanisms. Traditional feedback methods often fall short in addressing the nuanced competencies displayed in multimodal assignments including written, visual or auditory elements. Therefore, feedback must also evolve to recognise the intermodal relationships and the distinct contributions of each mode to the overall effect [23].

To achieve this, educators can employ a variety of strategies. First, they can incorporate rubrics that are explicitly designed for multimodal work. Such rubrics should assess not just the multimodal performance but also the integration of different modes of communication. However, these rubrics should serve as flexible guides rather than strict templates, encouraging students to critically engage with and reflect on their choice of modes [22]. Moreover, personalised feedback in a multimodal assessment framework is crucial. Digital tools and platforms can support this by facilitating more dynamic forms of feedback. This can include automated feedback through learning management systems, video feedback, peer-to-peer review platforms, and interactive discussion forums. These kinds of tools not only facilitate more immediate and engaging feedback but also allow for a deeper exploration and understanding of the knowledge [24].

In the digital age, embracing diverse and personalised feedback mechanisms is essential for fostering a multimodal environment where students feel valued and understood in their multifaceted competencies, encouraging deeper engagement and innovation in their academic pursuits.

2.3 Impacts of Multimodal Teaching on Language Acquisition

2.3.1 Cognitive aspect

Through multimodal input in class, students can improve

their visual processing skills, thus enhancing their language comprehension ability. An investigation into the impacts of multimodal teaching on young EFL learners through eye-tracking sheds light on this cognitive impact. Specifically, the study juxtaposes reading while listening (RWL) with reading-only (RO) conditions, revealing that the presence of auditory input alongside visual and textual elements significantly affects learners' attention allocation and comprehension. In RWL situations, learners focused more on the visuals, a strategy that has a positive correlation with improved comprehension outcomes. Moreover, the study challenges the redundancy principle by demonstrating no unfavourable effect of auditory input on comprehension, indicating the potential benefits of multimodal approaches in TESOL, particularly for young learners [25]. This finding suggests that integrating verbal, visual, and auditory inputs can create a more conducive learning environment, facilitating a more engaging and effective language acquisition (LA) process.

Second language acquisition (SLA) learners, they need to memorise the target language, and learning through multiple modalities can assist. Nadia found that most of the student's abilities of memorising, understanding, and pronouncing new words are improved with the help of multimodal techniques, including PowerPoint presentations, games, bingo games, visual aids, etc [26]. Further study showed that English students' speaking ability is positively related to their listening skills [27], which can be inferred that through different modes of learning, the auditory processing skill in SLA is strengthened. The integration of different learning modes not only assists in the target language retention but also the visual and auditory information processing, thereby enriching the overall language learning experience.

From the sociocultural perspective, the cognitive ability of comprehension is also enhanced in a multimodal environment. This enhancement facilitates SLA learners' understanding and interpretation of cultural differences. Multimodality in educational contexts, particularly in the teaching of English to ethnic minority students, offers an approach for these learners to resonate their cultural identities with the content knowledge. By integrating images, videos, and sounds from different cultures, teachers can foster a more inclusive classroom climate that recognises and celebrates cultural diversity. This technique not only supports the comprehension of cultural differences but fosters a feeling of community among students from ethnic minorities. It encourages students to incorporate their cultural backgrounds into the learning process, transforming the classroom into a dynamic environment for cross-cultural exchange and understanding [28]. Through

multimodal learning, students can be better equipped to manage the complexities of intercultural communication, enhancing their cognitive competence.

2.3.2 Affective aspect

Multimodality plays a crucial role in facilitating the affective aspects of motivation and engagement among ESL/EFL learners. The application of multimodal resources and collaborative learning strategies within the language classroom addresses diverse learning styles and preferences, accordingly fostering a stimulating and vibrant learning atmosphere. In a quantitative analysis of the efficacy of multimodal learning, the experimental group with collaborative and multimodal instruction outperformed the control group with traditional instruction significantly regarding the amount of enthusiasm and involvement, as well as English language competency [29]. The use of multimodal techniques allows learners to explore complex concepts more engagingly. This exploration not only deepens their understanding of the language but also encourages their interest in target English. This strategy signifies the profound impact of multimodality on the affective aspects of language learning.

The application of various modes of communication in class can also relieve the learning anxiety in SLA. According to Horwitz, anxiety related to studying a foreign language is a reflection of one's attitudes, actions, feelings, and beliefs in class [30]. As a language and subject, English is indispensable in the global context for students to acquire properly, which leads to a greater degree of fear towards English. On that account, an excess of stress can be detrimental to a student's ability in language. With the involvement of multimodality in foreign language education, teachers can alleviate the anxiety with visual aids to capture students' interest and increase participation. Changlong and Fang found that students' anxiety linked to language learning was significantly alleviated after participating in a range of exercises, including giving speeches and group debates. This was especially true for their fears of receiving an inadequate score, demonstrating the value of multimodal teaching in boosting confidence along with academic achievement in English language learners [31].

From a sociocultural standpoint, the affective influence of multimodality in TESOL is demonstrated by an openness to cultural diversity. The English language's linguistic and social standing as an international language in the modern world is widely acknowledged, reflecting its pivotal role in global communication and education. Cultural knowledge is regarded as indispensable in language teaching and must be merged into the process. Language reflects cultural reality. The multimodal approach can demonstrate various semiotic modes in a multicultural environment

facilitating the process of learning the language with its culture [32]. By creating a conducive atmosphere for observing, imitating, and understanding different cultures, multimodality in EIL contributes to the learners' acceptance of the target culture, enabling successful cross-cultural communication.

2.3.3 Behavioural aspect

Multimodal teaching in TESOL has a positive effect on the behavioural aspect such as enhancing foreign language output. In a study using a vlog-based digital multimodal approach, the speaking performance of EFL learners is improved, especially in terms of fluency and accuracy. Vlog-making fosters a cooperative learning environment, enriching students' metacognitive strategies, sense of ownership, and innovation abilities. With student-centred characteristics in the classroom, learners' passion for class participation is inspired. Moreover, this collaborative mode of learning offers ample English-speaking practice and encourages learners to connect language acquisition with their prior knowledge. From the pedagogical perspective, teachers may help students with real-world learning situations to become more reflective and self-reliant learners, enabling them to make the shift from being passive learners to active listeners [33]. The influence of multimodality extends beyond accuracy, fluency, cooperation, and autonomous learning, indicating a crucial role for it in language teaching approaches of the future.

Implementing multimodal learning also has other behavioural influences, namely adapting to the language environment, applying knowledge to practice, and transferring skills across disciplines. Multimodal teaching strategies like designing realistic and real-world scenarios can improve students' situational adaptability of language. Various modes of communication focus on the integrated practice of communication, listening, writing, and reading, thus students are driven to exert gained knowledge into practical usage. Through such application, their analytical abilities and overall language competency are further cultivated. As students increasingly integrate analytical skills into their language learning, in addition to developing a greater comprehension of language usage and structures, students also learn how to apply these abilities in other areas and disciplines, achieving cross-disciplinary skill transfer [34].

In summary, using diverse ways of communication within instructional methodologies increases language learning greatly in terms of cognition, affection, and behaviour. It caters to different learning styles, decreases anxiety, and increases cultural awareness by integrating visual, audio, and textual elements. This strategy not only enhances retention and pronunciation but also creates a dynamic

learning environment that promotes cross-cultural communication. Furthermore, it promotes student engagement and autonomy, resulting in improved fluency and accuracy in language output. The incorporation of multimodal methods into TESOL therefore provides a holistic approach to building deeper language proficiency and intercultural competency, preparing students for effective communication in a globalised environment.

2.4 Challenges and Opportunities

2.4.1 Challenges

The adoption of multimodal teaching requires a significant shift in the traditional roles of educators. Teachers are now expected to be more than merely carriers of knowledge regarding languages, but also facilitators of a learning environment enriched with varied modes of communication. This shift entails a thorough grasp of multimodal pedagogies, particularly the capacity to effectively combine visual, aural, and digital modalities into language teaching. The challenge lies in providing teachers with the necessary skills and knowledge to manoeuvre these modes involved. Such proficiency often involves a steep learning curve and continuous professional development [7]. To create a conducive educational setting, teachers need to become adept at selecting appropriate technologies, designing multimodal learning activities, and critically evaluating their effectiveness in enhancing language acquisition.

In multimodal education, managing technology resources and gaining access to them present major obstacles. Even though technological advances may help create more dynamic and engaging learning environments, disproportionate access to technology can exacerbate educational disparities [10]. In addition, the rapid progress of technology requires constant upgrades and maintenance of digital materials, consequently placing pressure on restricted school funds. To overcome these obstacles, educators and institutions must make the most of the currently available resources, pursue long-term technical solutions, and promote equal accessibility to digital tools that benefit all students.

Implementing multimodal teaching methodologies is rendered more difficult because of language learners' diverse backgrounds, which include variances in their cognitive capacities, learning styles, and cultural experiences [8]. Designing educational programmes that respond to this variability necessitates a sophisticated understanding of how different modes of instruction might help or impede individual learning processes. To take into account these distinctions and make sure that multimodal teaching adequately reinforces each learner's language acquisition,

teachers must use personalised instruction methodologies and adaptive learning technology.

2.4.2 Opportunities

The rapid advancement of technology offers unprecedented opportunities to enhance language education and acquisition via multimodal methods. Digital platforms, interactive multimedia, virtual reality (VR), and augmented reality (AR) tools can lead to immersive and engaging educational settings that encourage authentic communication and cross-cultural understanding. With the use of these tools, students may experience language in a manner that improves both their language proficiency and cultural awareness. At the same time, teachers can produce interesting courses that inspire students and cater to a range of learning requirements [22].

Multimodal teaching fosters pedagogical innovation by encouraging the integration of diverse communication modes and teaching strategies. This approach is consistent with modern educational ideas, which emphasise active learning, learner engagement, and content knowledge associated with varied texts and media. Innovations in multimodal teaching can lead to improved LA outcomes by providing learners with multiple ways to engage with language content, practice language skills, and develop their linguistic and cultural competencies [16]. Moreover, multimodal approaches can enhance the learning experience by making language learning more relevant, enjoyable, and aligned with learners' everyday experiences of multimodal communication.

TESOL students' cross-cultural comprehension and communication abilities can be greatly improved by taking advantage of multimodality. Learners can be exposed to a broad spectrum of world cultures through multimodal teaching techniques that embrace foreign cultural materials [28]. In addition to promoting a deeper awareness of cultural nuances and intercultural communication skills, this exposure helps learners increase their language proficiency and equips them to deal with the challenges of globalisation

3 Conclusion

3.1 Research Findings and Implications

3.1.1 Research findings

This study has explored the application and impacts of multimodal teaching strategies in TESOL, shedding light on how these methodologies influence learners' language acquisition. The integration of multimodal theory and sociocultural theory has enabled a comprehensive understanding of the effects of multimodal education. Multi-

modal methods were discovered to facilitate significant improvements in learners' cognitive, affective, and behavioural aspects of language learning. Specifically, these strategies enhance learners' language comprehension, memory, and pronunciation skills, alongside promoting higher levels of motivation, engagement, and cultural awareness.

3.1.2 Research implications

The findings advocate for the incorporation of multimodal resources and strategies in TESOL, suggesting that educational practitioners should adopt a more flexible and innovative approach to language teaching. This entails integrating visual, auditory, and electronic materials to accommodate a range of learning inclinations and types.

Education institutions and policymakers are encouraged to recognise the value of multimodal teaching in TESOL and support its implementation through adequate funding, resources, and professional development programs for teachers. Additionally, curriculum designers are advised to incorporate multimodal elements that reflect the dynamic and interactive nature of language learning today.

3.2 Research Limitations and Future Prospects

3.2.1 Research limitations

The theoretical discussion method, while comprehensive, lacks empirical evidence from direct classroom applications. Future studies could benefit from incorporating case studies or experimental research to validate the theoretical conclusions.

The applicability of the findings may be limited by the diversity of TESOL contexts, including differences in technological infrastructure, learner demographics, and cultural backgrounds. Future research should consider these variables to understand the broader implications of multimodal teaching.

3.2.2 Future prospects

Future studies should investigate how multimodal teaching can be adapted to cater to diverse learner needs, including different learning styles and cultural backgrounds. Future research should explore specific multimodal strategies that effectively enhance learners' cross-cultural competencies, particularly in diverse and multicultural settings.

There is a need for comprehensive training programs for educators to develop their skills in integrating various teaching modalities effectively. Workshops and professional development programs focused on multimodal pedagogies could enhance teachers' competence. Educators should be encouraged to leverage the latest technological

advances to create immersive and interactive learning experiences. This includes exploring new tools and platforms that support multimodal instruction. Teaching strategies should include using culturally diverse materials to enhance learners' global awareness and communication skills.

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