Teaching Vocabulary through Listening: An experimental study with Saudi Visually Impaired EFL learners

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Declaration

I confirm that this is my own work and that the use of all materials from other sources has been properly and fully acknowledged.

Areen Badri

19/03/2025

Dedication

To my son, Hamza, for his unwavering love and support and to my students for their strength and invaluable contribution.

The guidance of Allah Almighty, made this thesis possible, and the teachings of our Prophet Muhammed (Peace Be Upon Him) inspire me daily.

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Abstract

There is a dearth of rigorous empirical research focusing on improving the academic achievement of visually impaired (VI) learners in all curricular areas (Cooney et al., 2015) despite the inferiority of their educational outcomes compared to sighted (SI) learners (WHO, 2019). The paucity of research appears to be particularly prevalent in the field of foreign language learning (Schultz & Savaiano, 2023). Research with VI learners has mainly examined methodologies for teaching a second or foreign language (L2) rather than investigating the effects of these methodologies on learning (e.g., Carpenter, 2020; Guinan, 1997; Nehari, 2017; Nikolic, 1987; Topor & Rosenblum, 2013). Understanding the impact of teaching is especially important in relation to vocabulary, in view of its centrality for all aspects of language learning and also because of its challenges for VI learners.

This thesis investigated how different modes of vocabulary instruction through listening impacted 32 VI and SI female upper-secondary school learners of English as a Foreign Language (EFL) in Saudi Arabia (SA). Given that listening is the primary channel through which VI learners obtain information (Barclay & Staples, 2012; Jedynak, 2023). The study investigated two modes of vocabulary instruction paired with aural input, adopting a mixed within-and between-subjects counterbalanced design. Mode 1 was codeswitching (CS), in which Arabic (L1) was used to explain the meaning of target English words. Mode 2 was aural input manipulation followed by CS (AIMCS), whereby the target item was emphasised within an example sentence through increased volume. The current study also explored whether and how the effect of the instruction was moderated by learners' listening proficiency and their existing vocabulary size. The effects of repetition on the retention of the target vocabulary items were also considered. In addition, learners' responses to the two modes of instruction, both in terms of the strategies it prompted and their perceptions of its helpfulness or otherwise, were investigated through stimulated recall interviews with 16 students.

The data collection procedure was over two academic terms, with three intervention sessions each term. Learners completed a pre-listening test and aural vocabulary pre-, post-, and delayed post-tests. The 32 participants in the study comprised 16 Saudi VI upper secondary school students of English alongside a comparison group of 16 SI learners. Codeswitching was selected

as one teaching mode because of the importance of having a correct mental representation in the L1 before the L2 version can be learnt (Jedynak, 2016). AIMCS was selected because of VI individuals' greater pitch sensitivity than SI individuals (Gougoux et al., 2004; Sepúlveda-Palomo et al., 2024; Smeds, 2015). It was paired with codeswitching to more clearly isolate the effect of each type of instruction, i.e. CS alone or CS plus AIM.

Before the intervention, learners completed two baseline tests assessing their listening comprehension and vocabulary knowledge. They then listened to six English passages over six teaching sessions and received oral explanations for 60 target vocabulary items. The two teaching modes were counterbalanced in each session, so that learners in both groups experienced both modes. A vocabulary post-test was employed at the end of each session to measure the learners' knowledge of target lexical items. Two weeks after each session, a delayed post-test was administered to assess longer-term retention. Towards the end of each intervention session, a review activity took place to revise the selected taught lexical items. After the last delayed post-test, stimulated recall interview sessions were conducted with 16 learners —eight from the experimental group and eight from the comparison group. Lastly, five weeks after the intervention, a final delayed post-test was administered to explore the impact of repetition on vocabulary gains.

Generalised linear mixed effects models showed that for short-term learning, learners' pre-listening proficiency significantly moderated the effect of Group and Instruction on vocabulary learning. While SI learners benefited equally from the intervention, VI learners with higher levels of listening proficiency showed greater improvement in vocabulary learning than their peers with lower levels of listening proficiency. In addition, although both types of instruction showed positive effects on learning, the AIMCS approach seemed more useful for more proficient listeners, whereas the CS approach showed a similar effect regardless of learners' pre-listening proficiency. Such moderation effects, however, disappeared for longer-term vocabulary learning. More proficient listeners retained significantly more vocabulary at delayed post-test regardless of Group and the type of instruction received. Concerning the effects of number of repetitions, final delayed post-test findings indicated no significant effect of repetition on the target lexical items' retention. Overall, these results suggest that AIMCS was the most beneficial teaching method for both groups, particularly VI learners, although the effects were primarily short-term. Listening

proficiency also moderated the outcomes, with the greatest benefits observed in learners with higher listening proficiency.

Qualitative analysis of the students' stimulated recall interviews revealed that higher and lower proficiency learners used similar strategies to comprehend the teacher's explanations (e.g.*, visualisation and selective attention on CS*). However, higher proficiency learners seemed to use these strategies in combination with a broader range of other strategies compared to lower proficiency learners. The findings also indicated that vision deficit impacted VI higher and lower proficiency learners' strategy use (i.e., their use of *visualisation* lacked visual elements). Additionally, the analysis of learners' perceptions regarding the helpfulness of the two modes of vocabulary instruction indicated that the majority, albeit mainly VI learners, deemed AIMCS to be a better approach than CS alone. VI learners affirmed that AIMCS catered for their vision deficits by exploiting their auditory skills by pairing AIM with CS, which elevated both attention, comprehension, and retention.

This study provides both theoretical insights and pedagogical recommendations for L2 vocabulary instruction tailored to VI learners. It highlights the vital role of listening proficiency in both developing vocabulary knowledge and influencing the effectiveness of CS and AIMCS instructional methods. Moreover, the study sheds light on how we can better design inclusive teaching approaches that leverage the auditory strengths and unique strategy use of VI learners. This, in turn, can support improved vocabulary acquisition and retention, contributing to a more equitable and accessible language learning experience for learners with visual impairments.

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

This research investigated the impact of teaching L2 vocabulary through listening to visually impaired (VI) learners of English as a foreign language (EFL). The term visually impaired was used in order to employ an "identity-first" approach to terminology, which "fronts disability […] to recognise and honor disability as an inseparable part of one's identity" (Randez & Cornell, 2023, p. 988). While vocabulary learning through listening is a research area that has received increased attention in respect of sighted (SI) learners (e.g., Hennebry et al., 2017; Tian & Macaro, 2012; Zhang & Graham, 2020a), for VI learners it remains unexplored. The study investigated the impact on L2 vocabulary learning of two types of instruction given to VI and SI Saudi upper-secondary school learners. It also explored whether and how learners' listening proficiency and existing vocabulary size moderated the effect of the instruction. Additionally, it investigated VI and SI learners' strategy use while listening to the teacher's input. This chapter will start with an overview of teaching English in the context of Saudi Arabia, while shedding light on VI learners' English education as well as the general state of inclusive education within the kingdom. Second, it will discuss the rationale behind the present research, as well as the specific aims of this research study. Finally, the overall thesis structure will be outlined.

1.2 English Language Education in Saudi Arabia

1.2.1 Overview

English language education has evolved significantly in Saudi Arabia (SA) in recent years in alignment with the country's ambitions to achieve economic prosperity and to become integrated within the global system (Faruk, 2013). English was introduced as a subject in the Saudi education system in the late 1950s (Al-Johani, 2009). Until 2010, English was taught as a

compulsory subject only in intermediate and secondary public schools. Thereafter, it began to be taught starting from the fourth grade of elementary school (Alkhannani, 2021). In terms of higher education, most Saudi universities have begun to employ English as a medium of instruction in medical and science colleges. Students from other faculties are also assigned compulsory English courses to enhance their language proficiency (Alkhannani, 2021; Faruk, 2013). With the launching of the Saudi Vision 2030, greater emphasis has been placed on learning and teaching English. This vision seeks to reform the Saudi educational system by bridging the gap between educational outcomes and labour market demands while ensuring that Saudi graduates are equipped to compete effectively in the global market (Al-Shehri, 2020). Embracing Vision 2030 and recognising English as the main language in various Saudi contexts—social, educational, professional, and administrative (Moskosky & Picard, 2019)—the Saudi Ministry of Education (MoE) launched the *Tatweer* project, meaning "development" in Arabic. *Tatweer* aims to enhance Saudi learners' English communicative skills and proficiency levels from an early school age. It is a policy designed to build a more robust public education system that gives all learners access to high-quality education (Assulaimani, 2019).

1.2.2 Special Education and VI learners' English language Education in Saudi Arabia.

The context for this research is an institute for blind people and an upper-secondary school with a dedicated class for VI learners in Saudi Arabia (SA). Visual impairment has been defined as "sight loss that cannot be fully corrected using glasses or contact lenses" (Stewart, 2014, p.3). In this respect, the term visual impairment covers a broad spectrum of visual acuity "from low vision through total blindness" with definitions and classifications used variably in different contexts and countries (American Foundation for the Blind, n.d.). Within the Saudi context, the special education system was established almost 70 years ago, with 1958 being the first year that

individuals with disabilities, including those with visual impairments, began to receive special education services (Alquraini, 2010). Despite these specialist educational programmes, however, learners with special needs still depended almost entirely on their parents for educational assistance (Al-Ajmi, 2006). Educational services for visually impaired learners started with a training programme for reading in braille, which was funded by a non-profit private organisation (Al-Kheraigi, 1989; Salloom, 1995) and was only available for adults (Al-Mousa, 2010). In 1960, Al-Noor, the first public institute for blind people in Riyadh, was established and catered to different types of VI learners (i.e. low vision and blind) (Aldabas, 2015). In 1962, the Special Education Unit was established by MoE to enhance educational and rehabilitation services for three categories of learners with special needs (visually impaired, deaf, and mentally disabled) (Afeafe, 2002; Alquraini, 2010). As a result of this initiative, three more institutes under the name of Al-Noor were established in different Saudi cities. Up until this point, all Saudi learning institutes for visually impaired people targeted male students. It was only in 1964 that Al-Noor opened its first institute specifically for blind girls, providing educational and training services to visually impaired female learners of various ages. This aligned with the generally conservative nature of Saudi culture, where gender segregation has traditionally been the norm. At the time of writing this thesis, many educational and social spaces within the kingdom remain segregated, although gradual changes are being introduced in line with Vision 2030. In terms of schools and universities, many Saudi institutions have separate campuses for males and females. However, to ensure consistency and uniformity, the same curriculum and teaching methods are applied across all segregated campuses (Meijer, 2010).

Al-Noor institutes continued to expand in different cities in SA, employing the same three stages of education as mainstream schools (elementary, intermediate, and secondary). They also

adopted the same English curriculum used for sighted learners while adding modifications according to the learners' disabilities (e.g., Braille books for blind people) (Aldabas, 2015; Al-Hoshan, 2009; Battal, 2016). At the time this study was conducted, the various branches of Al Noor Institute used the Saudi Arabia edition of *Mega Goal 5* by McGraw-Hill as the standard textbook for upper-secondary level students.

Toward the end of the 20th century, inclusive education became recognised globally as an appropriate philosophy essential for reforming education (Alharbi & Madhes, 2018). Therefore, besides the steady expansion of Al-Noor institutes, MoE adopted two inclusive/special education models for VI learners: the in-and-out model and the self-contained model. The former involves VI learners enrolling in mainstream classes with their non-disabled peers, although spending 50% of the school day in a resource room to receive tailored instruction to accommodate their special educational needs. The latter model, the most common in SA, uses separate classrooms within mainstream schools where disabled learners receive their education most of the day, while interacting with their non-disabled peers outside of academic learning times. (Ministry of Education-Saudi Arabia, 2001). Given the current status of its special education initiatives, Alharbi (2022) clarified that SA needs to make more effort to fully employ inclusive education practices. Therefore, in alignment with its Vision 2030 objectives, SA pledged to increase the enrolment of learners with disabilities in inclusive classrooms, to enhance teachers' professional development to equip them with the necessary skills, and to expand social involvement in protecting the rights of children with disabilities (OECD, 2020).

The *Tatweer* initiative continues to focus on defining and implementing inclusive practices that provide additional support for learners with special needs. It also emphasises cultivating the abilities of all learners, with or without disabilities, to become active citizens capable of competing

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on a national and global scale (Alsubaie, 2023). One of the main aims of *Tatweer* has been to develop more effective teaching methods to help improve Saudi learners' English proficiency and communicative skills. This has led to the introduction of more learner-centred approaches within schools and institutes, such as Communicative Language Teaching (CLT), which aims to replace traditional instructional methods like Grammar-Translation. Despite this, however, neither regular nor inclusive classrooms in SA have yet fully shifted to a learner-centred approach; they are still text- and teacher-centred, limiting students' opportunities for interactive communication and English practice (Moskovsky & Picard, 2019). According to Al-Qarni (2003), rote learning continues to dominate classes in SA, and learners mainly depend on memorising grammatical rules, vocabulary lists, and texts. This issue is intensified by the widespread dependence on school textbooks, which have shown to be insufficient for meeting the needs of Saudi students, as they primarily present learning materials in a grammar-oriented manner (Moskovsky & Picard, 2019). Consequently, students graduate from Saudi public schools with low English proficiency levels, a gap that widens in university where English serves as the Medium of Instruction for teaching specialised subjects (Al-Seghayer, 2014). Additionally, in relation to VI learners, "much of the standard education is based on the ability to see" (Alshaban Radi, 2021, p. 19). The existing core curriculum includes subjects such as Arabic, English, and social studies, which need significant modification and adaptation to allow VI learners to comprehend the concepts presented (Al-Mousa, 2010). Boltenkova et al. (2020) argued, in relation to inclusive education globally,

> …that the great idea of non-exclusion, diversity and cooperation in most cases only looks good in governmental directives and official documents. The sad reality nearly worldwide is that teachers and lecturers lack special qualifications to deal with the mixed class of disabled and non-disabled learners. (p. 5620).

A communicative approach to vocabulary instruction offers the theoretical and pedagogical framework underpinning the present study. This framework situates two teaching approaches, CS and AIMCS, within meaning-focused interactive classroom activities instead of decontextualised drills. As established above, effective communicative competence is a primary objective of Saudi Arabia's Vision 2030, and thus CLT strongly aligns with new national reforms aimed at shifting from traditional form-focused drills towards learners' autonomy and real-world language use. For VI learners, who rely heavily on aural input and have limited access to visual cues (Barclay & Staples, 2012; Jedynak, 2023), integrating vocabulary instruction into communicative tasks leverages these learners' auditory strengths (see Chapter Two) and provides the essential contextual and social interaction needed for concept mapping and deeper cognitive processing (Moskovsky & Picard, 2019). By framing CS/AIMCS as learner-focused approaches within a broader CLT framework, this study offers an insight into how making vocabulary salient in communicative interactions can both mitigate the challenges VI Saudi learners face and improve their engagement within SA's inclusive classrooms.

The following section will further explore the challenges facing both Saudi and global education concerning visually impaired learners and how these challenges have informed this study.

1.3 Research Rationale

Investigating the effects of two different modes of instruction on VI learners of English as a foreign language in SA is urgently needed. Moreover, understanding the impact of teaching methods on vocabulary learning is especially important, given its centrality to all aspects of language learning as well as the specific challenges that VI learners face in relation to learning vocabulary. In this context, the investigation driving this study is vital for several reasons: first,

approximately 15% (around 2.2 billion) of the global population suffers from some degree of visual impairment (WHO, 2019). In relation to the Saudi context particularly, the results of the 2022 Census published by the Saudi General Authority of Statistics showed that the prevalence of disability in Saudi was 1.8% of the total population. Among individuals with disabilities, 21.8% had visual impairment (Disability Statistics Publication 2023). This indicates that visually impaired individuals represent an important segment of the Saudi population whose needs must be catered to in order to help them integrate within the community and become part of the workforce.

The second reason why this study is important relates to the dearth of rigorous empirical research focusing on improving the academic achievements of VI learners in all curricular areas (Cooney et al., 2015). This is particularly important as evidence shows that their educational outcomes are lower than those of SI learners (WHO, 2019). Some evidence, though contested, points to the fact that these poor outcomes can be attributed to these learners' vision deficit and their limited or absent visual cues that may affect cognitive and language development in childhood (Galiano & Poralier, 2011; Toledo et al., 2010) and possibly persist into adulthood (Jedynak, 2016). The paucity of research is particularly prevalent in relation to foreign language learning. Indeed, research on visually impaired learners has mainly examined methodologies for teaching a second or foreign language (L2) (e.g., Boltenkova et al., 2020; Carpenter, 2020; Guinan, 1997; Nehari, 2017; Nikolic, 1987; Schultz & Savaiano, 2023; Topor & Rosenblum, 2013), rather than investigating the effects of these methodologies on learning.

In addition, the dearth of research on the academic language achievements of VI learners may stem partly from an assumption that VI learners acquire a foreign or second language (L2) in the same ways as SI learners do and that their better auditory skills place them in an advantageous position (Araluce, 2002; Smeds, 2015). It is thought that VI learners acquire knowledge via

listening, and they follow class activities and obtain essential information from classroom discussions and teachers' instructions (Barclay & Staples, 2012). It is important to realise, however, that the auditory cortex in the brain does not operate separately as it works in conjunction with other senses to comprehend what is heard; "the senses interact to create a world that, well, 'makes sense' to us" (Ratey, 2001, p. 37). SI learners, for instance, use visual cues in parallel with sound to help processing, while VI learners lack this visual input (e.g., in a classroom, SI students look around to see what their classmates are doing to affirm their understanding) (Barclay & Staples, 2012; Ratey, 2001). Vision, therefore, provides SI individuals with opportunities to learn by observing or imitating what someone else is doing, whereas VI learners rely on meaningful experiences to learn using listening and touch (Downing & Chen, 2003). It is important to emphasise that VI learners cannot be treated as a single group, as their visual impairments vary in type and severity. Nevertheless, VI individuals in general cannot rely entirely on visual experience for their education, requiring "a conscious effort" to compensate for the lack of visual information (Barclay & Staples, 2012, p. 5). This is particularly important in relation to language learning as VI learners' relatively limited visual experience, and hence potential difficulties in concept formation (see Section 2.1), may pose a challenge to their vocabulary knowledge (Jedynak, 2011; Jedynak, 2016; Staehr, 2008). Taking the above points into consideration, there is an urgent need to conduct more research to develop a deeper understanding of how to facilitate L2 vocabulary learning for those with limited visual acuity.

This study represents a timely contribution to our understanding of how VI students engage in language learning, particularly considering current moves in many contexts to integrate VI learners into mainstream education. This is particularly so in SA, where educational integration has been a policy since the early 2000s and is poised for expansion as part of the kingdom's Vision

2030 goals (Alharbi, 2022). Nevertheless, in inclusive classrooms globally, where most learners are sighted, VI learners of English continue to face many challenges. Boltenkova et al. (2020) conducted a comprehensive review of approximately 30 papers focused explicitly on teaching EFL to VI learners. They found that VI learners are at a disadvantage in this context, as current teaching methods and materials rely heavily on visual information. As such, the needs of VI learners in an EFL context have mainly been ignored (Araluce, 2002; Guinan, 1997). Looking specifically at EFL classrooms in Iran, Beiranvand and Mall-Amiri (2018) found that the specific requirements of VI learners have been neglected since these students are forced to learn L2 without access to suitable context or instructional strategies. Moreover, Araluce (2002) clarified that most Spanish-language instructional materials cater to sighted learners, thereby excluding learners with VI and hindering their full inclusion in mainstream English classrooms. Interestingly, focusing on school-aged VI learners in Bandar Lampung, Indonesia, Susanto and Nanda (2018) found that these learners faced very specific barriers, the most salient being teaching materials designed for sight-based lessons and pedagogical methods based on visual perception. Additionally, teachers were unaware of VI learners' specific needs or the cognitive implications of their visual impairments. These factors have undoubtedly hindered the learning process for these students in the classroom, resulting in lower learning outcomes.

The challenges mentioned above are applicable to inclusive classrooms in the Saudi context. Almalki (2021) found that female VI learners at a Saudi university experienced difficulties learning English due to a curriculum designed without any consideration of inclusivity, as well as deficient learning materials. Many Saudi EFL instructors also lack the necessary training to cater to VI learners. The author of this study has witnessed such challenges while teaching VI university learners. She has observed how the materials used tend to be visually based, while the pedagogical

methods rely heavily on visual perception. Moreover, although university classrooms combine SI and VI learners, the number of SI students tends to be relatively high (30-40), with only one to three VI learners. The above-mentioned barriers usually make it difficult for the teacher to meet VI students' needs (Araluce, 2002). Another important issue is that teachers may lack awareness of VI learners' specific requirements and the cognitive implications of their visual impairments, perhaps because of minimal or no experience in inclusive pedagogy or a lack of training in adapting their teaching to the needs of VI learners. They depend on "trial and error methods" and "their own intuition in making decisions about the learning process and often could not vary the techniques and methods", which at times results in their inability to meet the particular needs of VI learners (Kocyigit & Artar, 2015, p. 693). It is essential to address these challenges and formulate appropriate solutions to support the language development of VI learners. As such, this study presents a much-needed opportunity to understand the impact of different teaching methods on VI learners' L2 outcomes and the ways in which we can support their needs and cater to both their strengths and limitations within inclusive classrooms.

Since the 1980s, a significant yet unresolved research issue has been the extent to which VI children can develop general concepts in the L1, with indications of delays in concept formation and categorisation schemata, attributed to their lack of vision and reduced ability to draw on external context (Andersen et al., 1984). Subsequent research has suggested that, although the absence of vision limits VI children's capacity to generalise language across various contexts, they nonetheless possess the ability to comprehend word meanings (Pérez-Pereira & Conti-Ramsden, 1999). This preserved lexical-semantic competence implies that, despite perceptual limitation, the underlying processes supporting word meaning acquisition in VI children may be similar to those observed in their SI peers (Warren, 1994). However, research has failed to resolve these debates

(Jedynak, 2016; Smeds, 2015), and it is perhaps appropriate to conclude that VI individuals may encounter some challenges with L1 concept formation, although the exact nature and extent of these challenges remain contentious (Campbell et al., 2024). This is evidenced by ongoing scholarly debates and the lack of consensus in research (Jedynak, 2016; Smeds, 2015) leading to inconsistent and contradictory findings. While some studies have identified specific challenges associated with vision-dependent concept formation and categorisation (Andersen et al., 1984), other research points to intact lexical-semantic capabilities (Pérez-Pereira & Conti-Ramsden, 1999; Warren, 1994). This suggests that the developmental trajectory of concept formation in VI children may differ but is not consistently deficient. Turning to L2, the aforementioned challenges could lead us to assume that VI learners may face difficulties understanding the meaning of abstract and non-abstract concepts in an L2 classroom. This underscores the necessity of assisting VI learners during the L1-L2 mapping phase, potentially by drawing on the L1 (Jedynak, 2016). Similarly, L2 instruction is expected to be more effective when tailored to VI learners' strengths, such as improved auditory skills, which are thought to occur because sensory impairment enhances other sensory modalities through a compensatory mechanism (Neville & Bavelier, 2002). Superior verbal memory performance, increased phonological awareness for speech sound, and improved pitch discrimination have also been observed in VI individuals compared to SI participants (Amedi et al., 2003; Gougoux et al., 2004) (see Section 2.4.2). These strengths suggest that L2 input is most effective for VI learners when delivered in an auditory format.

Communication is arguably the primary goal of language teaching in the 21st century, emphasising the importance of listening and speaking within language learning classrooms. This could be especially beneficial for VI learners "as they primarily rely on aural input" (Jedynak, 2023, p. 136). Given their dependence on auditory learning, it may be important to incorporate

input enhancement methods that are tailored to VI learners' unique strengths. Input Enhancement comprises the "deliberate manipulation" of the language input so it becomes salient in order to draw learners' attention to a specific form (Sharwood Smith, 1991, p.118). Importantly, learners of L2 cannot exploit all of the language input that they encounter, and thus attention is essential for L2 learning (i.e., when input becomes an intake) (Leow, 2001; Schmidt, 1990; Sharwood-Smith, 1993). From a theoretical perspective, Schmidt's (1990) Noticing Hypothesis proposes that consciously noticed input becomes intake for language learning. Schmidt (2012) further suggests that while vocabulary can be learnt incidentally, deliberate attention is crucial. Furthermore, learners must focus on the form and input cues of words to recognise meaning (discussed in Section 3.2.2.1).

Research investigating enhancement methods for aural input has explored their impact mainly on SI learners. Two groups of studies have emerged, focusing on the following aural input enhancement methods: 1) explanations or elaborations of the target lexical items in L1 or L2 (Hennebry et al., 2017; Lee & Levine, 2020; Tian & Macaro, 2012; Zhang & Graham, 2020a); and 2) manipulation of aspects of the aural input itself (AIM – Aural Input Manipulation), such as volume, pitch, speed, and pausing (Mall-Amiri et al., 2017; Cho & Reinders, 2013; Ito, 2021; Jones & Waller, 2017). These two groups of studies have mostly followed the Lexical Focus-on-Form's (LFonF) pedagogical approach. Long (1991) defined FonF as teaching that "overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication" (p. 45–46). LFonF combines the merits of incidental vocabulary learning and intentional or explicit vocabulary learning/teaching. In incidental learning, students learn vocabulary "as the by-product of any activity not explicitly geared to vocabulary learning". Intentional or explicit vocabulary learning refers to "any activity aiming at

committing lexical information to memory" (Hulstijn, 2001, p. 267). Given VI learners' challenges due to the absence of visual cues and potential difficulties with mapping L1 concepts to L2 words, LFonF may offer them particular benefits.

Concerning L1 use as input enhancement, teachers' use of L1, mainly codeswitching (CS), as a type of LFonF, has been supported in the literature. The role that L1 plays in learning L2 vocabulary has been endorsed theoretically in the Revised Hierarchical Model (RHM) (Kroll & Stwart, 1994) and Jiang's (2000) psycholinguistic model for L2 vocabulary acquisition. Both of these models, as well as the potential benefits of using CS to mitigate the challenges VI learners might face with mapping L1 concepts to L2 words, will be discussed in detail in Chapter 3. In support of teachers' use of L1, Macaro et al. (2009) proposed that non-native teachers can "operate both as monolingual and bilingual dictionaries", providing "form-meaning connection" not offered by dictionaries (p.129). Using teachers as dictionaries can help students benefit from LFonF when CS is used for learning L2 vocabulary. Tian and Macaro (2012) argued that adopting the term "teacher codeswitching" makes the "use of the mother tongue language in a classroom far from being "anything goes" phenomenon but follows certain grammatical, lexical and social conventions" (p. 369). This is in contrast to the phrase "teacher use of L1" that has no "rules, conventions or limitations" (Tian & Macaro, 2012, p. 369). Considering VI L2 learners, Jedynak (2016) stressed that teachers must constantly check how these learners are interpreting a given term to ensure that there is no negative interference from the L1 in their understanding of the L2. Hence, it is worth investigating the efficacy of the use of L1 in a classroom of VI learners, specifically through CS instruction, since their limited access to the tangible or visual characteristics of objects in the external world results in difficulties with non-abstract concepts and generalised terms (Dunlea, 1989).

The positive impact of codeswitched explanations on learners' vocabulary gains, in which the L1 features in teachers' explanations alongside the L2, has been supported empirically through a number of studies. These studies have explored the efficacy of CS explanations for university learners of English (Lee & Levine, 2020; Tian & Macaro, 2012), adolescent school learners of French (Hennebry et al., 2017), and adolescent learners of English (Zhang & Graham, 2020a). In these studies, vocabulary learning from CS explanations was compared to the gains from L2 explanations or simply listening to the input without explanations. Findings revealed that CS explanations resulted in greater vocabulary gains compared to L2 explanations or the absence of explanations, especially for short-term learning. The limited impact of CS explanations on longer-term learning may be understood through the lens of Depth of Processing Hypothesis (Craik & Lockhart, 1972) (see Section 6.2). In light of this discussion, given the challenges that VI learners face when learning L2 vocabulary, along with the empirically proven pedagogical benefits of LFonF on SI learners, it is worth investigating how CS explanations after aural input can influence VI learners' vocabulary gains. To the best of the researcher's knowledge, no single study has been conducted to examine the efficacy of LFonF on the L2 vocabulary learning of VI learners.

Aural input manipulation (AIM) is another enhancement method that should be investigated in relation to VI vocabulary learning. Van Patten (1996, 1993) has argued that L2 learners process input for meaning prior to form; thus, their cognitive resources are exploited to attend only to formal aspects essential for understanding the meaning. Deliberate attention to form, therefore, is crucial, as learners are unlikely to notice or use it without intentional focus (Van Patten, 1996). As argued by Schmidt (2001), "attended learning is far superior, and for all practical purposes, attention is necessary for all aspects of L2 learning" (p. 3). AIM entails manipulating spoken input to direct learners' attention to target features. For instance, the insertion of pauses before and after

the target words or artificially raising the volume of the target words aids in drawing learners' attention to a particular linguistic form in the input of the target language, consequently enhancing the learning outcome of the target items (Cho & Reinders, 2013). Thus, AIM might be particularly useful for teaching L2 vocabulary to VI learners since, as mentioned above, research indicates that VI individuals possess superior auditory skills, heightened phonological awareness for speech sound, and greater pitch discrimination (Amedi et al., 2003; Hugdahl et al., 2004; Gougoux et al., 2004; Röder et al., 2001). This suggests that VI learners may be more likely to pay attention to AIM-enhanced input than their SI counterparts, leading to greater noticing of target words and, as a result, larger vocabulary gains. Nevertheless, it is important to emphasise that the correlation between enhanced auditory skills in VI learners and improved listening comprehension proficiency in the L2 remains uncertain. Moreover, it is difficult to make any generalisations due to the variability among VI learners, similar to that observed in sighted learners. More research must be conducted in this area as solid empirical evidence is needed to better understand the impact and influence of VI learners' enhanced auditory skills on their L2 language learning.

Research investigating AIM's efficacy in drawing learners' attention to L2 target items is limited and mainly focused on grammar (e.g., Cho & Reinders, 2013; Ito, 2021). The available literature provides a mixed picture concerning the benefits of AIM; more positive effects have been found in relation to vocabulary learning (Mall-Amiri et al., 2017; Jones & Waller, 2017), while there has been little effect in relation to grammar learning when compared to a control condition (Cho & Reinders, 2013; Ito, 2021). As will be discussed in more detail in the Literature Review (Chapter 3), studies exploring AIM's effects on teaching L2 vocabulary are generally scarce and vary in the type of AIM used, making it difficult to compare across studies. Additionally, the reviewed studies lack key elements, such as assessing the effects on both VI and

SI learners and investigating the impact of different proficiency levels. While these studies offer valuable insights into vocabulary learning through listening, Zhang and Graham (2020b) argued that they all used proficiency level as a categorical variable, which limited the sensitivity of the analysis. This is because dividing continuous predictors into groups, such as splitting them at the median, can have certain drawbacks (Aiken & West, 1991). The distribution of values within each category is often skewed, and values with minimal differences may be arbitrarily classified into the "lower band of a "high" category and the higher band of a "low" category" (Zhang & Graham, 2020b, p. 1023). Zhang and Graham (2020b) contended that dividing a sample in this manner treats all values within a single category as equivalent, despite differences among them. Ultimately, converting a continuous variable into a categorical one reduces its variance, which may reveal subtle effects related to proficiency.

Listening proficiency in this study is understood as learners' level of competence in listening comprehension, defined as "an active process in which the individuals focus on selected aspects of aural input, construct meaning from passages, and relate what they hear to existing knowledge" (O'Malley et al., 1989, p. 418). This level of competence was, in turn, operationalised as learners' scores on a listening comprehension test that assessed three key skills: a) understanding the gist, b) understanding and identifying specific details, and c) organising/sequencing information. Therefore, the present study adopted Zhang and Graham's (2020b) approach by using listening proficiency scores as a continuous variable to better capture the role of proficiency in moderating the effects of the different interventions experienced by VI and SI learners.

In their study, Zhang and Graham (2020b) found that listening proficiency was an important moderating factor for SI learners in learning vocabulary through aural input, while vocabulary knowledge had a negative moderation effect. In this regard, SI and VI learners with higher listening

proficiency may be more sensitive to AIM in the aural input, while those with lower levels of vocabulary knowledge may have most room for progress. To the best of the researcher's knowledge, no previous study has examined AIM in relation to VI learners, despite the fact that, like CS, it might hold particular benefits for this group.

This study not only investigates how CS and AIMCS instructional approaches can lead to different learning outcomes but also explores how these teaching approaches can prompt the use of distinct learning strategies among both VI and SI learners. Previous research has shown that different instructional approaches influence learners' strategic behaviours, as they adapt their cognitive and metacognitive strategies based on teaching methods, task demands, and classroom contexts (Field, 2008; Fung & Lo, 2023; Graham, 2017; Graham & Zhang, 2024). Investigating learners' use of strategies helps us understand *how* and *why* different instructional approaches function, since strategies act as the practical link between teaching methods and learning outcomes (Fung & Lo, 2023; Graham & Macaro, 2008; Graham & Zhang, 2024). Additionally, several studies have shown that strategy use varies across different groups of learners based on factors such as proficiency level or linguistic knowledge (Fung & Lo, 2023; Fung & Macaro, 2021; Graham & Zhang, 2024; Santos, 2021; Vandergrift, 2003). This could suggest that VI and SI learners adopt different strategies based on their sensory modalities, since how we perceive information influences how we process and learn. Macaro (2006, 2022) defines a strategy as a goal-oriented mental action that operates in clusters and is used in relation to a particular language learning or language use activity. These strategies are often consciously employed by learners to enhance performance, manage cognitive resources, and solve problems encountered during the learning process. Examples include inferring the meaning of unknown words from context, using repetition to memorise vocabulary, planning how to approach a reading task, or monitoring one's

comprehension while listening. Similar to Graham and Zhang (2024), who combined quantitative outcome measures with qualitative stimulated recall interviews to explore SI learners' strategy use, the present study employed a mixed-methods approach to better understand the differences in how VI and SI individuals utilise various learning strategies. The qualitative analysis enabled an exploration of how students with varying visual abilities respond to different instructional methods and how this influences the deployment of distinct learning strategies. This is a significant contribution, as there is very limited literature on this topic. In fact, to the best of the researcher's knowledge, only one study by Jedynak and Wesolowska (2014b) has examined how vision deficits impact L2 learners' vocabulary learning strategy use. That study examined the impact of vision deficit on the choice of memory strategies among 12 adult intermediate-level EFL learners divided into three groups, with each group consisting of two males and two females that were either: non-blind (NB), partially blind (PB), or fully blind (FB). The aim was to assess whether participants shared specific strategies or if strategies were unique to a specific group. The authors found significant variation in strategy use according to visual ability. While the FB group preferred strategies related to mental association, the NB group relied more heavily on keyword strategies (for further details on this study see Chapter Three, Section 3.3). Importantly, these differences can be attributed to variations in how information is accessed and processed across sensory modalities. As Jedynak and Wesołowska (2014b) note, learners with visual impairments often rely more heavily on auditory and tactile cues, which may influence both their choice of strategies and the effectiveness of certain interventions.

In light of the above discussion, there is a notable gap in studies comparing CS and AIM teaching approaches, particularly in terms of how these methods impact VI learners. The current study aims to address this gap and to use the findings to promote the growth and development of

inclusive classrooms that incorporate diverse teaching methods responsive to students' varying visual acuity. Moreover, a review of the available literature on the pedagogical impact of CS and AIM approaches on L2 vocabulary explanation has brought to the fore a number of important questions that drive this investigation: 1) Whether the number of repetitions influences the retention of vocabulary items for VI and SI learners. Researchers have found that repetition positively impacts incidental vocabulary learning (Peters & Webb, 2018; Waring & Takaki, 2003; van Zeeland & Schmitt, 2013; Vidal, 2011). Similarly, the scant research that has examined the efficacy of repetition (Peters, 2014; Teng & Xu, 2022; Zhang, 2022) found positive effects of repetition on intentional vocabulary learning; 2) How VI learners make sense of the aural input that they hear, in terms of the strategies they use and whether they differ from those used by SI learners. The strategies used by SI learners when listening to the teacher's input in an EFL classroom were explored by Fung and Macaro (2021). They identified a number of learning strategies used by SI learners while listening to the teacher's input in an EFL classroom in Hong Kong. Some of the strategies identified were similar to those found in previous studies that were either based on learners listening to audio recordings (e.g., Graham et al., 2012; Vandergrift, 2003), or listening directly to the teacher's talk (Fung, 2016); 3) Whether the different modes of vocabulary instruction prompt different listening and vocabulary learning strategies (Graham & Zhang, 2024). Such an exploration could help illuminate any differences in learning gains attributable to different modes of vocabulary instruction, as was found by Graham and Zhang (2024); and 4) Which mode of vocabulary instruction is perceived by VI and SI learners as the most helpful.

The above discussion has illustrated how special educational in SA has been shaped by a unique blend of historical and cultural factors and has been influenced by several key policy

developments over the years. Together, these factors have significantly shaped the different aspects of the study, including its focus, the age range of participants, and the instructional delivery approaches selected. As discussed, the delayed introduction of formal VI education, the prevalence of segregated institutions for the blind, and the incomplete execution of inclusive education underscore the gap in research concerning instruction practices for VI learners, particularly in English. Furthermore, the MoH's commitment to inclusive education, as outlined by Saudi Vision 2030 and the *Tatweer* reform initiative, make it particularly important, and indeed timely, to investigate the prevalence of inclusive pedagogical approaches and the extent to which they are enforced across educational institutions within the kingdom. These teaching approaches should aim to equalise learning opportunities for VI individuals by allowing them to be educated alongside their SI peers in mainstream schools and universities.

Regarding the age range, the current study targeted upper-secondary school learners aged 16 to 18. However, it is important to note that some VI learners taking part in the study were older than 18. This is because the special educational system in SA prioritises VI students' health condition and academic readiness over their chronological age when considering their eligibility to transition to upper secondary education. Following on from the above, the selection of the two types of vocabulary instruction approaches (CS and AIMCS) was guided by a desire to address two key weaknesses in the Saudi education system. The first concerns the widespread practice of teaching VI students in separate classrooms within mainstream schools. Secondly, although inclusive classrooms at the higher education level are increasingly bringing VI and SI students together, they often do not employ instructional methods that are well-suited to the needs of VI learners. Aimed at promoting greater inclusivity, CS and AIMCS approaches offer practical tools to support the integration of VI learners into EFL classrooms alongside their SI peers. They help

to overcome challenges such as difficulties with concept formation, while simultaneously leveraging VI learners' strengths in auditory processing (for further details, see Chapter Two).

1.4 Significance and Aims of the Study

Though existing research has investigated the role of teachers' use of L1 for L2 vocabulary learning through aural input for SI learners, it has not yet identified the impact of L1 in teaching L2 vocabulary through listening for VI learners. Literature exploring AIM's effectiveness on L2 vocabulary learning is scant, and no research has investigated the benefits of this method on the vocabulary learning of VI learners. The present study attempts to address this knowledge gap and to develop a better understanding of the ways in which Saudi learners with visual impairment learn EFL vocabulary through listening, and what the impact is of LFonF, in the form of CS and AIMCS, on learners' L2 vocabulary learning. There are five primary aims to this study:

1. To establish which of two types of vocabulary instruction are most beneficial for VI and SI learners.

2. To explore whether and how the instruction effect on vocabulary learning is moderated by learners' listening proficiency and their existing vocabulary size.

3. To establish how far the number of repetitions affects the retention of vocabulary items for VI and SI learners.

4. To uncover whether the strategies used by VI and SI learners when listening to the teacher's input in an EFL classroom can explain learning gains made under each type of instruction.

5. To gain learners' views on each type of instruction in terms of their perceptions of the helpfulness of CS and AIMCS approaches.

1.5 Thesis Structure

This thesis consists of seven chapters. Chapter One, the Introduction, highlights the context of the study by presenting a general overview of English language education in Saudi Arabia, as well as the status of special education and inclusive education within the kingdom. The study's rationale and the gaps in the literature it aims to address are examined through a brief review of key theoretical and empirical evidence. Finally, the specific aims of this study are highlighted.

Chapters Two and Three comprise the Literature Review, which presents a more in-depth engagement with the study's theoretical and conceptual framework. Chapter Two introduces key theoretical insights related to VI learners' language development and the effects of vision deficit on L2 learning. Thereafter, Chapter Three reviews key issues related to vocabulary learning for VI learners. Theories of vocabulary learning and their relevance to VI learners are then discussed. Empirical studies focusing on aural input enhancement are also reviewed, while issues concerning listening and vocabulary learning strategies and L2 listening proficiency are explored.

Chapter Four, Methodology, discusses the methodological framework and justifies selecting a mixed-methods approach with a quasi-experimental design. It also discusses the data collection procedure, the development of research instruments, the piloting of the research instruments, the data analysis procedure, the reliability of the test instruments, and ethical considerations.

Chapter Five, the Findings Chapter, starts by presenting the quantitative findings from the vocabulary tests. The findings of generalised linear mixed effects models are presented to address the first three research questions. Last, qualitative findings from the interviews are used as a basis to answer the last research question, which explores learners' responses to each type of instruction

in terms of the strategies it prompts and their perceptions of the helpfulness of both CS and AIM approaches.

Chapter Six, Discussion, considers the findings of each research question and interprets them in light of the theoretical and empirical research presented in Chapters Two and Three. The discussion includes points of comparison and contrast between the previous literature and the findings of the current study. Chapter Seven, Conclusion, summarises the main findings and sheds light on the study's contributions to theory and practice as well as its limitations. Finally, pedagogical implications and suggestions for future research are presented.

CHAPTER TWO: LITERATURE REVIEW (I)

2.1 Introduction

This first chapter of the literature review provides an overview of key theoretical perspectives and studies conducted concerning the impact of visual impairment on language learning, covering both first (L1) and second (L2) language contexts. However, many of these studies are empirically weak and rely on anecdotal evidence, leading to inconsistent and inconclusive findings. As a result, this chapter advocates for a broader, multidisciplinary approach, incorporating a neuropsychological perspective. Specifically, the discussion focuses on neuroplasticity, exploring how the unique brain functions of visually impaired individuals may offer advantages in language learning. Particular attention is given to the brain's compensatory mechanisms, where other sensory modalities, such as hearing and touch, are enhanced to compensate for the lack of visual input. However, it is argued that investigations exploring these issues are notably scarce in the context of second language (L2) learning, highlighting the need for further research in this area.

2.2 Visual Impairments and Language Development

Extensive research has been conducted on the language acquisition of VI children, exploring the topic from various theoretical perspectives, with a primary focus on their first language (L1). Since the 1980s, there has been a significant yet unresolved area of controversy in research concerning how well VI children form general concepts in the L1, meaning their "ability to extend the domain and application of a word to new and different referents that share criterial features" (Smeds, 2015, p. 36). This process is known as extension, although for blind children, there is often an overextension or underextension in relation to words (i.e., believing that doggie refers to all four-legged creatures or that doggie is used just for the one dog they know) (Jedynak,

2014; Smeds, 2015). As the following discussion will demonstrate, much of the research on extension has yielded inconsistent results, providing little clarity on its impact in language learning. Exploring the issue of extension, Andersen et al. (1984) conducted a three-year longitudinal study employing individualised experiments and diary records to examine the language use of blind children in naturalistic contexts and the extent to which they use extension. The study included six children born at full-term (their ages ranged from nine months to four years) with varied degrees of vision: two completely congenitally blind, two partially blind, and two sighted. They found that the early vocabularies of blind children resembled those of sighted children, albeit with differences in the conceptual basis of word meanings (i.e., blind children did not overextend their early vocabulary, and their lexical usages were more limited compared to that of sighted children). The blind participants rarely overextended their early words (8-13% of early words versus 41% in sighted participants), indicating difficulties in concept formation. According to Andersen et al. (1984), problems with extension signify cognitive incompetence in forming "concepts and categorisation schemata" to trigger the lexical extension process. This has a "detrimental effect" on language acquisition due to a lack of visual input (p. 655).

Landau and Gleitman (1985) argued that extensions are insignificant in language acquisition, and that there is no connection between cognition and language (i.e., word meaning is determined by its syntactic and semantic context inside a phrase). Thus, the language of sighted and visually impaired children has the same prerequisites, and overextension is rare and restricted to the first 75 words acquired. To explore those issues, Landau and Gleitman (1985) observed a congenitally blind subject, Kelli, every three weeks from 21 months until her fifth birthday. The collection of the spontaneous speech samples started at 23 months involving first words and continued to 42 months involving complex sentences. They found that she used the word "look"

in relation to haptic exploration and concluded that "look" means to "explore with the dominant modality used for apprehending an object" (p. 69) (i.e. tactility for blind children and vision for their sighted counterparts). The examples provided for Kelli's production of both "look" and "see" indicated that she could learn the actual meaning of the words despite the lack of visual experience. Landau and Gleiteman's (1985) results indicate that "a congenitally blind child can acquire considerable sophistication with the sighted vocabulary" (p.3).

While Landau and Gleitman's (1985) study was based on a single subject, Pérez-Pereira and Castro's (1997) longitudinal study compared between a pair of twin sisters, one congenitally blind and the other sighted. They were observed from 10 months to 2.5 years old. They monitored the development of the sisters monthly through video recordings and analysed their language during various everyday behaviours, such as playing and dealing with parents. The SALT programme (Systematic Analysis of Language Transcripts) was then used for transcription and analysis of the behaviours they captured. The findings indicated that the blind child created roughly the same number of overextensions (33) as her sighted counterpart (21). They concluded that blind children need a longer period to experience the world, to extend words to other referents of the same sort, and to talk more often about the actions performed by other people. In their work, Pérez-Pereira and Conti-Ramsden (1999) challenged the notion that lack of vision results in cognitive incompetence. They proposed that although vision deficit restricts VI children's ability to generalise language use across various contexts, they nonetheless possess the capacity to understand word meanings and, as such, appear to have similar abilities in understanding word meanings to those of sighted children (Warren, 1994). As the discussion above demonstrates, studies on extension have reported conflicting results regarding whether it is a positive

phenomenon for VI individuals. Furthermore, due to the lack of consistency in findings on the role and impact of extension in language acquisition, further research is needed to clarify this debate. The differences that the above studies have found in relation to the early language acquisition of VI and sighted learners appear to be mainly attributed to the lack of visual experience of VI children, although there is little evidence that the "underlying concepts that the words represent are impaired" (Smeds, 2015, p. 37). Research has not yet resolved these debates (Jedynak, 2016; Smeds, 2015), and more empirical insights are needed to be able to reach a firm conclusion about the ways in which visual impairment can impact the language learning of children afflicted with this disability. However, the research conducted so far can lead us to conclude that although VI learners may face some challenges with L1 concept formation, the exact nature and extent of such challenges is contested and variable (Campbell et al., 2024).

2.3 Visual Impairments and Second Language Acquisition

Although first language acquisition in VI individuals has been investigated extensively, second language acquisition has received scant attention. This dearth is due to the generalised assumption that VI learners "follow the same patterns of learning as their sighted counterparts; provided there is reasonable competence in the mother tongue, a second language will be learned successfully…". (Araluce, 2002, p. 77). The little research that has been conducted on acquiring second languages by VI learners has approached it mainly from a teaching perspective. This has focused on the efficacy of various methodologies for teaching a second or a foreign language (L2) (e.g., Carpenter, 2020; Couper, 1996; Guinan, 1997; Nehari, 2017; Nikolic; 1987; Topor & Rosenblum, 2013), rather than the impact of these methodologies on learning, which is the focus of the current study. Additionally, existing research has not compared VI learners to SI learners.

The literature reviewed below only provides general observations regarding the language acquisition abilities of VI children or adults.

To better understand the various ways in which VI children acquire a new language, Couper's (1996) study involved reviewing existing literature on teaching language skills to these children, as well as directly observing language classes in mainstream and special education schools. She based her review on several studies to examine whether VI children may be classified as "gifted linguists" (p. 6). She observed that "there seemed to be a universal consensus that these pupils were adept, at least, at languages", while unique skills exclusive to VI students, highlighted by the studies, included "the ability to mimic and recognise aural patterns and develop a well-trained memory" (Couper, 1996, p. 6). The researcher also referenced a report from the Royal School for the Blind (1996) in Liverpool, England, in which teachers were astounded by the success of VI students in L2 learning laboratories, attributing this to their "good ear" (p. 6). Concerning Couper's (1996) observational research in L2 classrooms, where French and German were taught as foreign languages, she found that VI learners had a remarkable ability to produce authentic intonation.

The 1960s witnessed the launching of a landmark programme in the USA, which demonstrated the ability of VI learners to successfully acquire a second language when the appropriate tools and methodologies are provided. This programme became an important catalyst that sparked more interest and further research into the topic of language learning amongst VI students. Georgetown University was chosen by the Office of National Rehabilitation of the United States to launch a language programme to train VI students in second languages. Participants were selected from all over the country and were required to learn two target languages, German and Russian, for an average of 40 hours per week. The VI learners were taught in a separate classroom,

and an aural-oral method for second language acquisition was used (i.e. learners had to gain a good command of the L2 language's sound system before being introduced to basic vocabulary and grammar). The programme required extensive self-study in the language laboratory where learners could practise independently and work at their own speed with aural materials. The practice involved three categories of recordings: vocabulary, textual material, and grammar synopses. Correct responses were provided during the recording for immediate feedback. The programme also included Russian braille reading and writing and using the Cyrillic keyboard. The project, deemed successful, qualified its participants to work as simultaneous interpreters and teachers of German and Russian in both special schools and mainstream settings, creating substantial opportunities for VI individuals for the first time (McDonald, 1968).

Building upon this programme, the Catholic Guild for the Blind in New York City launched an initiative in 1968 that demonstrated how individuals with visual impairments can develop superior second language skills when emphasis is placed on enhancing their unique aural and memory abilities. The initiative provided an English as a Second Language (ESL) programme that adopted the oral-aural method to enhance VI students' listening and speaking skills. It involved 30 students from different countries and varying levels of education. The learners' ages ranged from 9 to 63, with the majority being in their twenties. The curriculum prioritised oral practice, allocating at least thirty minutes per lesson only to oral exercises (Snyder & Kesselman, 1972). Tape recorders were extensively used to enhance oral practice and allow students to evaluate their own recordings. Snyder and Kesselman (1972) explained that the programme focused on L2 phonological aspects before introducing learners to the orthographical language. Also, it involved teaching gestures and facial expressions to help VI individuals succeed in social and professional situations, as certain gestures are characteristic of and expected in different cultures. However, the

authors did not provide much clarification about how the teaching process of gestures and facial expressions took place. They adopted the American Language Institute (ALI) materials and claimed that the teaching material underwent slight modifications (e.g., substituting flashcards with tactile stimulation and adapting some standard lessons to comprise beneficial mobility information). The programme attained differing levels of success, with some students demonstrating significant progress, resulting in their enrolment in an ESL program at a local institution as well as college courses. Thus, Snyder and Kesselman (1972) concluded that VI individuals, regardless of their level of education, possess an extraordinary ability to acquire foreign languages due to their enhanced aural sensitivity and the rigorous memory training they undergo as part of the general rehabilitation programme.

In a later study that took place in 1987, broad principles for effective teaching methods and their application in relation to VI learners were explored by Nikolic (1987). While drawing on the limited literature available at the time, the author's personal experience as a blind teacher in Yugoslavia and his visit to British schools for VI learners, the study concluded that VI individuals showed a pronounced aptitude for acquiring L2. Their success, according to Nikolic (1987), may have been due to their positive attitude towards learning an L2, their aural sensitivity, and the rigorous memory exercises they practised throughout rehabilitation. Nikolic (1987) did not precisely clarify the cause of the positive attitude observed in VI learners; however, he underscored the significance of leveraging their strengths, including improved memory and auditory abilities, to aid language acquisition. While both Nikolic (1987) and Snyder and Kesselman (1972) did not provide much detail about what these rehabilitation programmes comprised, these types of initiatives generally focus on memory training. This involves specific exercises aimed at improving memory retention and recall in VI individuals, which are tailored to enhance their

language learning capabilities. Moreover, Nikolic clarified that gaining phonetic skills and learning to understand accents (i.e. pronunciation and intonation patterns) have unique roles to play in how VI individuals learn an L2. He argued that VI learners can acquire phonetics and accents of a foreign language "by ear without any explanation of the pronunciation of the specific sounds of the receptive language" (p. 64). He used the comparison to a baby's natural ability to utter sounds in any language to support his point.

Nikolic (1987) also claimed that mastering the skills of reading and writing in braille in the first language results in mastering the same skills in the foreign language since braille's phonic structure is universal, allowing proficiency to be transferred from the L1 to English. Nonetheless, as braille is a global system, learners may encounter problems with double braille symbols (i.e. symbols that mean one thing in the native language and something quite different in the foreign language). For instance, in the context of the present study, VI learners of EFL who are native Arabic speakers might struggle when the symbols representing different English alphabet letters are similar, such as with the letters *b* and *d*. This resemblance between letters results in confusion, but this is typically a simple issue as it pertains solely to particular letters. Ultimately, the main issue is that reading braille is more complex and time-consuming than reading print; consequently, teaching intonation and rhythm through a textual approach is challenging (Nikolic, 1987).

Nikolic (1987) presents a framework for material adaptation in L2 teaching VI learners, emphasising the importance of leveraging remaining senses to compensate for visual deficiencies rather than addressing cognitive development separately. In the framework, tactile stimuli, combined with a focus on intonation, stress, and rhythm, are critical components of effective instruction. Furthermore, the extensive use of recorded materials and braille-based resources, ensuring accessibility for VI learners, is emphasised. Gaps in research related to VI learners L2

acquisition are highlighted by Nikolic (1987), particularly in areas such as aural pattern recognition and phonological short-term memory, underscoring the need for further investigation. Importantly, Nikolic (1987) argues against the necessity of a separate curriculum for VI learners, maintaining that they can successfully acquire an L2 alongside sighted peers within the mainstream educational framework. This position reinforces the need for materials to be adapted in ways that allow VI learners to utilise residual vision or other sensory modalities effectively, as most instructional approaches that teach foreign languages currently depend on the *visuality* of the materials used (Araluce, 2002). This issue, along with other challenges faced by L2 learners, are addressed in Section 1.3.

To sum up, there is limited recent literature on L2 acquisition by VI learners, with most of the existing studies being outdated. While the majority of this research does not provide sufficient empirical evidence of exactly how VI learners are able to acquire a second language, it does give an indication that VI learners have an aptitude for learning a foreign language as do their SI peers. In fact, there is evidence to suggest that these learners may actually have more aptitude than average for L2 learning because of their superior aural sensitivity and the intensive memory training they receive in rehabilitation. The reported studies have highlighted the profound reliance of these learners on their sense of hearing and so the investigations have focused on listening and prioritised teaching L2 phonological aspects. In other words, these studies have argued that to take advantage of VI learners' unique auditory abilities, they should be taught through listening in order to maximise learning in the context of the L2 classroom. The next section will dive deeper into the issue of how VI learners are able to acquire languages by exploring more recent debates about blindness from a neuropsychological perspective. The focus will be on how VI individuals learn

through their brain's unique ability to compensate for the lack of visual input by strengthening other sensory modalities.

2.4 Neuropsychological Aspects of Blindness

This section explores neuropsychological aspects of blindness, beginning with a brief overview of the Sensory Compensation Hypothesis and neuroplasticity. Next, it explores empirical evidence from L1 and L2 acquisition in relation to auditory perceptual compensation. In addition, it sheds light on how vision deficit impacts mental imagery and the ways in which VI individuals form mental representations.

2.4.1 The Sensory Compensation Hypothesis and Neuroplasticity

The Sensory Compensation Hypothesis (Hershenson, 1962; Levy, 1872) posits that VI individuals may develop enhanced abilities in their remaining sensory modalities, such as touch, hearing, or smell, and cognitive functions (e.g., memory and language). The compensation mechanisms occur due to neuroplasticity, which is defined as:

> The capacity of the nervous system to modify its organisation. Such
> changes can occur as a consequence of many events, including the normal
> development and maturation of the organism, the acquisition of new
> skills ('learning') in immature and mature organisms, after damage to the
> nervous system and as a result of sensory deprivation. (Bavelier & Neville, 2002: 443)

Research indicates that these advantages may arise from structural and functional changes in the brain, including adapting the occipital cortex (associated with vision) to support other sensory activities (Harvard Medical School Department of Ophthalmology, n.d.).

Studies about neuroplasticity have increased immensely, revealing the extraordinary ability of both children and adults' brains to be influenced by environmental input (Bavelier & Neville, 2002; Neville, 2006; Sabourin et al., 2022). Much research has documented the profound impact

of sensory deprivation in one modality on developing the remaining modalities. According to Bavelier and Neville (2002), there is generally a consensus that multimodel brain areas (i.e., brain areas that integrate and analyse information from different sensory modalities) exhibit enhanced input processing across other modalities in "unimodally deprived animals and in blind and deaf humans" (p. 443). This is because the different brain regions process and integrate sensory information from visual, auditory, and somatosensory organs, resulting in a multisensory experience of the world. In this respect, visual deprivation alters this multisensory integration, enhancing input processing to the remaining modalities, whereby the section of multimodal association area reserved for vision is then taken over by non-visual stimuli due to "activity-based competition between different inputs" (Bavelier & Neville, 2002, p. 444).

Bavelier and Neville (2002) conducted a narrative review of studies related to cross-modal plasticity. Their analysis does not indicate the precise number of articles evaluated; nonetheless, it includes a broad spectrum of study findings from both animal and human studies to investigate how sensory deprivation in one modality can induce compensatory alterations in other sensory systems. The study subjects were typically developed human and animal models (cats, rats, monkeys, etc) with sensory deprivation (visual and auditory). The researchers used various methods to conduct their investigations, such as magnetoencephalography (MEG), electroencephalography (ERP), positron emission tomography (PET), functional magnetic resonance imaging (fMRI), and transcranial magnetic stimulation (TMS), as well as animal studies and behavioural experiments. Findings across studies indicated that cross-modal plasticity results in the reorganisation of brain functions, enhancing the processing of inputs in the remaining modalities in unimodally deprived animals and humans. The primary sensory cortices linked to the deprived modality may be colonised by the other modalities, meaning the brain sensory regions

responsible for a particular sense can be taken over by other senses. For instance, the brain regions that ordinarily process visual information may be repurposed to process auditory or tactile stimuli, thereby improving those other sensory abilities. In conclusion, the brain exhibits significant adaptability and can reorganise in response to sensory deprivation, leading to increased capabilities in the remaining senses. (Bavelier & Neville, 2002).

Similar to Bavelier and Neville's (2002) analysis, Pascual-Leone et al. (2005) conducted a comprehensive review of 200 studies on brain plasticity, which involved a diversity of subject populations (i.e., individuals with sensory deficits, typically developed humans, stroke and brain injury patients, individuals with neurological disorders, and animal models). The aim was to explore the wide-ranging evidence regarding the structural and functional adaptations of the human brain in response to various experiences, learning, and environmental changes. As in the studies reviewed by Bavelier and Neville (2002), those in Pascual-Leone et al. (2005) used a range of methods, such as functional neuroimaging and electroencephalography to investigate the neurological mechanisms facilitating motor function recovery and adaptation to different challenges and experiences (e.g., adaptation of the visual cortex in patients with blindness). Concerning vision deficit, findings revealed that in early-blind individuals, the occipital cortex is involved in high-level cognitive tasks, including verbal memory and language processing. Taking into consideration Bavelier and Neville's (2002) findings, it can be concluded that the visual cortex in blind patients exhibits significant adaptability, allowing it to be utilised for various sensory modalities.

2.4.2 Empirical Evidence and Auditory Perceptual Compensation

Early empirical studies concerning the Sensory Compensation Hypothesis were mainly related to L1 and reported contradictory results. While some of this research indicated superior

performance by VI individuals in certain sensory and cognitive tasks, others showed inferior performance by VI compared to SI individuals (Miller, 1992). It was only when the emerging field of neuropsychology began to focus on neuroplasticity and the brain's ability to reorganise itself that definitive findings started to surface. Smeds (2015) argued that by recognising and considering "the experience-dependent cortical reorganisation" that occurs in individuals with visual impairments, neuropsychology began to produce consistent results. These results showed that VI individuals can compensate for vision deficit by developing "superior auditory, tactile and cognitive skills", known as "perceptual compensation" (p.48). The remainder of this section will discuss empirical evidence from neuropsychology mainly related to auditory perceptual compensation and cognitive functions. This includes enhanced speech processing, superior auditory verbal memory performance, heightened phonological awareness for speech sound, greater pitch discrimination, and heightened phonological memory.

Concerning auditory language and speech processing, Röder et al. (2002) used fMRI to investigate speech processing in ten congenitally blind adults and eleven corresponding sighted controls. They mapped the participants' language-related activity when they listened to sentences featuring simple or complex syntactic structures that were sometimes semantically meaningful, and at other times not. Findings revealed that in addition to activity in the "classical left-hemispheric" language area, blind participants exhibited activity in the "homologous right-hemispheric structure", the primary visual cortex, and other adjacent brain regions that are dedicated to vision in sighted individuals (striate and extrastriate cortex), all of which are components of the occipital cortex/lobe. The activation intensity in the occipital cortex and classical/core language areas varied in response to semantic content and syntactic complexity. Röder et al. (2002) concluded that the disadvantages that blind children face in their early language

acquisition not only disappear with age (Pérez-Pereira & Conti-Ramsden, 1999), but also "seem to turn into enhanced speech perception skills in blind adults" (Röder et al., 2002, p. 935).

Turning to superior verbal memory performance, Amedi et al. (2003) also used fMRI to compare the brain responses of ten congenitally blind individuals and five corresponding controls while engaging in various tasks. The tasks included the following: a verbal-memory task (VM) devoid of sensory input (silently recalling lists of previously learned abstract words); a verbal-generation task (VG) (silently retrieving a verb that matches a heard noun); an auditory noise task (AN); and a tactile braille reading task (Amedi et al., 2003). Findings revealed significant occipital activation in blind participants, absent in their sighted counterparts, alongside reorganisation and specialisation of the occipital cortex. The anterior regions were activated during braille reading, while the posterior regions, including the primary visual cortex, were engaged during the more cognitively demanding verbal memory and verb generation tasks. Moreover, the activation was more pronounced in the left hemisphere, consistent with the left lateralisation of language processing. Amedi et al. (2003) also reported that the superior performance of blind individuals in various VM tasks reflected these differences between the groups. The activation level of the primary visual cortex during VM tasks correlated with blind individuals' competence, given that higher memory task scores corresponded to increased activation of the primary visual cortex.

Heightened phonological sensitivity to speech sound also indicates enhanced auditory ability in blind individuals. Hugdahl et al. (2004) conducted a study to examine enhanced speech sound processing in 14 congenitally and early blind individuals compared with 129 SI individuals (control group). Two different consonant-vowel (CV) syllables were presented with the dichotic listening technique (DL) (i.e. two different sounds were presented simultaneously, one in each ear). The DL procedure included three conditions: instruction to focus on the right ear stimulus,

instruction to focus on the left ear stimulus, or no instruction concerning attention. The findings revealed that VI individuals reported significantly more correct syllables than their SI counterparts. Additionally, VI outperformed the SI participants when they were instructed to focus on the stimulus presented to the left ear and report exclusively from the attended channel. Hugdahl et al. (2004) concluded that VI individuals exhibited heightened sensitivity to speech sound at both "sensory and cognitive levels of information processing" as a result of the reorganisation of the "auditory sensory modality" in the brain (p. 28).

The greater auditory processing abilities observed in blind individuals can also lead to superior pitch discrimination. Gougoux et al. (2004) investigated the auditory abilities required to detect pitch variations (i.e., the pitch of the voice rises and lowers over time). They compared the performance of three groups of adults: seven early-blind, seven late-blind, and twelve sighted controls. Participants were requested to listen to a series of sounds of varying frequencies at each trail and determine if they were falling or rising in pitch. Binaural headphones, which deliver separate audio signals to each ear, were used, and pitch-change direction was recorded by pushing a key. The task difficulty was parametrically altered (i.e., adjusting difficulty by using specific numerical values or variables), in relation to both the temporal and spectral domains. (Gougoux et al., 2004). Findings indicated that early blind participants outperformed their sighted peers in assessing the direction of pitch variation between sounds, even when the rate of change was ten times faster than perceived by the sighted controls. Moreover, earlier onset of blindness correlated with enhanced performance, which aligns with the notion of neuroplasticity and its optimality during early age.

Concerning phonological short-term memory, Rokem and Ahissar (2009) examined the interaction between cognitive and auditory abilities in congenitally blind individuals using various

tasks. The participants were 16 congenitally blind and 16 sighted adults within the same age range. The tasks involved measuring: 1) short-term memory functions using auditory forward digit span and immediate serial recall of sequences of nonwords. This comprised one to five items, both with or without noise; 2) executive memory functions using auditory backward digit span; 3) speech perception using nonword sequences from one to five items, with or without background babble; and 4) two-tone frequency discrimination using same/different and high/low discrimination. The tasks were conducted in a soundproof room, and sighted individuals were blindfolded to eliminate visual clues. Results showed that blind participants outperformed their sighted counterparts on the auditory forward digit span task and the nonword repetition span (phonological functions). In contrast to the forward digit span, the performance was hindered when the digits were manipulated and repeated backwards. Thus, Rokem and Ahissar (2009) proposed that "the short-term memory advantage of blind individuals results from better stimulus encoding, rather than from superiority at subsequent processing stages" (p.843).

Raz et al. (2007) investigated serial and recognition memory performance in 19 congenitally blind and 19 matching sighted controls using recall and recognition memory tasks. In the serial recall task, participants listened to a list of 20 words (10 abstract and 10 concrete nouns) and were required to recall the target words in their original order on the list. The list presentation, followed by immediate serial recall, was conducted four times to facilitate learning. In the recognition task, participants listened to pairs of words and were instructed to determine whether both words in a pair were included in the played list or if the order of the words in the pair corresponded to their order of presentation in the list. Findings revealed that blind participants significantly outperformed sighted peers in both memory tasks, with their greatest skill being the ability to recall extended word sequences. The blind participants' serial memory superiority was

sustained even after controlling for variations in item memory performance level. Raz et al. (2007) suggested that the ability to remember words (item recall) in a "route-like" sequential manner constitutes a serial memory function that is enhanced in blind individuals out of necessity (e.g., being required to recall spatial information while navigating their environment) (p. 1129). The researcher concluded that the results provide further evidence for enhancing specific cognitive abilities in blind individuals to compensate for vision deficit.

In the only study located that has explored L2 acquisition by VI learners, Smeds (2015) investigated phonological short-term and episodic long-term memory (i.e., the ability to recognise, for instance, previously encountered people, events and objects) as prerequisites for blind individuals' L2 acquisition. She compared blind to sighted individuals to explore whether they have better prerequisites than SI individuals due to advantages related to auditory perceptual and cognitive functions (memory functions, speech perception, and speech production). The study comprised 80 Swedish participants, 40 L1 and 40 L2 speakers. The two groups were primarily categorised into three subgroups each: "11 early blind (EB), 9 late blind (LB), and 20 sighted (S), resulting in a 2 (language background: L1 or L2 speaker) X 3 (visual status: early blind (EB), late blind (LB), sighted (S) design" (Smeds, 2015, p. 63). The groups were matched on a set of covariates (gender, age, and level of education). Additionally, blind and sighted L2 groups were matched based on L1 but diverged on the essential variables of interest, language background (L1/L2), and visual status (early/late blind or sighted). The participants received five different memory tests: three phonological short-term tests; a digit span test; two nonword repetition tests (CNRep and Lat A) also called serial recall tests; an auditory recognition memory test categorised as an episodic long-term memory test in the field of psychology, which involves recognising sound sequences; and an episodic memory test (listening to a short story to remember specific events or

episodes). Concerning phonological short-term memory, the three test results indicated that the early blind individuals outperformed the other two groups, while the late blind and sighted groups exhibited no significant differences. Regarding recognition memory, findings revealed that both EB and LB performed significantly better than S participants. Finally, episodic memory test findings revealed no significant main effect for visual status (EB, LB, S, $F_{(2, 74)} = 0.122$, $p = .89$). In other words, EB have no advantage compared to the LB and S "in remembering an event in which many facts are presented to them" (Smeds, 2015, p. 128).

Smeds (2015) concluded that VI individuals experience certain advantages in various aspects of the memory system, which are essential to L2 acquisition, mainly phonological short-term memory in EB individuals and recognition memory in both EB and LB individuals. These two memory functions appear to be "inextricably entwined process of second language acquisition, and they are both associated with language learning talent" (Smeds, 2015, p. 185). Therefore, Smeds (2015) proposes that vision deficit and the "unique experience of living as a blind individual" contribute to altered neurological development, resulting in cognitive benefits in L2 acquisition (p. 185). Smeds (2015) did however identify some limitations of her research, such as lacking an educational perspective and the pedagogical aspects of the L2 acquisition of VI individuals. Importantly, as this is the only study that has explored L2 acquisition by VI learners, there is an urgent need for more research to be conducted in this area to better understand how the unique auditory and memory abilities of VI individuals may allow them to learn a second language. The current study aims to shed light on this neglected topic by comparing vocabulary learning in both VI and SI learners.

The literature reviewed so far has mainly focused on sensory and cognitive compensation in VI individuals, offering valuable insights into the unique skills they possess in relation to

language learning. This sets the foundation for the present study's investigation into VI individuals' L2 vocabulary teaching/learning. The empirical evidence related to auditory perceptual compensation discussed in Section 2.4.2 (e.g., Amedi et al. 2003; Hugdahl et al., 2004; Röder et al., 2002) focused on L1 processing and emphasised the enhanced auditory processing, phonological awareness, and verbal memory skills prevalent in VI individuals. Although these cognitive abilities are crucial to vocabulary acquisition, they were examined outside of an L2 context. As mentioned, Smeds (2015) is the only study that has investigated L2 acquisition in VI individuals. While these findings have informed the current study, they also draw attention to one of its limitations: the lack of phonological memory measurement. Phonological memory is a key cognitive factor in L2 learning (Smeds, 2015), and despite its relevance, it was not included in this study. This decision was made because measuring phonological memory did not align with the study's primary aim, which was to identify the vocabulary instruction approaches (CS/AIMCS) that are most beneficial for VI and SI learners. Moreover, it was essential to remain mindful of the cognitive and physical burden that multiple tests would impose on vulnerable learners. Priority had to be given to examining the variables closely aligned with the theoretical vocabulary learning models outlined in the Methodology Chapter (e.g., listening comprehension, prior vocabulary knowledge, short-term learning). Subjecting the learners to overly demanding assessments could intensify their challenges and detract from their educational experience. Finally, the limited time available for the interventions restricted the inclusion of additional cognitive assessments.

2.4.3 Mental Imagery and Perceptual Compensation

Mental imagery is an important part of human thought. It is often described as a quasi-perceptual experience in which mental images are formed from different sensory inputs, such as touch, sound, sight, and smell (Cattaneo et al., 2008; Ilic, 2025; Renzi et al., 2013). Cattaneo et al.

(2008) and Renzi et al. (2013) conducted comprehensive analyses of various studies to explore the development of mental imagery and spatial cognition in blind individuals via non-visual modalities, emphasising the brain's plasticity in response to sensory deprivation (e.g., Bensafi et al., 2003; Eardley & Pring, 2006; Espinosa et al., 1998; Noordzij et al., 2007; Cornoldi et al., 1979; Amedi et al., 2008). Both narrative reviews entailed rigorous examinations of empirical studies concerning brain activity and spatial processing in blind individuals, focusing on neuroimaging techniques such as fMRI and behavioural data. The authors synthesised the findings of the studies in terms of spatial memory, mental rotation, and sensory substitution to gain insight into how non-visual sensory inputs contribute to mental imagery and spatial representation. The analyses revealed that blind individuals depend on alternative sensory modalities—primarily auditory, tactile, and kinaesthetic inputs—to develop mental representations of space when there is no visual input. In the absence of vision, the brain reorganises itself, notably in the parietal cortex, to process spatial information through alternative sensory inputs, such as touch and hearing, as emphasised by Cattaneo et al. (2008). The results of both narrative reviews illustrated the neuroplasticity of the brain and the function of sensory substitution in improving spatial processing. Renzi et al. (2013) built on Cattaneo et al.'s (2008) findings by investigating the manner in which the brain compensates for the absence of vision by integrating auditory and tactile information, thereby enabling blind individuals to construct complex mental representations of space. Their results underscored the fact that blind individuals rely heavily on tactile, auditory, and kinaesthetic inputs to develop mental representations of space. The brain synthesises non-visual sensory inputs to develop spatial awareness, exhibiting augmented processing in regions commonly linked to vision, including the occipital cortex. The findings by Cattaneo et al. (2008) and Renzi et al. (2013) reinforce the concept of neuroplasticity, where the brain repurposes neural structures for non-

visual spatial processing, allowing blind individuals to create rich spatial and mental imagery using non-visual senses like touch, hearing, and kinaesthetic input.

2.5 Visual Impairments' Effect on L2 Learning

Vision necessitates several sensory systems to incorporate information (Takeshita & Lusk, 2017; Ward, 2000). It enables the person to comprehend events while simultaneously interpreting the meaning of various sensory inputs (e.g., hinges' squeak and the smell of fresh air). Vision integrates sensory information, creating the "whole" of an event by preventing each piece from being "discrete and perceived sequentially" (e.g., a door opened and someone entered) (Barclay & Staples, 2012, p. 8). Hence, unlike SI learners, VI learners may have a fragmented conception of their world and their perception may be confined to discrete pieces of sensory information accessible to them; therefore, their learning has to be "experiential and systematically structured" (Barclay & Staples, 2012, p. 9). On concept formation and vision deficit, Jedynak (2011a; 2014a, 2016) argues that if vision deficit has an impact on L1 acquisition, then it is likely to affect foreign language learning, because "if a given concept was not acquired properly by a blind child, its equivalent in a foreign language will also have an inappropriate mental representation" (Jedynak, 2011a, p. 163). Therefore, L2 instructors must ensure these learners comprehend the given concept in their L1 to assist L2 vocabulary learning (Jedynak, 2014a). Indeed, understanding the similarities and differences between VI and SI learners in L1 acquisition, such as in concept formation, helps teachers effectively tailor L2 vocabulary instruction suitable for VI learners.

Importantly, as the literature discussed above has documented, VI learners are not always at a disadvantage compared to SI individuals. In fact, evidence shows that VI learners develop cognitive advantages compared to their SI peers, specifically superior verbal memory performance, heightened phonological awareness for speech sounds, and greater pitch

discrimination, through sensory compensation mechanisms. These enhanced traits align closely with key elements of second language learning and thus can support the learning process. For example, VI learners' enhanced verbal memory performance may facilitate their L2 learning by improving efficiency in retaining and recalling new vocabulary and grammatical structures. This superiority could potentially lead to faster lexical retrieval and better retention of auditory input, both of which are crucial for attaining fluency in an L2 (Smeds, 2015). Enhanced phonological awareness may allow VI learners to accurately identify, differentiate, and reproduce unfamiliar phonemes in an L2. This skill is crucial for developing accurate pronunciation and comprehending aural input, especially when the L2 includes sounds absent from the learners' L1 (Best & Tyler, 2007; Smeds, 2015). Concerning the heightened proficiency in pitch discrimination among VI learners, this may enhance their ability to perceive intonation and stress patterns, which are essential for understanding meaning and emotion in spoken language (Cutler, 2012; Smeds,2015). Thus, this auditory sensitivity could improve pronunciation, listening comprehension and overall L2 learning.

2.6 Chapter Summary

In conclusion, this chapter has highlighted the weaknesses in the existing literature, which has failed to provide solid and consistent insights into language learning for visually impaired individuals, particularly in second language (L2) contexts. Much of the earlier research on L2 learning has yielded inconclusive findings, as most studies were empirically weak and based on sporadic personal experiences. To address these limitations, this chapter has demonstrated how an interdisciplinary approach, drawing on insights from neuropsychology, may allow us to better understand how changes in brain function due to visual impairment could potentially give VI individuals an advantage in language learning. Research in this area shows that vision deficits

enhance other sensory modalities and cognitive functions through neuroplasticity, allowing the brain to reorganise itself in the case of sensory impairment (compensation mechanism). The empirical evidence discussed reveals how VI individuals' compensatory mechanisms enhance auditory perception and cognitive functions to a greater extent than their SI peers, such as speech processing, auditory verbal memory performance, phonological awareness for speech sound, pitch discrimination, and short phonological memory. Moreover, the brain can change the way neural structures work to help with non-visual spatial processing. This means that blind people can create detailed mental images of space and objects using their non-visual senses, such as touch, hearing, and kinaesthetic input.

Given the strengths observed in VI learners, it is reasonable to expect that L2 input would be most effective when delivered to these individuals in an aural mode. However, the final section of this chapter focused on the idea of concept formation, and the notion that, despite their superior auditory skills, VI learners may have a fragmented understanding of their surroundings due to their lack of visual input. Their perception is limited to the separate pieces of sensory information they can access. This not only affects their L1 acquisition but also requires the use of tailored instructional methods to ensure that concept formation does not impede their L2 learning. More empirical evidence is needed to reach more definitive conclusions about the best instructional approaches for VI learners, which is the primary aim of this study. Focusing specifically on vocabulary learning, this study investigates the differences in how VI and SI Arabic speaking learners in EFL classrooms in Saudi Arabia respond to two different teaching approaches: codeswitching (CS) and aural input manipulation with codeswitching (AIMCS). These issues will be explored further in the next chapter, which focuses specifically on vocabulary learning and the impact of different instructional methods on VI learners' L2 vocabulary learning.

CHAPTER THREE: LITERATURE REVIEW (II)

3.1 Introduction

This second literature review chapter delves into the complexities of vocabulary learning and the various modalities that support second language (L2) vocabulary acquisition. It begins by exploring the definition of a word and examining how different aspects of lexical knowledge necessitate distinct learning approaches, highlighting the fact that there is no one-size-fits-all strategy for vocabulary learning. The discussion then shifts to key theories related to vocabulary acquisition, including the Noticing Hypothesis (Schmidt, 1990), the Revised Hierarchical Model of Bilingual Language Processing (Kroll & Stewart, 1994), and Jiang's Psycholinguistic Model of Vocabulary Acquisition in L2 (Jiang, 2000), and considers how these theories can inform our understanding of the challenges faced by VI individuals in language learning. The chapter also emphasises the importance of Lexical Focus-on-Form as a teaching approach that combines the benefits of incidental vocabulary learning with intentional or explicit vocabulary learning/teaching. Following this, the chapter turns to explicit vocabulary teaching techniques and the role of input enhancement in improving vocabulary gains. Specific modes of input enhancement, including codeswitching (CS) and aural input enhancement (AIM), are then reviewed for their impact on vocabulary learning. The chapter further explores how different proficiency levels in L2 learning influence vocabulary gains. Finally, the discussion examines the role of repetition in reinforcing vocabulary knowledge, both in reading and listening contexts, and concludes by considering how VI and SI learners respond to various instructional methods, prompting them to adopt different learning strategies.

3.2 Vocabulary Learning

3.2.1 Definition of a Word and Knowing a Word

In vocabulary research, various perspectives have been proposed on how to define a word. Harley (2006) has offered two notions to define a word: (1) listemes, which are a "true minimal meaningful unit, which includes affixes like -s and un-, and idioms like kick the bucket" (semantic aspect) (p.11); and (2) phonological words, which are a "sequence of sounds which is identified as a unit on the basis of how it is pronounced – a collection picked out by the phonology of a language. "*Can't, bendable* and *dogs* are phonological words" (p.10). Nation (2013), however, adopts the receptive and productive knowledge model, which involves all aspects of knowing a word: form, meaning, and use. In terms of form, knowledge involves recognition and production of the spoken and written form, and word parts. In terms of meaning, knowledge involves creating a link between form and meaning, relating a word's meaning to the concept and producing words connected to the concept, associating words with synonyms, and producing these synonyms. In relation to use, knowledge involves the recognition and production of the word's grammatical function, as well as the collocations and recognition of constraints on use (e.g., how frequently can it be met and used (see Appendix A).

Gonzalez-Fernandes and Schmitt (2019) argue that, although Nation (2013) describes word knowledge comprehensively, he does not specify the relation between the components and how they contribute to vocabulary knowledge. In order to provide those insights, they investigated the relationships between multiple knowledge components, including "form-meaning link, derivatives, multiple meanings, and collocations" (p. 421). Their study included 144 Spanish learners of English and focused on the order in which they acquired these knowledge components in terms of recognition and recall of words. The analysis found strong correlations among the four

knowledge components, and that their loading on the "vocabulary knowledge construct" was similar (Gonzalez-Fernandes & Schmitt, 2019, p. 501). In addition, the acquisition pattern of these components was consistent with recognition aspects preceding recall in the acquisition process. However, the findings revealed that receptive and productive knowledge were loaded onto different constructs (i.e., they are different types of knowledge). Ultimately, Gonzalez-Fernandes and Schmitt (2019) suggested that in order to conceptualise vocabulary knowledge development, it is necessary to distinguish between receptive and productive knowledge.

Nation (2013) provides an overview that links the three aspects of knowledge (form, meaning and use) to the most effective learning activities. This is based on Ellis' (1994) distinction between the form and meaning aspects of vocabulary learning. Ellis (1994) argues that "recognition and production aspects of vocabulary learning rely on implicit learning, but meaning and mediational aspects of vocabulary heavily involve explicit, conscious learning processes" (p. 212). Nation's (2013) overview suggests that, in an L2 classroom, to learn the form of a word, it is essential to employ implicit learning (e.g., repetition), whereas meaning requires explicit learning (e.g., elaboration) (see Appendix A). He asserts that it is not appropriate for educators to align themselves with a specific language teaching method since "it is much more productive to become aware of the important principles of teaching and learning and to apply these in ways that just suit the learners, the learning conditions, and the skills of the teacher" (p. 7). Arguably, it is also necessary for teachers to adapt different learning approaches depending on the needs and unique abilities of students within the same classroom, particularly in the case of VI learners.

3.2.2 Theories of Vocabulary Learning

After exploring the various aspects of vocabulary knowledge and learning modalities, the following section will discuss key theories of vocabulary learning and their relevance to VI learners. These include: the Noticing Hypothesis (Schmidt, 1990), The Revised Hierarchical Model of Bilingual Language Processing (Kroll & Stewart, 1994), and Jiang's Psycholinguistic Model of Vocabulary Acquisition in L2 (Jiang, 2000).

3.2.2.1 The Noticing Hypothesis

A key aspect of language acquisition relevant to implicit and explicit knowledge is the Noticing Hypothesis (NH), proposed by Schmidt (1990), who emphasised the role of consciousness in L2 learning. NH is a cognitive framework often addressed in the context of grammar acquisition, but it can also apply to vocabulary acquisition. This hypothesis suggests that when learning a language, input turns into intake if noticed (i.e., "consciously registered") (Schmidt, 2012, p. 27). Two case studies were used by Schmidt (1990) to ground his claims. The first was an uninstructed adult Japanese learner of English as an L2, "Wes", who immigrated to the U.S. at age 30. Schmidt documented Wes' L2 acquisition for several years and observed that he had excelled in acquiring different aspects of language learning and was an exceptionally good learner. However, his grammatical structure growth was limited, which was evident in the constant use of certain inaccurate grammatical forms, e.g., "Yesterday I'm go beach" (Schmidt, 2012, p. 28). Schmidt (2012) assumed that Wes' limited development in grammar compared to other areas of language knowledge was potentially due to a "lack of aptitude and over-reliance on implicit learning strategies" and acquiring knowledge solely through interaction, with minimal focus on language form and limited conscious thought around language structure (p. 29). Therefore, it could

be postulated that, at least in terms of adult grammar acquisition, entirely unconscious language learning is likely unfeasible (Schmidt, 2012).

The second case study that supports the NH details Schmidt's personal experience of learning Portuguese during a five-month residence in Brazil (Schmidt & Frota, 1986). Findings indicated that the five weeks of classroom instruction involving extensive exposure to the language input was beneficial. Nevertheless, the analysed data, including journals, records of lessons taught in class, and audio recordings of L2 production in class and interaction after class, revealed that some forms that were frequently encountered in the L2 were not consciously acquired or noticed in the input (Schmidt, 2012). Thus, it can be inferred that classroom instruction needs to be explicit for language aspects to be registered consciously (noticed) and become an intake.

Schmidt (2012) further developed NH and extended its framework to include "consciousness as intention, and consciousness as attention, and consciousness as awareness" (Schmidt, 2012, p. 30). Concerning consciousness as intention, Schmidt (2012) argued that while incidental vocabulary learning (e.g., unconsciously acquiring vocabulary through extensive reading) can be effective, deliberate attention to linguistic cues "that are not salient" or "need to be processed differently from the way they are in the first language" is crucial in learning (Schmidt, 2012, p.30). Consciousness as attention implies that attention must be specifically focused rather than globally focused, which suggests that one's attention must be directed towards whatever evidence is relevant for a certain learning domain. Regarding vocabulary acquisition, learners must attend to a word's form and the cues available in the input that result in meaning recognition. Finally, consciousness as awareness is closely linked to attention: "what we are aware of is what we attend to and what we attend to governs what accesses consciousness (Schmidt, 2012, p. 31). Schmidt (2012) argued that since native speakers have some intuitive understanding of subtle

points of grammar that they cannot verbalise, this proves that the awareness of abstract grammar rules cannot be a prerequisite for learning. Therefore, Schmidt (1990) proposed three hierarchical levels of awareness: Perception, Noticing, and Understanding. He argued that L2 learners must achieve noticing, which is "limited to conscious registration of attended specific instances of language". However, the higher level of awareness, understanding, which involves "generalisations across instances of language" is not essential (Schmidt, 2012, p. 32). Importantly, noticing alone does not mean an automatic acquisition of linguistic features; instead, it is the essential starting point of acquisition (Schmidt, 1990).

In the present study, "Noticing" is considered essential as part of an approach to vocabulary teaching, Linguistic Focus on Form, in which learners' attention is "overtly" drawn to linguistic features "as they arise incidentally in lessons whose overriding focus is on meaning or communication" (Long, 1991, pp.45-46). It is especially important for one particular teaching method used, namely Aural Input Manipulation (AIM), whereby the input is manipulated artificially through volume increase (discussed in Section 3.2.4.2). This manipulation may be particularly beneficial for VI learners, drawing their attention to the form of target lexical items. Therefore, "noticing", the essential starting point, is achieved.

After reviewing NH, the discussion will now turn to the other two models of language processing relevant to this study to take a closer look at how L2 lexical knowledge is presented in the mental lexicon. This will shed light on the processing of L1 and L2 by early bilinguals and the extent to which these two languages, acquired during early development, are interrelated.

3.2.2.2 The Revised Hierarchical Model of Bilingual Language Processing

The Revised Hierarchical Model (RHM) by Kroll and Stewart (1994) describes the presentation of L2 words in the mental lexicon, in which the L1 plays an important role. RHM

postulates that "both lexical and conceptual links are active in bilingual memory, but the strengths of the links differ as a function of fluency in L2 and relative dominance of L1 to L2" (p.157) (see Figure 1). Bilinguals who acquire an L2 beyond early childhood, even those who are highly fluent, possess more vocabulary in their L1 than in their L2, meaning the L1 is the dominant language and a strong link has already been established between the L1 "lexicon and its conceptual memory" (Kroll & Stewart, 1994, p.158).
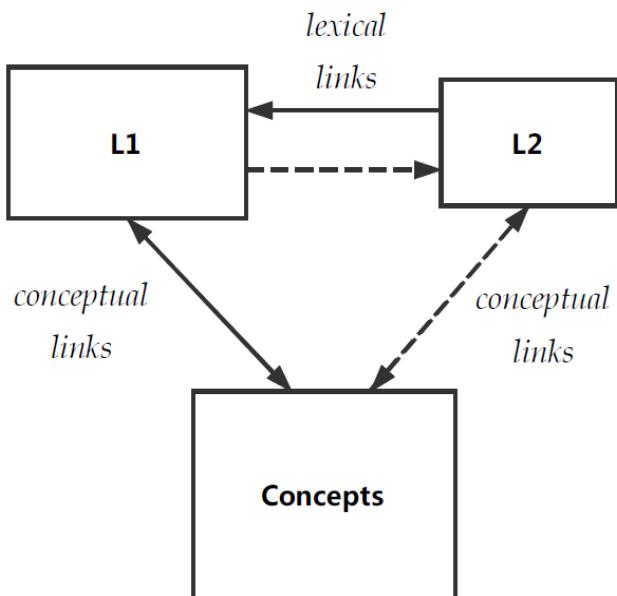
Figure 1 The Revised Hierarchical Model of Lexical and Conceptual Representation in Bilingual Memory (Kroll & Stewart, 1994, p.158)

According to this model, at the initial stage of learning, known as the word association stage, an L2 word is linked to its L1 translation equivalent. As learners' fluency in the L2 increases, a direct conceptual link is acquired between an L2 word and its concept, named the conceptual mediation stage. However, the first stage of lexical connections remains when the conceptual links are established and "both lexical and conceptual links are bidirectional, but they differ in strength" (Kroll & Stewart, 1994, p.158). Thus, Kroll and Stewart (1994) assume that the lexical link from

L2 to L1 is stronger than the one created from L1 to L2 because of the L2 words' initial association with their L1. Likewise, L1's link to its conceptual presentations is presumed stronger than the L2's.

Kroll and Stewart (1994) tested the validity of RHM through an experiment involving 24 fluent Dutch English bilingual university-level students. As the learners were unbalanced bilinguals (i.e., Dutch was their native and dominant language), the researchers rated their English reading and speaking skills to ensure fluency in English. Two tasks were administered: naming words in L1 and L2 that were presented in semantically categorised/randomised lists and translating words from L1 to L2 and vice versa. Task 1 involved measuring the speed of accessing L1 vs L2, wherein participants viewed a single word either in L1 or L2 on a computer screen, and then they read it aloud as fast as possible in the presented language. Task 2 investigated how participants accessed and retrieved words in their first and second languages. Participants read a single word on a computer screen in their L1 or L2 and had to translate words from L1 to L2 and vice versa. Last, an incidental vocabulary recall task was administered to assess the retention of the vocabulary learned incidentally and to ascertain whether words translated in one direction (L1 to L2) were recalled better than in the other direction (L2 to L1). Participants were unexpectedly requested to recall the maximum number of words in the language they were presented.

Findings revealed that naming words in L2 (English) was more time-consuming than in L1 (Dutch), which supports the model's assumption that L1 was dominant despite the learners' high fluency in English. Concerning translation, the participants translated from L2 to L1 faster than from L1 to L2, which suggests stronger lexical links from L2 words to their L1 equivalent and that the word's meaning is processed before retrieving the L2 equivalent. This supports the RHM's

assumption that translation from L2 to L1 is lexical-based, while L1 to L2 translation involves concept mediation.

RHM was criticised by Brysbaert and Duyck (2011) for oversimplifying bilingual lexical processing. They contended that the model's assumption that L2 words consistently depend on L1 for meaning in the initial stages is overly rigid, especially for proficient bilinguals. They believe L2 words can establish direct conceptual links more rapidly than RHM posits. Moreover, they emphasised that the model fails to recognise the dynamic and bidirectional aspects of bilingual processing and does not sufficiently address individual variations in language exposure and proficiency. Indeed, Brysbaert and Duyck's (2011) criticism is valid as bilingual lexical processing is more dynamic than RHM implies. The assumption that L2 vocabulary only depends on L1 for meaning is rigid, particularly in light of research indicating that competency and extensive language exposure enhance direct L2 concept associations (e.g., Kroll et al., 2010). Furthermore, RHM fails to comprehensively consider bidirectional impacts between languages. Nevertheless, RHM continues to be useful because it captures important developmental trends in the early stages of bilingual acquisition. These criticisms may be addressed with a more flexible interpretation of RHM that takes into account individual differences.

Kroll et al. (2010) addressed these criticisms by acknowledging the adaptability and complexity of this type of processing, particularly for more proficient learners. Although they agreed that L2 competency could facilitate direct conceptual access, they claimed that RHM mainly focused on less proficient bilinguals and was not intended as a comprehensive explanation of processing in more proficient bilinguals. They contended that their model continues to offer significant insights, especially for novice language learners; nonetheless, they acknowledged the

necessity for models that can better explain the more dynamic interaction in experienced bilinguals.

Overall, Kroll and Stewart (1994) provided valuable insights into the cognitive processes involved in language processing and bilingualism, with implications for language representation and processing models. The RHM emphasised the crucial role of L1 in learning an L2, particularly when learning is viewed as a process rather than a final outcome (Zhao & Macaro, 2016). However, although RHM demonstrates that L1 mediates L2 lexical access (see Jiang, 2000), this does not imply that providing L1 translation during instruction necessarily enhances L2 learning outcomes.

3.2.2.3 Jiang's Psycholinguistic Model of Vocabulary Acquisition in L2

Jiang's (2000) psycholinguistic model, which was built on RHM, supports the notion of L1 mediation for L2 vocabulary processing. This model proposed a development pathway for L2 vocabulary learning in an instructional setting. Jiang (2000) emphasised the importance of understanding the lexical presentation of L1 in order to understand its presentation in L2. He clarified that theories for L2 acquisition that involve only acquisition and processing and neglect the representation aspect are incomplete, as pointed out by Levelt (1989): "representation and process cannot be studied independently of each other" (Jiang, 2000, p. 47). L2 vocabulary acquisition under various conditions and the factors which affect patterns of L2 acquisition have received a great deal of attention. Nevertheless, the representation of lexical information in the mental lexicon has been overlooked. It is essential to gain insights into the lexical representation of L1 before discussing its representation in L2; thus, the following discussion will start with a brief review of the internal structure of L1 lexical entries in the mental lexicon.

A lexical entry in L1 consists of different types of information about a word (i.e., semantics, syntactic, morphological, phonological, and orthographic), which are assumed to be represented in two components constituting the entry (lemma and lexeme). The lemma comprises semantic and syntactic information (e.g., word meaning). The lexeme comprises the morphological and formal information of a word (e.g., pronunciation), which are "highly integrated within each entry, such that once the entry is opened, all information automatically becomes available" (Jiang, 2000, p. 49) (see Figure 2 for the lexical entry).
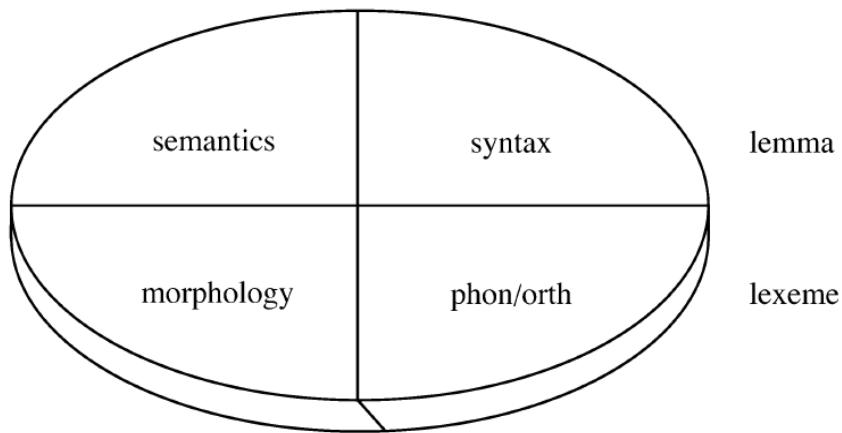
Figure 2 The Internal Structure of the Lexical Entry (Jiang, 2000, p. 48)

Jiang (2000) argued that if L2 learners are not exposed to contextualised language input, the development of these forms of knowledge is hindered. Furthermore, the connection between an established semantic system and the L1 lexical system implies that L1 translation will constantly affect L2 vocabulary learning, meaning that L2 learners, particularly adults, may depend on L1 translation to learn a new word in L2. Therefore, Jiang (2000) suggested three stages of lexical development in the L2. In the first stage, the "formal stage" (p.51), an L2 lexical entry only has formal entities (phonological and orthographic), and the processing of the L2 word depends on L1

translation. In the second stage, the "L1 lemma mediation stage," L1 lemma information attaches the L2 word to a conceptual representation; however, this connection may be weak because the lemma information, instead of being "created in the process of learning the L2 word, was copied from L1, thus not highly integrated into the entry" (p. 52). Finally, in the "L2 integration stage", all specifications (semantic, syntactic and morphological) of L2 words are derived from exposure and use and incorporated in the L2 learner's lexical entry (p. 52) (see Figure 3).
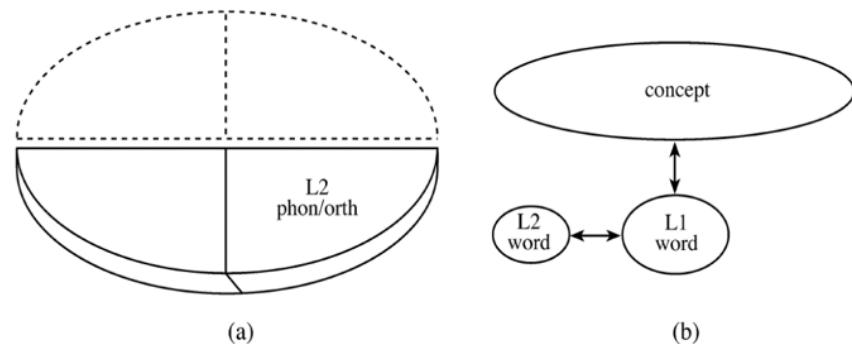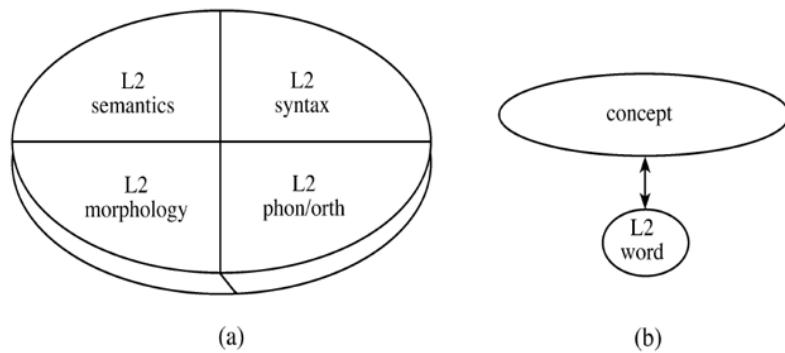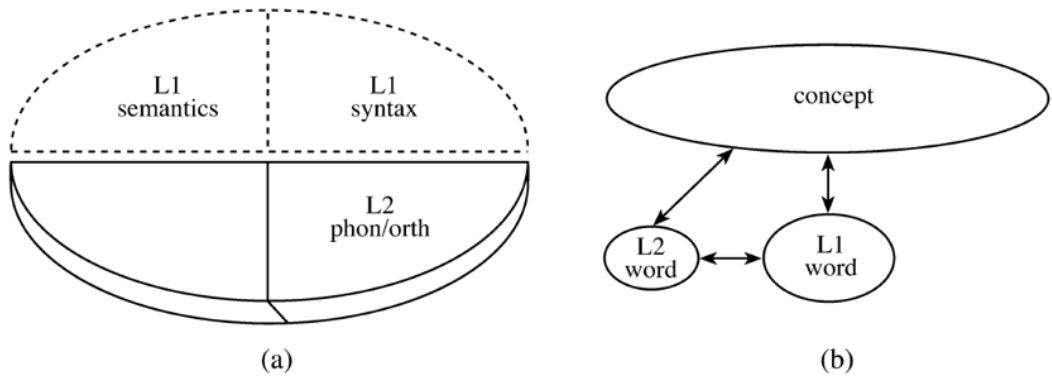
Figure 3 Three Stages for L2 Lexical Representation and Processing (Jiang, 2000, pp. 51–53)

The mediation of L1 in the process of L2 vocabulary learning was supported empirically

through Jiang's studies (2002, 2004a). The initial study (2002) and a replication of this study that

was conducted two years later (2004a) examined the L1 mediation hypothesis employing a

semantic judgment task. The participants were English bilingual speakers and English native speakers. Two tasks were administered: 1) assessing the extent of semantic relatedness between pairs of English words, and 2) determining if two English words had a similar meaning. Findings revealed that English bilingual speakers, unlike native speakers, provided higher rating scores and replied faster to L2 word pairs with identical L1 translation than those without such correspondence. The rating scores of the two types of word pairs did not exhibit a significant difference among native speakers. This provided compelling evidence for the existence of L1 semantic content within L2 lexical entries as English bilingual speakers responded faster to L2 words with same-translation pairs than different-translation pairs.

The L1 mediation hypothesis was also further supported by another of Jiang's studies (2004b). The study involved ten advanced Chinese ESL speakers and ten native English-speaking university students. A revised version of the sentence completion task adopted by Ijaz (1986) was used to explore the learners' semantic representation and development. Six pairs of words were chosen for the task, with each pair being made up of two words in English that had slightly different meanings but were represented by just one word in Chinese. The words were chosen because their differences were nuanced and often challenging to describe verbally by Chinese ESL speakers. For native speakers of English, the selected pairs present slightly different meanings. The pairs were "*criterion-standard, complicated-complex, accurate-precise, safe-secure, insist-persist,* and *doubt-suspect"* (Jiang, 2004b, p. 113). The completion test consisted of sentences made up of word pairs, and participants were required to read the sentences and choose one of the four options provided to complete the sentence. Last, they were also requested to assess how difficult it was to distinguish between the two words in each pair on a scale of 1 to 7, and to provide a concise written description in Chinese of the differences between them. Results from the completion test indicated

that ESL speakers found distinguishing between words with subtle differences in meaning challenging; "their accuracy rate was far below the minimum of 90% accuracy of native English speakers (overall 65% vs 94%)" (Jiang, 2004b, p. 117). Concerning the difficulty rating and the written descriptions of the word pairs, ESL speakers also found it challenging to describe the differences between word pairs (out of 60 instances, only 7 were accurately described). Similar to Jiang's (2002, 2004a) previous findings, the outcomes of the 2004b study provided further evidence by supporting the assumption that L2 learners initially rely on L1 mediation for vocabulary processing. It expanded on prior findings by providing additional empirical evidence that L2 words are mapped onto pre-existing L1 lexical and conceptual structures, thereby underscoring the persistent importance of L1 in early L2 vocabulary acquisition.

Jiang's (2000) model conformed with the RHM as both emphasised the important role that the L1 plays in processing L2 words and facilitating L2 acquisition (Zhao & Macaro, 2016). However, they differed in their description of the development of L2 lexical representation. The RHM proposed that as proficiency grows, learners should gradually move from relying on L1 for lexical access to directly accessing concepts in L2. However, Jiang's (2000) model suggested that even proficient L2 learners may depend on L1 lexical forms, meaning that L2 words are often lacking in semantic development. Therefore, Jiang's (2000) model emphasised the incomplete integration of L2 words into the conceptual system, even at high proficiency levels.

According to Tian (2011) and Zhang and Graham (2020a), it is difficult to conclude from Jiang's hypothesis (2000) and empirical evidence regarding L1 mediation in L2 vocabulary processing that there is pedagogical merit in employing L1 for L2 vocabulary instruction. Tian (2011) argued that from a pedagogical viewpoint, Jiang's (2000) early work never really acknowledged in any direct sense that L1 is inevitably a part of L2 lexical instruction. Instead of

relying heavily on L1 in language teaching, Jiang (2000) emphasised the importance of providing abundant exposure to L2 contextualised language input to encourage inferencing meaning from the context, which allows movement beyond the L1 mediation stage and developing full knowledge of the word. Jiang (2004a) did however advocate for the role of L1 "as a means of helping learners understand the meaning of a new word or semantization" (p. 426). He contended that extensive evidence already indicates that it is neither essential nor desirable for learners acquiring a second language to refrain from using L1 for semantization. As such, Tian (2011) argued that L1 may have an effective role to play in adult L2 vocabulary learning in instructed settings and avoiding it is not the solution. However, the point remains that there is no clarity or solid empirical evidence regarding how much and what kind of L1 use is beneficial for instructional purposes (Zhang & Graham, 2020a).

3.2.3 Incidental Vocabulary Learning, Intentional Vocabulary Learning and Lexical Focus-on-Form

In L2 classroom research, it is customary to view L2 vocabulary learning as taking the form of either largely incidental (implicit) or intentional (explicit) learning (Hulstijn, 2001; Schmitt, 2008; Webb, 2020). Incidental vocabulary learning was defined by Laufer (2003) as "the acquisition of vocabulary as a by-product of any activity not explicitly geared to lexical acquisition" (p. 547). She clarified that incidental learning does not imply that learners do not "attend to the words" during a given task; they may attend to the words by consulting a dictionary or using them in sentences, but they do not intentionally attempt to commit them to memory (Laufer, 2003, p. 547). On the other hand, intentional learning entails "any activity aiming at committing lexical information to memory" (i.e., activities that involve a deliberate, intentional focus on target lexical items such as glossing and post-reading tasks (Hulstijn, 2001, p.267)).

Schmitt (2008) argues that these two types of learning not only complement one another but also "positively require each other" since each has potential limitations (p.353). Intentional learning activities that focus attention on target items cannot lead to sufficient recycling of words and learning of all aspects of vocabulary knowledge (Schmitt, 2008). By contrast, incidental learning involves repetition and extensive exposure to comprehensive input, which is unlikely to result in words reaching the production level. The "additional attention" achieved via intentional learning may aid in reaching this level (Schmitt, 2008, p.345).

Research into incidental vocabulary learning has found it to be a viable approach in learning new words, though the pick-up rate is low (Nation, 2001; Schmitt, 2008). Much of the research around incidental learning has focused on reading (Horst, 2005; Pellicer-Sánchez, 2016; Pigada & Schmitt, 2006), while studies on incidental learning of L2 vocabulary through listening are limited (Brown et al., 2008; Vidal, 2003; 2011). This is surprising as Ellis (1999) argued that much L2 vocabulary is learned incidentally through oral input, which is essential for vocabulary learning for beginners, and it offers "more contextual support than written input" (p. 58). The claim that reading is the primary source for vocabulary acquisition in L2 was made by some L2 researchers (e.g., Krashen, 1989; Cho & Krashen, 1994). However, Laufer (2003) contends that if reading is the primary means of acquiring vocabulary in an instructed L2 context, learners should prioritise reading in and out of the classroom over word-focused practice. Research into incidental vocabulary learning through reading (Day et al., 1991; Pellicer-Sánchez, 2016; Pigada & Schmitt, 2006; Waring & Takaki, 2003; Zahar et al., 2001) indicates that incidental reading yields greater vocabulary gains than incidental listening (Brown et al., 2008; Vidal, 2011).

Although many studies on incidental learning have focused on reading, literature on the incidental learning of L2 vocabulary through listening is limited and most has found some but low

uptake from listening exposure. For example, Vidal (2003) examined vocabulary acquisition in a 15-minute academic lecture. Most of the target lexical items seemed to shift from being entirely unknown to being recognised when heard by learners. Participants retained only approximately 43-54% of the initial gain after a delay of 4-8 weeks. Brown et al. (2008) found that across three modes of input (reading, reading while listening, and listening to stories), new words could be learned incidentally, though most were not learned. Repeated items in a specific context were more likely to be acquired and less likely to decay. Regarding the three-month retention of meaning recall, participants acquired one word from reading only and reading while listening, but none from listening only. Offering a more nuanced perspective by examining the impact of oral versus written input on incidental vocabulary learning, Vidal (2011) looked at 230 undergraduate English learners. Despite listening leading to less retention than reading, retention was more enduring in terms of oral input (except in learners with very low proficiency). This finding may be attributed to oral input accessing phonological memory immediately, leading to "stable long-term memory representation" (Vidal, 2011, pp. 244-245). In a different study exploring L2 university students' incidental vocabulary learning through authentic aural input, van Zeeland and Schmitt (2013) investigated knowledge dimensions, namely form recognition, grammar recognition, and meaning recall. The results indicated that form, grammar, and meaning were acquired immediately after listening, with form and grammar being more prone to attrition than meaning.

Although research has found that significant learning can occur from incidental learning, intentional vocabulary exposure often leads to greater gains and provides a higher probability of retention and achieving a productive level of mastery (Schmitt, 2008). Laufer (2005) argues that intentional vocabulary learning yields "higher word learning scores" (p. 245). She reported in three of her studies that explicit vocabulary tasks led to approximately 70% of words being recognised

on immediate post-tests. Though two-week delayed post-tests indicated a decline of 21-64 %, Laufer (2005) concluded that "treating words as an object of study instead of a tool of communication" is an effective teaching method (p. 244). Similarly, Smith (2004) found that, after a one-week delayed test, target words negotiated and focused on were well retained in terms of receptive knowledge (80%) and productive knowledge (50%) when used and emphasised in negotiated interaction activity on an internet chat platform.

As the above discussion highlights, the literature generally indicates that incidental vocabulary learning through listening is less effective than reading. Vidal (2011) argues that this lack of effect may be because, in listening, there is a tendency to gain a general comprehension of the input, while reading allows more focus on form. The "fleeting nature" of the input and difficulties of "speech segmentation" while listening make processing hard (p. 248). Therefore, incidental vocabulary learning through listening should be complemented with intentional, "explicit Lexical Focus-on-Form teaching" to a larger extent than that required in reading (Zhang & Graham, 2020a, p. 767).

Research into vocabulary learning has encouraged intentional vocabulary learning via communicative activities within Lexical Focus-on-Form (Laufer, 2009). FonF explicitly directs students' attention to linguistic elements as they emerge incidentally during a lesson, primarily focusing on meaning or communication (Long, 1991). FonF differs from traditional Focus-on-Forms (FonFs), which involves presenting and practising isolated linguistic items drawn from a structural syllabus (Ellis, 2016). The essential difference between FonF and FonFs is how language is viewed and the role of learners (Ellis, 2001, 2005). In FonF, language acts as a tool for communication, and learners are users. In FonFs, learners are students, and language is an object for study (Ellis, 2016). LFonF, which draws learners' attention to certain linguistic aspects of a

word within a communicative task environment, is a modification of communicative language teaching, considering comprehensible input and meaning-oriented tasks sufficient for acquiring languages (Laufer & Girsai, 2008).

The effectiveness of combining incidental vocabulary learning from authentic input and explicit LFonF in both reading and listening modalities has received more attention in L2 teaching over the last decade (Hennebry et al., 2017; Sonbul & Schmitt, 2010; Tian & Macaro, 2012; Zhang & Graham, 2020a). Sonbul and Schmitt (2010) examined the effect on vocabulary gains from reading passages combined with direct vocabulary teaching in an EFL learning context. They concluded that incidental learning alone is less effective than incidental learning combined with direct vocabulary instruction for all three levels of vocabulary knowledge, including meaning recall, meaning recognition, and form recall, with the latter benefiting most from direct instruction. Meganathan et al. (2019) investigated the effectiveness of employing various instructional techniques on L2 vocabulary acquisition among young EFL learners. The participants were a control group and two experimental groups; one covered extensive reading (ER) and the other covered extensive reading with vocabulary enhancement (ER+). Both experimental groups received 11 weeks of intervention that included one session per week involving reading a storybook only (ER) or reading plus highly interactive vocabulary enhancement activities (e.g., word mapping and word learning games). The control group did not participate in after-school activities but attended regular class activities. Results indicated significant vocabulary gains for both experimental groups, with the ER+ group achieving a higher mean in both the post-test and delayed post-test, which was conducted 40 days after the post-test. The control group did not record any gains. Meganathan et al. (2019) concluded that intensive reading, when combined with

highly interactive vocabulary enhancement activities, yielded greater vocabulary gains than reading alone - both immediately and at a delayed 40-day post-test.

Similar findings have been reported in relation to the impact of listening on L2 gains, indicating the effectiveness of combining incidental vocabulary learning with explicit LFonF instruction. Studies that have investigated different enhancement methods for aural input employing LFonF instruction found LFonF a viable approach that led to higher vocabulary gains than mere incidental vocabulary learning using listening alone. Such approaches have included teachers' post-listening explanations either in L1 (CS) or L2 (Hennebry et al., 2017; Tian & Macaro, 2012; Zhang & Graham, 2020a) or Aural Input Manipulation (Jones & Waller, 2017; Mall-Amiri et al., 2017). These studies will be discussed in Section (3.2.4.1) and Section (3.2.4.2). In summary, the literature suggests that within a largely communicative language teaching context, vocabulary gains are improved through explicit supplementary vocabulary teaching in which some kind of enhancement method is employed. However, there is no empirical evidence to support the pedagogical advantages of this approach for VI learners' L2 vocabulary learning.

The following section presents an overview of the concept of input enhancement before discussing the above-mentioned studies.

3.2.4 Input Enhancement

The concept of "input enhancement" is attributed to Sharwood Smith (1991), who proposed that enhancing input could render it more salient for learners (p. 118). How easy it is for learners to notice certain features in the input is referred to as salience. If features are not salient, they may not be noticed, as most of the input is expected to be processed for meaning (Sharwood Smith, 1991, 1993). As outlined in Section 3.2.2.1, Schmidt (1990, 1995, 2010) defined "noticing" as "conscious registration of attended specific instances of language" (Schmidt, 2010, p. 725). As

noticing is the milestone for converting input into intake, input enhancement could be regarded as "consciousness raising", which "denotes a deliberate focus on the formal properties of language with a view to facilitating the development of L2 knowledge" (Sharwood Smith, 1991, p. 118). In other words, input enhancement increases the salience of linguistic features and can be achieved through deliberate input manipulation (Sharwood Smith, 1991).

The value of input manipulation resides in the premise that L2 learners, as suggested by VanPatten's (1993,1996) Input Processing Hypothesis, process meaning before form when encountering new linguistic input. With a primary focus on grammar, but also with implications for vocabulary learning, VanPatten (1993, 1996) contends that the formal aspects of the input are processed to the extent that they are essential for comprehending meaning and only if the learners possess the cognitive resources to attend to them. Thus, deliberate attention to form is crucial, as learners are unlikely to attend to or use it without this attention (VanPatten, 1996). Sharwood Smith (1993) proposed a number of input enhancement methods, such as text bolding for visual enhancement and repetition for aural enhancement. Taking into consideration that listening is the primary channel through which VI learners acquire knowledge, aural input enhancement seems particularly relevant in teaching L2 vocabulary to VI learners.

Aural input enhancement methods employed for teaching L2 vocabulary have received increased attention in the context of SI learners. In a review of vocabulary learning through listening, Graham and Zhang (2020) clarified that "the ephemerality of aural input may account for challenges in learning vocabulary from listening for many learners". Therefore, enhancing the aural input is of utmost importance to mitigate these challenges (p. 24). The enhancement methods investigated in the review included television/video viewing (e.g., Peter & Webb, 2018), captions/subtitles (e.g., Vanderplank, 2016), and teachers' pre-post-listening

explanations/elaboration either in L1 or L2 (Hennebry et al., 2017; Lee & Levine, 2020; Tian & Macaro, 2012; Vidal, 2011; Zhang & Graham, 2020a). Although not considered in Graham and Zhang's (2020) review, Aural Input Manipulation (AIM) is another approach that involves manipulating aspects of the aural input, such as volume, speed, pitch, and pauses (Cho & Reinders, 2013; Ito, 2021; Jones & Waller, 2017; Mall-Amiri et al., 2017). The following section will give further details of empirical investigations of AIM and also those exploring L1 or CS explanations. These two modes of aural input enhancement may be especially pedagogically relevant for VI learners.

3.2.4.1 L1 Use as Input Enhancement

Theoretical frameworks for vocabulary acquisition, namely the RHM (Kroll & Stewart, 1994) and Jiang's (2000) psycholinguistic model, highlight the importance of L1 in the acquisition of L2 vocabulary. Empirical support for both models has come from studies investigating teachers' explanations/elaborations wherein L1 is used alongside L2, known as codeswitching (CS). For example, Tian and Macaro (2012) investigated the effects of teacher CS following aural input on vocabulary gains. The study comprised 117 university-level learners of English in China. Two experimental groups received vocabulary instruction after listening to L2 texts, with the meaning of the words given by teacher CS or via the L2; the control group only listened to the text and discussed listening strategies. The experimental groups received an immediate post-test after each intervention session to assess vocabulary gains, but the control group learners were exempted because it was deemed inappropriate to test them on the target items without any vocabulary instruction (Tian & Macaro, 2012). The experimental groups' post-test results indicated greater vocabulary gains, although scores significantly declined at the delayed post-test. Additionally, on

top of having better long-term vocabulary retention than the control group, the experimental group's scores were also significantly higher than their scores on the pre-test.

These findings conform with those of Hennebry et al. (2017). They found that brief vocabulary instruction after listening comprehension activities, either in the L1 (CS) or the L2, resulted in more effective recall (but not recognition) than a listening-only condition in 13-14 year old French learners. Moreover, L1 explanations were more effective than L2 explanations. In Tian and Macaro's study (2012), the meaning recall tests indicated short-term retention, which diminished after two to seven weeks in the delayed post-tests. In contrast, Hennebry et al. (2017) administered a delayed post-test between one and four weeks after the intervention as a measure of longer-term retention, finding that CS resulted in longer-term retention than the L2-only condition. In both studies, assessing the effectiveness of instruction for long-term learning is somewhat problematic due to variation in the gap between instruction and the delayed post-tests, suggesting the need for further investigation (Zhang & Graham, 2020a).

The impact of teacher CS has also been explored in two more recent studies. Zhang and Graham (2020a) explored vocabulary teaching and learning through aural input among 137 senior high school learners of English as a foreign language (EFL) in China. Various types of LFoF were presented to four experimental groups respectively: L2 explanations (target language explanation); CS (L1 Chinese); CFoF (Contrastive131 Focus-on Form, offering cross-linguistic information about a target vocabulary); and no explanation (NE). Participants completed listening vocabulary pre-, post-, and delayed post-tests and listening assessments at pre-and post-test. The experimental groups performed significantly better than the NE group for short- and long-term vocabulary gains, and the CFoF group outperformed the L2 and CS groups significantly in terms of short- and long-term learning. The study found that teacher CS resulted in significantly greater vocabulary gains

than the L2-only explanations. In the delayed post-test, vocabulary retention subsided, and the vocabulary retention across the CS and L2 groups was not significantly different. Similarly, Lee and Levine (2020) investigated the effects of teachers' language choice on L2 vocabulary learning and listening comprehension among 195 undergraduate Korean EFL learners. This study used two types of LFonF vocabulary explanations for phrasal verbs: CS or L2-only. The control group received no instruction in the target vocabulary. The findings indicated that teacher explanations of the target words resulted in greater vocabulary gains. CS benefited intermediate-level learners the most, allowing them to achieve the same vocabulary gains as advanced-level learners. Findings for CS and L2 explanations in both studies align with those of Tian and Macaro (2012), emphasising the short-term pedagogical advantages of employing teacher CS.

The less marked effects on long-term learning, assessed in the previous studies through delayed post-tests conducted two to seven weeks post-intervention with variability among studies, could be explained in relation to the Depth of Processing Hypothesis. This proposes a conceptual framework for human memory research in terms of depth or level of processing (Craik & Lockhart, 1972). Craik and Lockhart's (1972) fundamental concepts suggest that the "episodic memory trace" can be regarded as an "automatic by-product" of cognitive system operations and that the trace's durability positively correlates with the "depth" of processing, which pertains to higher levels of "semantic involvement" (Craik & Tulving, 1975, p.268). Laufer and Hulstijn (2001) clarify that the transfer of new information to long-term memory is not dependent on the dimension of time while it is stored in short-term memory; instead, it is determined by how it is processed (i.e., shallow or deep processing). It is possible that teacher explanations alone, after listening, even when supported by CS, failed to endorse the deeper processing essential for long-term

learning because "manipulations that influence processing at a structural level should have transitory, but no long-term, effects" (Craik & Lockhart, 1972, p. 680).

The empirical evidence provided above, which emphasises the value of combining teacher L1 use alongside L2 contextualised input in an EFL classroom, supports the reviewed theoretical frameworks. Hennebry et al.'s (2017) participants who received L2-only explanations performed better in the recall test, suggesting that, irrespective of the instructional method, they "converted the information in the L2 definition instruction into L1 information", and this is most probably how they stored the information (p.295). These findings provide further evidence for RHM, whereby "L2 words are routed via L1 words in order to connect with a concept" (Hennebry et al., 2017, p. 296). Regarding the short-term pedagogical advantages of teacher CS, findings by Tian and Macaro (2012), Zhang and Graham (2020a) and Lee and Levine (2020) also support the RHM. According to this model, more words are represented in L1 in the bilingual memory compared to the L2, even in fairly fluent learners, because fewer words are known in L2 than in L1. Among learners who acquire L2 beyond early childhood, a strong connection between L1 lexical and conceptual presentations has been established. L2 words are linked to their L1 translation equivalents before accessing conceptual memory. Therefore, teachers' CS using the L1 will assist the linking process and "reduce the learners' cognitive load in noticing and registering" L2 words (Lee & Levine, 2020, p. 17). Similarly, Jiang's (2000) model promotes the use of the L1 translation of the L2 word to create a lexical link between the word and concept. Codeswitching to the L1 during vocabulary explanations may lead to the development of the second stage (L1 lemma mediation stage) by creating a connection between the L2 word and its concept (Zhang & Graham, 2020a). Therefore, it is "inappropriate to regard teachers' L1 use as a source of negative

interference that inhibits the rate and route of L2 vocabulary acquisition" (Zhao & Macaro, 2018, p.78).

Another issue the above-reviewed studies (Hennebry et al., 2017; Lee & Levine, 2020; Tian & Macaro, 2012; Zhang & Graham, 2020b) looked at was whether L2 learners' proficiency levels impacted vocabulary learning across the different modes of vocabulary instruction. As discussed above, Tian and Macaro's (2012) study investigated the impact of two modes of post-listening vocabulary instruction, L1 use and L2-only, on L2 vocabulary learning. In addition to this, they explored whether lower proficiency learners benefit more from L1 explanations than their higher proficiency counterparts, meaning learners' proficiency was a covariate in determining potential gains from both conditions. Participants were allocated to four proficiency levels based on scores from: 1) a general English proficiency test including reading, writing, grammar and vocabulary; 2) a listening comprehension test; and 3) a vocabulary baseline test. Results indicated that listening proficiency was not a significant predictor of vocabulary gains; no significant interaction was found between group and proficiency level, meaning that both experimental groups improved regardless of proficiency level.

Tian and Macaro (2012) have argued that the lack of proficiency effect in their study did not invalidate the adopted theoretical models of vocabulary acquisition, Jiang (2002, 2004) and Kroll and Stewart (1994), if the following reasons were considered: 1) the disparities in proficiency levels were insufficient to support the models, and CS instruction effect may only be evident in "near-beginner learners" (p. 382) (see Section 3.2.2.3 for these models); and 2) the majority of the target items were low-frequency; thus, it is sensible that both higher and lower proficiency learners relied on L1 to learn these words. A missing proficiency effect was also reported in Hennebry et al. (2017). The researcher used a C-test and listening comprehension test scores to measure the

participants' proficiency levels. The findings revealed no link between the varying levels of proficiency and vocabulary gains via one mode of instruction over another. Similar to Tian and Macaro (2012), Hennebry et al. (2017) suggested that the absence of the proficiency effect was due to participants' proficiency levels being too similar to have a significant impact.

Though both Tian and Macaro (2012) and Hennebry et al. (2017) reported an absence of a proficiency effect, Lee and Levine (2020) found that the CS explanation mainly benefited less proficient learners. In their study, proficiency level was based on learners' scores in the English Conversation I course. Findings revealed that long-term benefits were greater for intermediate-level learners who received codeswitched L1 explanations during the listening tasks than for those who received L2-only. Most notably, the intermediate-level learners who received codeswitched L1 explanations achieved similar vocabulary gains as their advanced counterparts. Moreover, advanced learners gained and retained comparable levels of vocabulary knowledge under both instructional conditions. Lee and Levine (2020) suggested that the findings related to the advanced learners were possibly due to the stronger link between L1 concept and its L2 mental lexicon among advanced learners (Kroll & Stewart, 1994). Thus, they may have required less L1 input to comprehend L2 lexical items, unlike learners with lower L2 proficiency. The previous studies are significant for the insights they offer into L2 vocabulary learning through aural input; however, they provide limited evidence concerning the interaction between the different types of interventions and listening proficiency (Zhang & Graham, 2020b). Zhang and Graham (2020b) contested that the analysis in these three studies is less sensitive due to the loss of subtle differences in learners' proficiency levels when proficiency is treated as a categorical variable rather than a continuous variable. This approach does not provide robust evidence on the role of listening proficiency in moderating the effects of various modes of vocabulary explanations. To address this

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issue, Zhang and Graham (2020b) extended the findings of Zhang and Graham (2020a) to explore the effects of learners' preexisting vocabulary knowledge (PVK) and listening proficiency using the scores of these two variables as continuous predictors to assess vocabulary gains among Chinese high-school learners. Overall, the findings indicated that learners' listening proficiency was a more important predictor of vocabulary gains through listening than PVK. Learners with higher listening proficiency and lower PVK achieved the most significant overall vocabulary gains. Lower-proficiency listeners benefited more from increased PVK, whereas an increase in average and higher-level listeners' PVK decreased their vocabulary gains. Concerning the CS and L2 vocabulary explanations, lower PVK learners and more proficient listeners benefited more from the CS approach, whereas higher PVK learners and less proficient listeners benefited more from the L2 approach.

For the present study, two important factors related to vocabulary learning, listening proficiency and vocabulary knowledge, are worth investigating. Given that listening proficiency was found to be an important predictor for SI learners in learning L2 vocabulary through listening and that vocabulary knowledge negatively moderated the effects (Zhang & Graham, 2020b), it is possible to assume that VI learners with higher listening proficiency benefit more from the provided vocabulary instruction than those with lower listening proficiency.

To sum up, the reported studies indicate the pedagogical advantages of CS explanations compared to L2-only. In the context of SI learners, CS explanations led to greater vocabulary gains than the L2-only instructional mode, mainly for short-term learning. The diminishing of the longer-term learning effects could be because this enhancement method failed to promote a deeper processing level, which is required for such learning. Existing literature focused on the benefits of CS explanations, wherein the L1 was included in teachers' explanations alongside the L2 as a

method of instruction in classrooms with SI learners. However, no studies have investigated its benefits in a classroom of VI learners. Moreover, listening proficiency emerged as an important predictor for SI learners in learning vocabulary through listening. Therefore, it is worth investigating whether the effect of CS was moderated by different listening proficiency levels in the context of VI learners.

Given that teachers' use of L1 has been supported by various models of L2 vocabulary acquisition, CS explanations may offer particular benefits for VI learners. CS seems particularly beneficial for teaching vocabulary to VI L2 learners, as VI individuals do not have full access to the perceptual characteristics of the external world in the same way as sighted learners (Dunlea, 1989). In an L2 classroom, VI learners may experience problems with forming meanings of non-abstract concepts (e.g., the sun cannot be explored "hapticly" (through touch) because it cannot be reached), as well as abstract concepts (Jedynak, 2016). L2 teachers must ensure VI learners understand terms in their L1 before they introduce them in the L2, particularly for abstract concepts (Jedynak, 2016). Applying the same theoretical framework, the potential challenges of concept formation due to vision deficit underscore the necessity of assisting VI learners throughout the L1-L2 mapping phase, possibly by using L1 (Jedynak, 2016). Consequently, VI learners are likely to become more engaged with the material and more motivated to learn (Jedynak, 2014). Additionally, for learners whose L1 is closely related to the L2, "the learning burden of most words will be light; learners whose first language is not related to the second language, the learning burden will be heavy" (Nation, 2013, p. 45). Therefore, CS is indispensable when teaching L2 vocabulary to both VI and SI Arabic native speakers to lessen the burden of the difference in structure between Arabic and English. Overall, there is a gap in the literature concerning employing vocabulary instruction in VI learners' classrooms. Existing research has not yet

examined the pedagogical advantages of using this type of instruction to teach L2 vocabulary through listening to VI learners.

The next section will explore aural input manipulation (AIM) as another important instructional approach that underscores the essential role of attention in learning L2 vocabulary. Moreover, the discussion examines the empirical evidence and clarifies why this enhancement mode may offer particular benefits for teaching L2 vocabulary to VI learners.

3.2.4.2 Aural Input Manipulation (AIM) as Input Enhancement

AIM, as an aural input enhancement method, entails manipulating aural input to direct learners' attention to target features by inserting pauses, artificially raising the volume of the target words, repetition, or raising intonation (Sharwood Smith, 1991, 1993). Limited research has examined the effects of various forms of AIM on drawing learners' attention to target items. Such research has largely focused on learning grammatical forms (Cho & Reinders, 2013; Ito, 2021; Negari et al., 2017; Zanjan, 2017). Studies that have explored the efficacy of using AIM to teach L2 vocabulary are scarce (Jones & Waller, 2017; Mall-Amiri et al., 2017).

Concerning grammar, Cho and Reinders (2013) and Ito (2021) investigated the effectiveness of AIM on L2 form acquisition. Specifically, Cho and Reinders (2013) investigated the effects of AIM on learning the L2 passive structure among 72 Korean English learners. The experimental group was offered an audiobook to listen to only once outside of the classroom. The passive structures in the audiobook were artificially manipulated by inserting pauses before and after the target structures or slowing down the playback speed of the target structures. The control group listened to the original audiobook without enhancement. An immediate post-test was administered to assess the acquisition of the target form, followed by a questionnaire focused on their noticing of the target structures. Last, a survey was administered after a week to assess the

learners' overall perception of the intervention. Results indicated that AIM had no significant impact on passive structure gains. Based on the data gathered from the questionnaire, Cho and Reinders (2013) stated that learners noticed the target structures even if they did not acquire them. They concluded that the results could be accredited to the "cognitive demands in processing extensive auditory input", which may have resulted in making learners "less likely to pay attention to language form" (p.144). The study lacked a measurement of noticing, and the post-treatment self-reports (gathered from the questionnaire and survey) provided inadequate information; moreover, listening to the audiobook was not in a controlled research environment. Furthermore, the focus was on learning grammatical form, which may be harder to learn through this method than vocabulary.

In a similar study, Ito (2021) investigated the efficacy of AIM in facilitating the development of productive and receptive skills and meaning comprehension of the English present hypothetical conditional. Forty-three Japanese junior high school EFL learners were divided into an experimental and control group, each attending three classroom sessions. The experimental group listened to an audio recording that included two types of AIM: pauses and volume increase. Results of the post-tests and delayed post-tests (production and aural grammaticality judgement tests) revealed no significant effect on either short- or long-term memory retention of the target form in terms of productive and receptive skills. The meaning comprehension post-test yielded similar results, showing no significant differences between the two groups. Ito's (2021) findings align with those of Cho and Reinders (2013), indicating that AIM had no significant impact on learning gains when compared to a control group.

Turning to vocabulary, two rare studies were conducted indicating the positive effects of AIM on L2 vocabulary learning. Mall-Amiri et al. (2017) conducted a comparative study on the

impact of visual and aural input enhancement on learning non-congruent phrasal verbs by 90 intermediate-level Iranian L2 students. Participants included university undergraduates and high school students, all aged between 18 to 25. Learners' proficiency level was measured through an English proficiency test to group the participants and control for proficiency-related variables. A multiple-choice pre-test, including 80 non-congruent phrasal verbs selected from English Phrasal Verbs in Use (Michael & O'Dell, 2006), was administered to assess participants' knowledge of the target lexical items. The post-test included the 40 items that the participants had not answered in the pre-test. The intervention materials consisted of sentences and texts containing the target phrasal verbs obtained from various sources, such as exercises from English Phrasal Verbs in Use (Michael & O'Dell, 2006) and the internet. The participants were randomly assigned to three groups (30 in each group). The visual-enhanced input group received input that included various methods, such as underlining, boldfacing, and italicisation. Each intervention session lasted 20 minutes, and three to four lexical items were taught. The aural-input enhancement group heard the teacher repeating the target items loudly with a raised intonation and higher pitch. The control group received standard input with no kind of enhancement. The post-test findings indicated that both enhancement modes were effective in teaching non-congruent phrasal verbs. However, there was no significant difference between the two modes. The experimental groups outperformed the control group on the post-test, but long-term retention was not examined. The only limitation Mall-Amiri et al. (2017) reported was that learners' visual and auditory preferences were not controlled, which might have affected the results.

Whereas Mall-Amiri et al.'s (2017) study was based on learning English, Jones and Waller (2017) conducted a study on learners of Turkish as an L2 that used role plays to explore the different impacts of textual and aural enhancements on L2 vocabulary learning. More specifically,

the authors examined the effectiveness of using textual (TE) and aural (AE) enhancements to teach Turkish L2 vocabulary to 40 adult beginner learners of Turkish in a higher education setting. An experimental group and a comparison group of 20 learners each received 60 minutes of explicit vocabulary instruction on Turkish restaurant vocabulary using a direct communicative approach. This meant instruction was delivered only via L2 and communicative activities such as role plays were used. The comparison group received initial explicit teaching, which involved viewing and practising with pictures. Next, vocabulary instruction was provided in the L2. Then, students read an unenhanced menu and heard the teacher repeating each item orally once. Finally, they participated in short role-plays, with the teacher playing the role of the waiter and the students playing the role of the customers. The experimental group received the same instruction but with a TE- and AE-enhanced menu wherein the target words were bolded and repeated orally three times by the instructor.

Pre- to post- and delayed test findings indicated that both groups showed significant gains in receptive and productive knowledge of the target item, mainly in the pre-to-post-test phase. However, the experimental group showed greater gains in these tests, indicating the short-term advantage of FonF combined with TE and AE that was partially sustained in the longer-term. However, it remains unclear whether TE or AE provided the most benefits, as well as the importance of using target items productively in the communicative practice activities used in the teaching session. Jones and Waller (2017) clarified that the enhancement provided might not have been sufficient to yield significant differences in vocabulary learning when compared to the control group. The authors also identified several limitations in their study, including the small sample size, the use of a relatively implicit form of input enhancement, and the absence of a post-treatment questionnaire to assess whether the AE/TE drew learners' attention to the target lexical items. The

researchers suggested that a more explicit form of TE and AE could have produced better long-term results.

The existing literature hence provides a mixed perspective on the benefits of AIM, suggesting a more positive effect on vocabulary learning but no significant impact on grammar learning when contrasted with a control condition. Moreover, none of the reviewed AIM studies address their relevance to VI learners, nor do they assess whether the effect varies across different proficiency levels. By contrast, a later study by Zhang and Graham (2020b) explored the impact of listening proficiency and vocabulary knowledge on learning vocabulary through aural input, revealing that listening proficiency significantly moderated the outcomes, albeit for SI learners. Conversely, vocabulary knowledge had a negative moderation effect (see Section 3.2.4.1 for details). Overlooking these two factors in the existing AIM literature represents a substantial gap. It could be postulated that higher proficiency VI and SI learners are more sensitive to the manipulated aural input, whereas those with lower vocabulary levels have the most growth potential.

3.2.4.3 Relevance of L1 and AIM Input Enhancement for VI Learners

The literature discussed above shows that both CS and AIM methods are effective for teaching SI learners L2 vocabulary through listening. However, to the best of the researcher's knowledge, there has been a complete lack of research on using CS or AIM to teach L2 vocabulary to VI learners – an important gap that this study aims to address. Importantly, as SI and VI learners are sometimes taught together in inclusive classroom settings, it is necessary to understand the pedagogical value of these approaches for both groups. This raises questions about whether these methods are potentially more or less beneficial for VI learners compared to their SI peers, and how these benefits may vary across different levels of language proficiency.

Building on what previous research has shown about first language acquisition processes, as well as the potential challenges faced by VI learners in acquiring a second language (Araluce, 2002; Campbell et al., 2024; Jedynak, 2014; Smeds, 2015), it can be proposed that CS may support VI learners in understanding the meanings of terms in their L1 before encountering them in the L2 (Jedynak, 2016). Theoretically, using the L1 during vocabulary instruction might be particularly beneficial for VI learners as it could support the development of the second stage of concept formation - known as the L1 lemma mediation stage (Jiang, 2000) - which might be particularly challenging for them due to their vision impairment (see Section 3.2.4). Similarly, AIM might be useful for VI learners due to their potentially heightened auditory abilities (see Section 3.2.4). Importantly, while CS and AIMCS each offer distinct benefits for VI learners, the most significant gains may emerge when both approaches are combined. Artificially increasing the volume through AIM may aid noticing by drawing attention to the target words, while follow-up CS explanations may help clarify their meanings.

These assumptions formed the basis of this study and guided the formulation of the research questions (see Section 3.5 of this chapter for an outline of the research questions). This study examined the effectiveness of CS alone and CS combined with AIM in L2 vocabulary teaching. The overarching goal was to determine whether AIM adds value beyond the use of CS alone when teaching both VI and SI learners.

The belief that CS would lead to vocabulary gains was based on previous research with SI learners (Hennebry et al., 2017; Lee & Levine, 2020; Tian & Macaro, 2012; Zhang & Graham, 2020a) and the assumption that these findings could extend to VI learners as well (Jedynak, 2016). Additionally, it was anticipated that both groups of learners would benefit from the link established between L1 and L2, which could prompt deeper processing. The combination of AIM and CS

(known as AIMCS) was expected to yield the greatest benefits, especially for VI learners, since the increased salience and attention to form through AIM may enhance the support needed for effective L1-L2 concept mapping - a process that VI learners may find challenging due to their visual limitations (Jedynak, 2016).

Rather than relying on assumptions, this study aimed to empirically test the notion that AIMCS, which integrates both instructional modes while enhancing the salience of target vocabulary, would be more effective than CS alone. Evidence from the literature suggests that learners with higher L2 listening proficiency would achieve greater vocabulary gains from both CS and AIMCS approaches. In contrast, findings by Zhang and Graham (2020b) indicate that the effect of preexisting vocabulary size may be less significant. Given that VI learners depend on listening as their primary sensory channel, it was assumed that these moderation effects would be more pronounced for them. Accordingly, it was expected that VI learners with higher L2 listening proficiency would benefit more from AIMCS than their peers with lower listening proficiency.

The next section turns to a discussion of how repetition has an important impact on L2 vocabulary acquisition.

3.2.5 Frequency of Word Occurrence

Repetition plays a key role in learning L2 vocabulary. Nation (2013) clarifies that repetition is crucial for L2 learning since knowing a word requires having extensive knowledge about it (receptive and productive knowledge) that cannot be gained in a single encounter. Moreover, vocabulary items must be well-known to be accessed fluently. He asserts that repetition "adds to the quality of knowledge and also to the quantity or strength of this knowledge" (Nation, 2013, p. 452). Incidental vocabulary learning is significantly affected by how often learners encounter words (Ellis, 1994; Nation, 2013). Similarly, Porter (2016) asserts that L2 vocabulary "should be

constantly revisited, renewed and refreshed in order to result in longer-term learning" (p. 252). Several studies have validated the efficacy of repetition in L2 incidental vocabulary learning (Peters & Webb, 2018; van Zeeland & Schmitt, 2013; Vidal, 2011; Waring & Takaki, 2003; Webb, 2007).

Vidal (2011), investigating the effects of reading and listening on incidental vocabulary learning, explored frequency of occurrence as one of four different factors impacting acquisition. Participants in this study included 230 undergraduate students attending a course in English for specific purposes. The two experimental groups either read three academic texts (80 students) or watched three academic lectures (112 students); the control group received no input at all. Both experimental groups received equal numbers of repetitions for the target lexical items, ranging from one occurrence to six occurrences. The findings indicated that vocabulary gains for both experimental groups increased through repetition. However, the impact of repetition varied across the two groups. The greatest improvement occurred in the reading mode with between two and three repetitions. In listening, gains gradually increased with between three and five repetitions, with the highest increase occurring between five and six repetitions. Vidal (2011) also found that, in reading, frequency of occurrence explained 47% of the variation in vocabulary gains, thereby representing the strongest predictor of the dependent variable. By contrast, in listening, frequency of occurrence made the least significant contribution, explaining 24% of the variation in vocabulary gains. These findings indicate that, compared to incidental vocabulary learning through reading, words obtained incidentally through listening are less susceptible to the varying frequency of occurrence.

Another study by van Zeeland and Schmitt (2013) investigated the relationship between the frequency of occurrence and three knowledge dimensions (form recognition, grammar

recognition, and meaning recall) for incidental learning through listening. Participants comprised 30 postgraduate students with different language backgrounds and proficiency levels ranging from high-intermediate to advanced. Twenty participants listened to a passage followed by an immediate post-test, whereas another ten participants listened to the same input and had a two-week delayed post-test. The four listening passages belonged to various genres (TV talk shows, TV interviews and informal lectures). The listening materials were adapted to allow the insertion of the target items at different numbers of exposures. Overall, 24 items were selected, six in each frequency of occurrence band (3, 7, 11, or 15). Results indicated that the effects of repetition (3, 7, 11, or 15) on acquisition varied among the three dimensions, while the acquisition of meaning was unaffected. Following immediate exposure, there was a sustainable advantage of seven over three repetitions in the acquisition of form and grammar. Moreover, the findings suggested that initial learning was established when a word was repeated seven times. However, at this point, there was still a strong likelihood that learners would not be able to recognise the word if they heard it again. Additionally, the frequency effect disappeared over a period of two weeks. The researchers concluded that short-term retention of form and grammar begins to develop with minimal exposure; nevertheless, this type of knowledge requires more than fifteen repetitions to be established and retained fully.

Basing their insights on Dutch EFL learners' interaction with one full-length TV documentary, Peters and Webb (2018) also investigated incidental vocabulary learning, examining the effects of different word-related variables: 1) frequency of occurrence, 2) cognateness, 3) word relevance and a learner-related variable (preexisting vocabulary knowledge). The researchers conducted two experiments to examine the effects of viewing TV on form recognition, meaning recall and meaning recognition. The experimental group (36 students) attended three sessions,

which involved watching a documentary without captions and then completing a questionnaire regarding the documentary and their perception of the knowledge they had gained, before taking the unannounced post-test. A one-week delayed post-test was administered without prior notice to test vocabulary retention. Concerning the frequency of occurrence, exposure to the target lexical items ranged from one repetition to six. The control group (27 students) only took the tests. Findings related to the frequency of occurrence indicated that it positively correlated with vocabulary learning, with the odds of learning the target item for every five additional occurrences being three times higher for meaning recall and twice as high for meaning recognition. In this case, the effect was small for both meaning recall and recognition. However, frequency of occurrence was not the most essential predictor for vocabulary gains, which aligns with Vidal's (2011) findings. Yet, these findings contrast with those of van Zeeland and Schmitt (2013), which indicated that frequency of occurrence mainly impacted immediate meaning recall after 11 encounters. The above findings illustrate how studies related to the impact of frequency of word occurrence on language learning are both inconclusive and inconsistent. It appears that the biggest influence is on learning via reading rather than listening, while results show that repetition leads more to short-term rather than long-term retention. However, it remains unclear exactly how many repetitions are ideal for retention, and the extent to which frequency of occurrence takes precedence in vocabulary learning compared to other predictors. As such, there is a need for more studies in this area to address these questions.

Results concerning repetition in the listening modality mainly come from studies investigating incidental learning. There is minimal evidence for the effect of repetition on intentional vocabulary learning, with three studies focusing on it (Peters, 2014; Teng & Xu, 2022; Zhang, 2022) and only the last of these considering it for listening.

Peters (2014) investigated the effects of repetition, target item type (single words vs. collocations) and post-test administration's timing (immediate vs one week after the session) on L2 form recall. Thirty-five first-year EFL business students from two concurrent classes (two experimental groups, 21 from one class and 14 from the other) received explicit non-communicative and (partly) decontextualised tasks and were required to provide the form of target words through written tests. The only difference between both groups was the timing of the post-test administration. A pre-test was administered four weeks before the learning session to assess the learners' vocabulary knowledge. Next, both experimental groups attended a one hour forty-minute session to learn 24 target items (12 single words and 12 collocations) using a word list with L2 definitions and supplementary learning materials. The session involved reading the list and the definitions and completing eight written vocabulary activities. Four single words (SWs) and four collocations occurred once, another four SWs and four collocations occurred three times, and the remainder occurred five times. A form recall post-test session was administered to the first and second experimental groups at different times (immediately for one group and one week after for the second). A delayed post-test was administered to both groups two weeks after the learning session.

The findings of Peters' (2014) study indicated that repetition significantly affected the learners' form recall, irrespective of the post-test administration's timing. The effect of repetition was durable. The results revealed that the recall scores on the immediate and delayed post-tests were higher when a target item was more frequently encountered in the vocabulary activities. The recall scores were higher in the five-occurrence conditions than in the one and three-occurrence conditions. Peters (2014) identified a number of limitations in her study, including the small number of participants and target items per frequency of occurrence. Moreover, the target items in

each frequency condition were not counterbalanced, potentially leading to a confounding effect. Last, the results of the immediate post-tests should be evaluated cautiously, as they may not accurately represent authentic learning contexts (i.e., giving the test to the groups at different times).

A more recent study by Teng and Xu (2022) yielded similar results. They examined the effects of task type and repetition on enhancing receptive vocabulary knowledge to promote productive use. The study included 146 Chinese university learners enrolled in an EFL course who were divided into four groups, each engaging in different explicit vocabulary activities for 12 weeks (sentence translation, sentence completion, gap filling, and multiple-choice). The activities included practising 18 target items, which were categorised into three sets, each with six words receiving two, four, or six repetitions. A form recall delayed test was administered two weeks after the treatment. Findings revealed that repetition had a significant main effect on recall of the target items, with students performing significantly better with four repetitions than two, irrespective of task type and measurement, resulting in medium to large effect sizes. However, the effects started to decline with more repetitions, and no significant differences were found between four and six repetitions. The study's limitations included the small number of explicit vocabulary activities and small sample size, which restricted the generalisation of the findings to other EFL learners.

The above-mentioned studies highlighted the essential role of repetition in maximising L2 vocabulary learning in the context of reading. Additionally, the studies also revealed that fewer encounters are required in explicit learning, unlike incidental learning, which demands more encounters for significant vocabulary learning to occur (e.g., a minimum of 15 as found by van Zeeland & Schmitt (2013)). Despite these insightful findings, Zhang (2022) argued that both Peters (2014) and Teng and Xu's (2022) studies employed FonFs vocabulary learning activities for

explicit vocabulary instruction, meaning the evidence was only based on decontextualised activities, which are less communicative. In his own study, Zhang (2022) investigated the effects of repetition on vocabulary learning using a more communicative approach, FonF instruction. Zhang (2022) clarified that in order to enhance incidental vocabulary learning, increasing the number of repetitions necessitates considerable exposure to meaning-focused input, which is time-consuming in a classroom context. This necessitates further investigation of the pedagogical benefits of repetition within explicit vocabulary instruction.

Zhang (2022) examined the effects of repetition on vocabulary learning using three modes of LFonF instruction. Also, the researcher investigated how preexisting vocabulary knowledge and listening proficiency moderated the effects of repetition on vocabulary learning through listening; issues neglected by the two previous studies reviewed. Ninety-eight Chinese secondary school learners of English as a foreign language were randomly assigned to three experimental groups: L2, CS, and CFoF groups. The participants firstly took a pre-test that assessed their vocabulary knowledge and listening comprehension. They then experienced teaching sessions that involved listening to passages followed by explicit vocabulary instruction for 20 target lexical items. Each session included a review activity where vocabulary was revisited to allow several encounters with certain target items. The instructor initially read the target item aloud twice, then encouraged the students to recall the meaning and say it aloud in L1 or L2. The teacher validated the meaning by repeating the vocabulary explanations for the target item (L2, CS or CFoF). Through these review activities, five words received nine repetitions, five words received seven and five repetitions, and the remaining items received four repetitions only. An aural meaning-recall post-test was administered to assess the impact of repetition on vocabulary gains.

Findings revealed a positive correlation between vocabulary gains and repetition regardless of the type of vocabulary explanation; however, a minimum of seven repetitions were required for substantial gains. Preexisting vocabulary knowledge did not moderate the effects of repetition on vocabulary learning. Learners with lower preexisting vocabulary knowledge showed "a consistent learning advantage" over those with higher preexisting vocabulary knowledge regardless of the number of repetitions (Zhang, 2022). Listening proficiency moderated the effects of repetition negatively, meaning that less proficient learners benefitted more than their more proficient counterparts from the increased number of repetitions. Zhang's (2022) study also indicated that explicit learning required less repetition than incidental learning to achieve significant vocabulary gains. For example, 15 repetitions were needed in van Zeeland and Schmitt's (2013) study for learning vocabulary through listening. Unlike Teng and Xu (2020) and Peters's (2014) findings, which reported benefits from four and five repetitions in relation to intentional learning through reading, Zhang (2022) reported that a minimum of seven repetitions were required to achieve substantial gains when it came to listening. He argued that the potential reason for this was that these researchers used FonFs activities in which learners intended to learn vocabulary. In contrast, he used explicit LFonF tasks, meaning that "noticing" of the target lexical items was only stimulated by the teacher's activities, which simultaneously sought to enhance comprehension of meaning. Consequently, a higher number of repetitions was required in such conditions. Concerning limitations, Zhang (2020) suggested increasing the number of the target items at each repetition condition to reduce the likelihood of results being affected by specific words.

Taking into consideration the positive effects of repetition on L2 vocabulary learning through listening with SI learners, repetition through LFonF may offer similar benefits for VI learners. Additionally, from a neurophysiological perspective (see Section 2.4.2), VI individuals

seem to have very effective word recognition memory (e.g., Raz et al., 2007; Röder et al., 2000), which might suggest that they need fewer repetitions than SI learners. Therefore, it is rational to exploit repetition to help VI learners achieve an essential element for knowing a word, namely form (Nation, 2013).

Considering the documented positive effects of repetition on L2 vocabulary learning in SI individuals, as shown in a limited number of studies, repetition via LFonF may offer similar benefits for VI learners (Zhang, 2022). However, in the absence of research focusing on repetitions in relation to VI individuals, there is a need to study the impact of repetitions on this cohort of learners. From a neurophysiological perspective (see Section 2.4.2), VI individuals seem to have very effective word recognition memory (e.g., Raz et al., 2007; Röder et al., 2000), as well as stronger phonological memory and superior serial memory skills (for more details see Section 2.4.2), which might suggest that they need fewer repetitions than SI learners. This could potentially alter the repetition threshold required for vocabulary retention. On this basis, it is postulated that VI learners may benefit from fewer repetitions than their SI peers. However, it is imperative to explore this further to develop evidence-based pedagogical practices tailored to the needs and strengths of these learners. Thus, this study explores the extent to which the number of repetitions under LFonF conditions supports vocabulary learning in both VI and SI learners, thereby addressing a notable gap in the literature.

3.3 Language Learning Strategies and L2 Vocabulary Learning

The previously detailed review explored two modes of vocabulary instruction (CS and AIMCS), considering theories of vocabulary learning and their relevance to VI learners. This raises the question of how VI and SI learners respond to each type of instruction in terms of the strategies

it prompts and their perceptions of its helpfulness. Therefore, it is important to investigate the literature exploring learning strategies.

Although the concept of language learning strategies has evolved since the 1970s, a consensus on its definition remains elusive, with researchers continuing to develop different definitions (Cohen, 2014; Macaro, 2006). Therefore, initially, it is essential to present a working definition of strategy. The present study adopts Macaro's (2006) definition, as it is considered appropriate for exploring strategies used while listening to the teacher's explanations. Instead of providing "an all-encompassing definition", Macaro (2006) describes a strategy by identifying its essential characteristics, specifically that it manifests as a goal-oriented mental action employed to achieve a learning objective and is "transferable to other situations or tasks" (pp. 320-328).

In the context of "listening to the teacher: a language use task", Fung and Macaro (2021) investigated strategy use in relation to linguistic knowledge (LK), including vocabulary and grammar, of 646 Chinese secondary school intermediate-level EFL learners in Hong Kong. A bilingual Likert-scale questionnaire with 65 items was developed to elicit strategies alongside a vocabulary-level test (VLT) and grammaticality judgment test (GJT) to assess LK. The questionnaire items were categorised as "strategies" (mental actions) and "opportunities for strategic behaviour (OSB)" (e.g. reviewing one's notes), which may result in a strategic behaviour (e.g. make inferences) (Fung & Macaro, 2021, p. 545). A factor analysis conducted on the questionnaire yielded 10 strategy factors and three OSB factors (Fung, 2016) (see Appendix E). Learners also completed a receptive VLT with five levels (30 items each and a total of 150 items) and a 30-item GJT with error identification. Learners were then divided into high and Low LK groups based on the LK tests. Moreover, cluster analysis was used to further subdivide them according to level of strategy use and linguistic knowledge. This resulted in four clusters: learners

with low LK were divided into less and highly strategic (LLK/LS and LLK/HS), and those with higher LK were divided into less and highly strategic clusters (HLK/ HS and HLK/LS).

Overall, findings revealed that LK levels seemed to influence strategy use in an "enabling and constraining" way (Fung & Macaro, 2021, p. 555). First, those with higher LK were "enabled" by their LK to use more strategies and OSB than those with lower LK, who seemed "constrained" by their lack of LK. While the latter used more translation strategies, the former used a wider range of strategies such as selective attention, recall of prior knowledge, auditory representation, imagery, and evaluation. Furthermore, the highly strategic LLK/ HS and HLK/HS clusters both used more strategies than the LLK/LS and HLK/LS groups and were similar in nearly all strategic variables except translation, which LLK/HS used more frequently. Last, individual differences were also found among low LK learners, wherein a sizable subgroup of low LK learners resembled higher LK learners in their strategy use and reported employing more strategies than their low LK peers, suggesting that strategy use can be independent of LK. In conclusion, Fung and Macaro (2021) argued that it is essential to understand the role of LK when investigating listening strategy use, despite the fact that strategy use while listening to the teacher's talk was not solely influenced by LK. The limitations reported by the researchers included the fact that the data collected was from learners with the same background, meaning it might not be generalisable to others. Moreover, it lacked a measure of listening proficiency.

Tuning to vocabulary, one of the widely used taxonomies of language learning strategies was developed by Schmitt (1997), who placed them in two categories: strategies for understanding a new word's meaning and strategies for consolidating the word once it is introduced. Schmitt (1997) clarified that in order to gain initial information about a word, learners use "Discovery Strategies", which include "Determination Strategies" and "Social Strategies" (p. 206).

"Determination Strategies" involve using preexisting knowledge, contextual clues, and reference material to comprehend the word's meaning, whereas "Social Strategies" involve exploiting external resources, such as consulting someone who knows the meaning. Moving to strategies for committing words to memory, Schmitt (1997) introduces "Consolidation Strategies", which include four groups of strategies: Social Strategies, Memory Strategies, Cognitive Strategies and Metacognitive Strategies (p. 210). Social strategies involve different social activities, such as engaging in group work to help remember the word. Memory strategies entail associating the word with preexisting knowledge using elements like imagery so that it is remembered. Cognitive Strategies involve rote learning (i.e., repetition) to remember the word. Lastly, metacognitive strategies are used by learners to regulate and assess their learning and ensure its efficiency. Schmitt's (1997) taxonomy for vocabulary learning strategies was empirically supported by a survey conducted with a relatively large sample (600) of Japanese EFL learners. The survey involved a diverse array of age ranges that spanned from childhood to adulthood, including those in junior high school, high school, and university.

In order to explore the vocabulary learning strategies used by Japanese EFL learners and to gain insight into their perception of the helpfulness of these strategies, Schmitt (1997) used various measures to construct his survey. An initial list of strategies was compiled based on vocabulary reference books and textbooks. Next, intermediate-level EFL students were asked to compose a report on how they studied English vocabulary; consequently, several strategies emerged and were added to the initial list resulting in a second list. Lastly, several EFL instructors were requested to review the second strategy list produced and provide further strategies based on their teaching experience. Overall, 40 strategies emerged and were used for the survey study. Six more strategies emerged from the survey responses, while others were added based on further

consultation with literature on vocabulary, as well as personal reflections and discussions with other EFL teachers. The final taxonomy constituted a total of 58 strategies (see Appendix E for the final taxonomy). Schmitt (1997) clarified that this taxonomy "should not be viewed as exhaustive, but rather a dynamic working inventory which suggests major strategies" (p. 204). As mentioned earlier, the survey only involved Japanese learners; therefore, it is worth investigating if learners from a different language background (Arabic) use similar strategies.

Drawing on Schmitt's (1997) taxonomy, Graham and Zhang's (2024) more recent study offers another valuable taxonomy that explores strategies used by learners while listening to the teacher's explanations (see Appendix E). Through a qualitative analysis, Graham and Zhang (2024) investigated the strategy use of 12 high-school EFL learners in a classroom-based intervention that explored three modes of vocabulary instruction: L2-only, CS and CFoF. The participants were the same as those in Graham and Zhang's earlier study (2020a), who had previously undergone the interventions referred to above in Section 3.2.41. The researchers used stimulated recall interviews (SRIs) to explore the strategies employed by these learners and to determine if patterns of use arose based on the type of intervention experienced and proficiency level. Overall, findings revealed that the employed strategies varied among the three groups, implying that the treatment elicited distinct forms of "focal attention, either a global focus on the listening input as a whole, or one largely focused more narrowly on the target vocabulary items" (Graham & Zhang, 2024, p. 9). Concerning strategy use by proficiency level, proficiency impacted how learners responded to the teacher's explanations. Generally, higher proficiency learners were more inclined to employ strategies requiring complex processing (e.g., summarisation), whereas lower proficiency learners tended to use simple strategies (e.g., matching familiar words) or give up. Graham and Zhang (2024) concluded that learners' strategy use is affected by their preexisting

proficiency level (vocabulary knowledge and listening proficiency) and the type of vocabulary instruction they experience. The greater the teacher's support, the more learners are required to employ strategic behaviour. The researchers identified some limitations, particularly in the context of the challenges associated with conducting SRI with low-proficiency adolescent learners. Indeed, some learners' responses to the interviewer were brief and they resisted providing more information.

Importantly, Graham and Zhang (2024) contend that their work "advances the field" by highlighting the benefits of qualitative analysis in the context of evaluating the efficacy of classroom interventions (p. 21). Additionally, they claimed to be the first to provide a qualitative perspective on the significance of "involvement load" (Hustijn & Laufer, 2001) in vocabulary learning. Finally, the study illuminates the importance of employing strategy-focused interventions to help learners develop effective vocabulary strategies in response to their teacher's explanations.

L2 vocabulary learning strategy use by VI learners was explored in only one study conducted by Jedynak and Wesołowska (2014b). The research examined the impact of vision deficits on the choice of memory strategies, which included: 1) keyword, 2) using imagery, 3) representing sounds in memory, 4) employing action in the process of memorisation or imagining an action, and 5) mental association. Additionally, the study investigated whether the participants shared specific strategies or if strategies were unique to a specific group. The participants were 12 adult intermediate-level EFL learners divided into three groups, with each group consisting of two males and two females that were either: non-blind (NB), partially blind (PB), and fully blind (FB). The researchers only focused on exploring the strategies used by the learners to memorise vocabulary. The materials that were used to elicit strategies included:1) a vocabulary list adapted to the special needs of VI learners; 2) a semi-structured interview sheet including two sections:

biodata and questions concerning strategies employed to memorise vocabulary; 3) an interview sheet using open-ended questions due to the oral survey format, allowing for quick explanations and analysis of responses; and 4) a list of memory strategies based on Oxford's taxonomy (1990), yet adapted to the strategies reported by the learners. Strategies were categorised after the interview based on the responses obtained (see Appendix E). The learners were interviewed about their strategies to remember various lexical items, and their responses were recorded.

Findings revealed that vision deficit impacted the learners' strategy choice. Generally, all groups preferred the *keyword* strategy, and NB learners used it most frequently (more than 50% of the responses). Besides the *keyword* strategy, both PB and FB selected strategies that pertained to *representing sound in memory*. Additionally, the PB learners, who could still depend on vision, preferred a *keyword* strategy wherein "they used auditory impressions rather than visual ones" (p. 361). Unexpectedly, PB learners' strategy use depended more on the sense of hearing than FB learners. FB learners relied partly on their hearing and preferred strategies that pertained to *mental association,* such as "creating a mental link that helps to memorise the new word (e.g. hot– red)" (Jedynak & Wesołowska, 2014b, p. 361). The researchers concluded that FB learners seemed to "have developed other skills, rather of a mental nature, which they used to comprehend our visual reality and learn new language items" (p. 361). The researchers pointed out several limitations to their study, including a lack of performance measurement, a small sample, and individual differences within each group, which made it challenging to generalise findings about L2 vocabulary strategy use across all VI learners. However, Jedynak and Wesołowska (2014b) argued that their study shed light on L2 vocabulary acquisition in VI learners and emphasised their differences in strategy use. The authors argued that it is imperative to consider these differences and acknowledge that the approach used in mainstream education with sighted learners is not

necessarily effective when it comes to VI learners. Therefore, besides the keyword approach, foreign language teachers working with VI learners should develop teaching strategies based on "memory sounds and mental association" (p. 376).

The studies outlined above have played a pivotal role in shaping how this research conceptualised and applied the notion of strategies. Graham and Zhang's (2024) landmark study underscored the value of a qualitative approach in examining the strategies learners use while listening to teacher explanations within an intervention study. Their findings offered key insights into distinct patterns of strategic processing and focal attention, highlighting the extent to which instructional mode can influence both learners' strategy deployment and their perception of the input. Building on these insights, the current study aimed to explore how different instructional modes can prompt the use of various strategies and to assess how these findings align with or challenge those of Graham and Zhang (2024). Fung and Macaro (2021) similarly conducted one of the few other studies that focused on strategy use while listening to teacher input. Although their study involved only SI EFL learners, its specific focus on listening helped shape the overall direction of this research. While it was not experimental in nature, it yielded valuable insights into the cognitive and metacognitive strategies used by language learners. The taxonomies developed by Graham and Zhang (2024) and Fung and Macaro (2021) were adopted in this study for the analysis of the qualitative data. Jedynak and Wesołowska's (2014b) work also significantly informed this research, as it is the only known study to investigate L2 vocabulary learning strategies among VI learners. It highlighted the learners' heavy reliance on auditory representation. Although their focus was specifically on memory strategies and did not involve listening to teacher explanations, their comparison between SI and VI learners provided an essential foundation for the current study.

While these influential studies strongly shaped the direction of this research and offered valuable insights into language learner strategy use from different perspectives, a clear gap remains in the literature regarding VI learners' use of strategies while listening to teacher input. It is possible that these learners may use different strategies in response to the provided vocabulary instruction. To the best of the researcher's knowledge, this is the first quasi-experimental study to examine strategy use among both SI and VI learners in this specific instructional context.

3.4 Chapters Summary

In Chapters Two and Three, the reviewed literature identified the following gaps in the context of teaching L2 vocabulary to VI learners.

1. The existing literature on language learning for VI individuals, particularly in second language (L2) contexts, is inconclusive and often based on weak empirical evidence and personal experiences.

2. Insights from neuropsychology may help us understand how visual impairment enhances other sensory modalities and cognitive functions through a compensatory mechanism. This gives VI individuals potential advantages in language learning through neuroplasticity.

3. According to the reviewed literature, VI learners may benefit more from aural modes of L2 input due to enhanced auditory and cognitive functions, though further empirical research is needed to confirm this and explore the most effective instructional approaches for these learners.

4. The studies explored suggest that more investigation is needed into the specific impact of focused-meaning listening and explicit teaching of lexical items (LFonF) on VI learners' L2 vocabulary learning.

5. The existing theoretical frameworks for L2 vocabulary learning emphasise the importance of noticing in order for input to become intake for learning. Moreover, the role L1 plays in mediating L2 vocabulary processing is still debatable due to the lack of clarity and empirical evidence regarding the amount and type of L1 use that is beneficial for instructional purposes, mainly in the context of VI learners.

6. The research indicates the pedagogical advantages of CS explanations over L2-only instruction. In the context of sighted learners, CS explanations lead to greater short-term vocabulary gains. CS can be particularly beneficial for teaching vocabulary to VI learners, as it could help them overcome their concept formation challenges. No studies have yet explored the benefits of CS for VI learners.

7. The existing literature provides mixed views on the effectiveness of AIM, suggesting positive effects on vocabulary learning. However, AIM studies do not consider its relevance for VI learners, nor do they explore whether its effects vary across different proficiency levels. It is possible that VI learners with higher listening proficiency may benefit more from vocabulary instruction than those with lower listening proficiency.

8. Few studies have emphasised the importance of repetition in maximising L2 vocabulary learning. They also indicate that fewer encounters are required for significant vocabulary acquisition in explicit learning compared to the greater number of encounters needed for incidental learning. None of the studies have examined the effect of number of repetitions on VI learners' vocabulary retention.

9. Limited literature has investigated language learning strategy while listening to the teacher's talk, particularly VI learners' strategy use in response to different types of vocabulary instruction delivered through aural input.

3.5 Research Questions

The hypotheses in the present study were firstly formed based on previous research into first language acquisition, which has shown that VI learners rely heavily on auditory input to acquire knowledge. This positions listening as the primary channel for learning among individuals with compromised visual abilities, as outlined in the Literature Review (Chapter Two, Section 2.4). Moreover, this aligns with the Sensory Compensation Hypothesis (Hershenson, 1962; Levy, 1872), which posits that the loss of one sense (e.g., vision) enhances the functioning of other senses (e.g., hearing) due to the brain's neuroplasticity—its ability to reorganise its structure and function by forming new neural connections in response to sensory deprivation or environmental demands (Sabourin et al., 2022). Insights from neuropsychology suggest that, for VI learners, the brain's compensatory mechanisms enhance auditory perception and cognitive functions to a greater extent than in their sighted (SI) peers, potentially giving VI individuals an advantage in language learning. This well-documented reliance on auditory input led to the hypothesis that a teaching approach focused on enhancing aural input could improve language learning outcomes for VI learners in inclusive educational settings. To apply these concepts to second language learning, the researcher sought to establish a link between the sensory compensation hypothesis and second language acquisition theories, such as the Noticing Hypothesis (Schmidt, 1990) (see Chapter Three, Section 3.2.2). That hypothesis proposes that language learners must consciously notice linguistic input in order to acquire language. Enhancing and manipulating the input increases the likelihood of drawing learners' attention to target lexical items and making them more salient, thereby establishing noticing as the starting point of acquisition. Building on these insights, which suggest that teaching approaches such as AIMCS could offer particular advantages for VI individuals - while also being beneficial for SI learners - this study holds both empirical and pedagogical

significance. It supports the development of an inclusive teaching model that enhances learning for a group whose educational needs are often overlooked.

In view of the above findings and gaps, this study addressed the following research questions:

1. What is the effect of two types of vocabulary instruction (CS and AIMCS – artificially increasing the volume followed by CS) during aural activities on a) VI and b) SI learners?

2. How is the instruction effect on vocabulary learning moderated by learners' listening proficiency and their existing vocabulary size?

3. To what extent does the number of repetitions affect the retention of vocabulary items for VI and SI learners?

4. How do learners respond to each type of instruction, both in terms of the strategies it prompts and in terms of their perception of helpfulness?

CHAPTER FOUR: METHODOLOGY

4.1 Introduction

This chapter discusses the study's design and the instruments used to address the research questions. The study procedure is also outlined, while the outcomes of the pilot phase and their implications on the main study are discussed. Next, the data analysis procedures for the quantitative and qualitative methods are covered. The chapter concludes with a discussion of the reliability and validity of the research instruments employed and an overview of the major ethical issues encountered.

4.2 Research Design

A research design is a research plan and procedure that shapes the researcher's decisions about the general hypothesis and the methods of collecting and analysing data (Creswell, 2009). Each type of design has an underpinning philosophical paradigm, or "a basic set of beliefs that guide action" (Guba, 1990, p.17). These beliefs, or "worldviews", usually determine the researcher's design selection (Creswell, 2009, p.6). In the social sciences, the notion that there are only two paradigms – quantitative, which focuses on objective data, and qualitative, which focuses on subjective views and assumptions – is an "oversimplification" (Willis, 2007, p.8). In fact, three paradigms have been proposed: postpositivism, critical theory, and interpretivism (Cupchick, 2001; Guba, 1990). Postpositivism tends to include quantitative research, while interpretivism and critical theory mainly revolve around qualitative research. However, mixed methods research is based on an alternative philosophical assumption, pragmatism, which combines both quantitative and qualitative approaches in a single study (Teddlie & Tashakkori, 2009). Pragmatism aims to employ whatever philosophical and/or methodological approaches are most suited to address a particular research problem. Pragmatism provides a worldview that "sidesteps the contentious

issues of truth and reality, accepts, philosophically, that there are singular and multiple realities that are open to empirical inquiry and orients itself toward solving practical problems in the "real world" (Feilzer, 2010, p.8).

Different paradigms can be distinguished by how they address three types of questions: ontological (nature of reality), epistemological (our knowledge about reality), and methodological (the methods used to discover new knowledge) (Cuba, 1990). Willis (2007) argues that ontology and epistemology must be addressed within each paradigm. However, in the present study, the researcher did not focus extensively on these aspects; instead, the study adopted a pragmatic stance. In other words, the researcher's priority was selecting the methods that best addressed the research questions, rather than focusing on the underlying philosophical assumptions. Indeed, a pragmatist sees the main issue as the extent to which the methodology and philosophical assumptions are useful in generating the desired results (Goles & Hirschheim, 2000). Importantly, pragmatism does not regard knowledge as static or preexisting, but rather, it sees it as constantly shifting and always evolving. As such, knowledge, according to pragmatism, is built on experience, and an individual's social experience, in turn, affects their perception of the world (Kaushik & Walsh, 2019). In light of the above, by providing a flexible and outcome-driven approach, pragmatism was useful in this study for addressing the complex, real-world issue of how VI learners experience learning vocabulary through listening.

For more than a century, a fervent debate has occurred between advocates of quantitative and qualitative perspectives. To move beyond this rather reductionist dispute, proponents of mixed methods approaches have argued that we must capitalise on "the strengths" and compensate for "the weaknesses" of different methods by applying both quantitative and qualitative approaches together in a complementary fashion (Johnson & Onwuegbuzie, 2004, p.15). This is linked to the

pragmatism paradigm, which does not prioritise any particular methodological approach. Instead, it connects the research design to the essential research questions and aligns "design concerns to the choice of methods" (Kaushik & Walsh, 2019, p. 8). Thus, according to Johnson et al.'s (2007) definition, mixed methods research has paved the way for researchers to combine the components of "qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (p. 123). Creswell and Clark (2018) provide a more comprehensive definition that depends on the "core characteristics of mixed methods research" (p. 41). Namely, in mixed methods, the researcher

> collects and analyzes both qualitative and quantitative data rigorously in response to research questions and hypotheses, integrates (or mixes or combines) the two forms of data and their results, organizes these procedures into specific research designs that provide the logic and procedures for conducting the study, and frames these procedures within theory and philosophy. (Creswell & Clark, 2018, p.41)

In light of the above discussion, taking a pragmatic stance and adopting a mixed methods design to conduct the present study allowed the researcher to develop a more holistic and comprehensive understanding of the research topic. As the discussion throughout this chapter will demonstrate, the different methodological tools employed worked together synergistically, each compensating for the blind spots and weaknesses of the other. More specifically, this study employed a sequential explanatory mixed methods design to address the four research questions. This design involves a two-phase research approach that begins with quantitative data collection and analysis, followed by a qualitative phase to explain or expand on the initial findings. This design is useful when researchers seek to interpret numerical results through deeper qualitative insights. According to Mackey and Gass (2016), this approach helps provide a more

comprehensive understanding of research problems by integrating statistical trends with participant perspectives. As such, incorporating this design within the present study resulted in quantitative data that allowed us to better understand the ways in which the method of instruction affected the learning process, and whether it was moderated by learners' listening proficiency and their existing vocabulary size. At the same time, qualitative data provided deeper insights into the strategic behaviours used by VI and SI learners while listening to the teacher's vocabulary explanation and their perspectives in terms of the helpfulness of the two modes of instruction. Ultimately, a within- and between-subjects quasi-experimental design was employed to collect quantitative data for the first three research questions, while for the fourth research question, stimulated recall interviews enabled the collection of qualitative data insights. The remaining sections of this chapter provide further detail on each of the methods utilised.

4.2.1 Quasi-experimental Design

The present study employed a quasi-experimental design, which helped establish ecological validity and increased the strength of the causal evidence. Quasi-experimental designs utilise a non-random assignment of participants but use "plausibly exogenous variation in key parameters to establish causality" (Gopalan et al., 2020, p.220). Moreover, designs concentrating on internal validity enhance understanding of the causal effects of various educational interventions (i.e., help determine whether the assessed intervention or policy resulted in a significant change in the examined outcome) (Gopalan et al., 2020).

This study adopted a counterbalanced mixed within-and between-subjects design to answer the first three research questions. Researchers use both between-subjects and within-subjects designs to maximise statistical power, control for variability, and address different research questions. A within-subjects design allows comparisons with the same participants, reducing

variability and increasing sensitivity to changes, while a between-subjects design prevents order and learning effects by comparing independent groups. Combining both approaches enhances generalisability, ensuring that findings reflect true effects rather than individual differences or prior exposure. This dual approach is particularly useful in studies where researchers need to examine both group differences and individual changes over time. In relation to the design of the present study, each participant was exposed to all the treatments associated with the investigated aspects (Creswell & Plano Clark, 2011; Lander, 1998; Wickens & Keppel, 2004). This determines any significant effects based on differences between two or more participant scores (Wickens & Keppel, 2004). The rationale for adopting this design was to maximise power (achieving 1800 observations over 60 taught target lexical items) and to address the issue of the limited number of VI students enrolled at the designated upper-secondary school and the institute for the blind from which participants were drawn. Indeed, this design is economical and optimal when the population of available participants is insufficient and when the time, effort, and material required for conducting the study cannot be duplicated or wasted (Lander, 1998). Furthermore, when two scores are collected from the same participant, these two scores are likely more comparable to each other than the various scores of different participants. This comparability gives the within-subjects design more weight and "sensitivity" than a between-subjects comparison with an equal amount of observations (Wickens & Keppel, 2004, p. 347). Moreover, the error variance is minimised in a within-subjects design; it is highly sensitive in evaluating an independent variable and more effective in testing the null hypothesis (Lander, 1998).

It is important to note that this design has potential drawbacks, primarily order effect. An order effect "occurs when participants' responses in the various conditions are affected by the order of conditions to which they were exposed" (Jhangian, 2017, p.121). To mitigate this effect,

the researcher employed a counterbalancing procedure, which varies "the order in which subjects receive treatments in order to minimise the bias potentially associated with the treatment order" (Everitt & Howell, 2005, pp. 418-419). If counterbalancing is not employed, differences between the conditions concerning the dependent variable could result from the order of the conditions rather than the result of the independent variable (Jhangian, 2017). In the present study, counterbalancing the two types of vocabulary instruction (CS and AIMCS) was essential to guarantee that treatment effects were not confounded with the order of instruction. It prevented the order of the condition from being a confounding variable by not always having the "attractive condition" first and the "unattractive condition second" (Jhangian, 2017, p.125). All participants received the two teaching modes, CS alone and CS plus AIM (AIMCS). They were used in each of the six intervention sessions over two academic terms (with three sessions in each term) (see Figure 4). Thus, any difference between the conditions with respect to the dependent variable could not result from the order of the conditions. For counterbalancing, AIMCS was employed in the first session for the first five target lexical items, followed by CS for the next five items, then vice versa in the following session, and so on for the remaining sessions.

This study also used a non-randomised pre-, post-, delayed post- and final delayed post-test design with a comparison group. A pre-test was administered to establish equivalence of the participant groups before the treatment, and a post-test aimed to evaluate the effectiveness of the intervention (Mackey & Gass, 2005). Before the intervention, the researcher administered two baseline tests (general listening comprehension test and general vocabulary knowledge test-LVLT) to measure the performance level of the participants; the experimental group (VI learners) and the comparison group (SI learners) (see Section 4.5.1 and Section 4.5.3 for more details).

Adopting a quasi-experimental design for this study reduced external validity threats. External validity refers to the extent to which the research findings can be generalised to real-world settings and a larger group of language learners in different contexts or times (Dörnyei, 2007; Mackey & Gass, 2005; Mackey & Gass, 2016). Dörnyei (2007) clarifies that the external validity of quasi-experimental studies is not a substantial concern in experimental design since the experimentation is conducted in an authentic teaching environment with authentic class groups. He further cites the argument of Clark (2004) that real experiments demand that the researcher try to control all variables firmly, which may lead to "artificial frameworks in laboratory conditions which reduce generalisability (i.e., external validity) of the study" (p.120). To further enhance the study's external validity, the researcher recruited SI learners as a comparison group to ensure the intervention was externally valid and applicable to different language learners. The comparison group was important in helping to assess the best type of instruction for vocabulary learning among both VI and SI learners (see Figure 4 for the research design).

Another reason for adopting a quasi-experimental design for this study was to enhance face validity. Mackey and Gass (2005, 2016) point out that in L2 classroom-based research, using intact classes enhances face validity (i.e., the extent to which a test appears to measure what it intends to measure) of classroom research, including research on certain instructional strategies. Since this study investigated the effectiveness of different types of vocabulary instruction during listening on gains and retention of the target lexical items, an available classroom is "the most ecologically sound setting" for conducting the study (Mackey & Gass, 2005, p.143). Sato and Loewen (2018) contend that testing an intervention by deploying it in an actual classroom setting allows for the assessment of "authentic classroom instruction with minimal disturbance" (p. 31). This permits an examination of the effects of the instruction without the possibly "confounding variables" of

researcher interference and an "unfamiliar data collection context" (Sato & Loewen, 2018, p. 31).

Figure 4 below presents the study design.
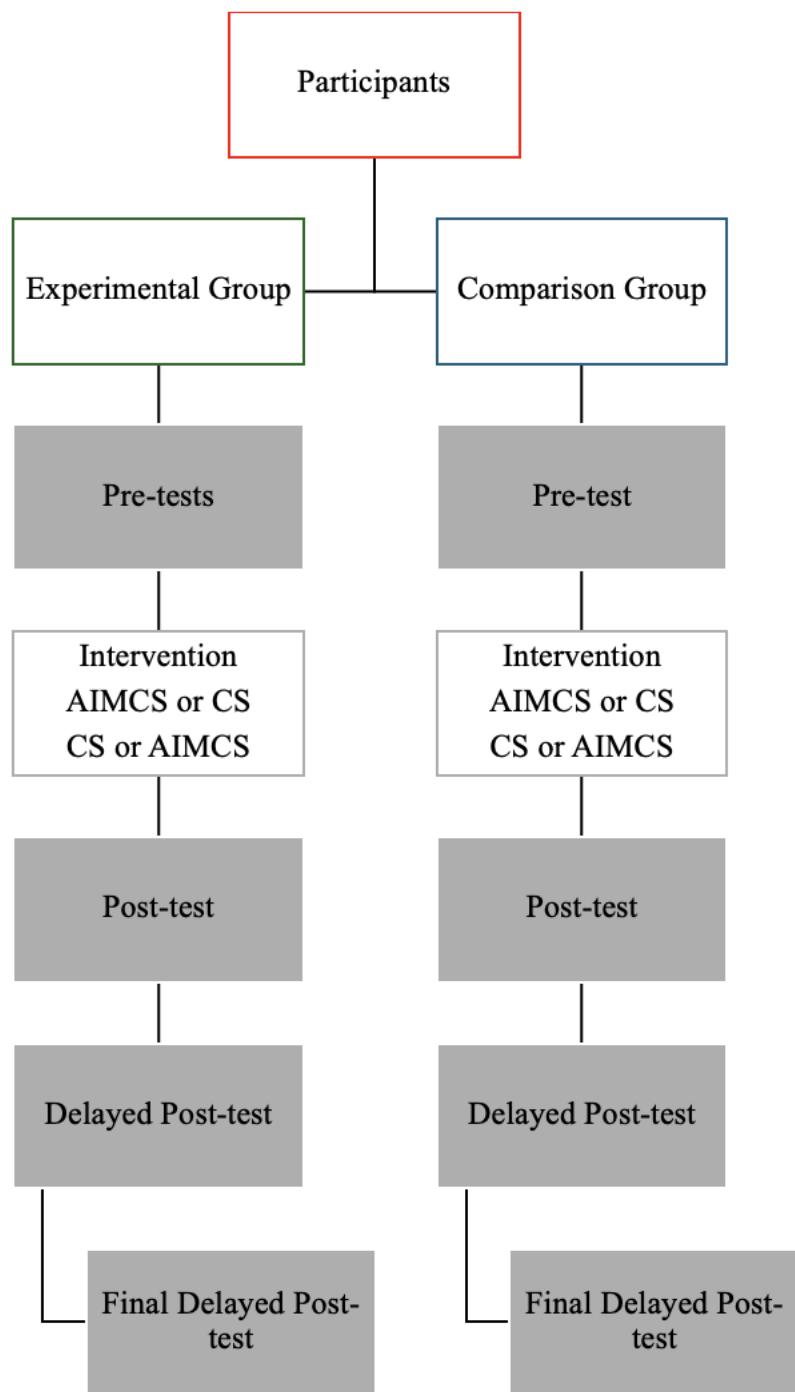
Figure 4 Study Design of Pre-, Post-, Delayed Post- and Final Delayed Post-Tests with Experimental and Comparison Groups

4.3 Participants

The study as a whole included 32 participants, 16 of whom were VI and 16 SI learners. They were all native Arabic speakers, ensuring a uniform L1 background. Two different educational sites within SA were used to recruit participants for the different stages of data collection, including an upper-secondary school and an institute for the blind. Using "captive audiences" like students in an upper-secondary school or institute for the blind helped facilitate the delivery of the intervention and data collection (Dörnyei, 2007, p. 99). In addition, due to her job as a lecturer, the researcher was able to easily gain permission from the head teacher or head of department to access classes and request consent from the students to participate in the study.

The quasi-experimental study involving the intervention comprised 32 Saudi female upper-secondary EFL learners (16 VI and 16 SI) aged 16–20 years. At first glance, this age range may appear broad, potentially raising concerns about unequal language proficiency levels or cognitive differences among participants. However, the inclusion of some VI participants over the age of 18 was due to placement decisions made by the Visual Impairment Management division at the Ministry of Education (MoE). These placements were based on academic readiness and health condition reports confirming that each VI student's cognitive profile was consistent with the demands of the corresponding upper-secondary grade. As a result, all participants in this study - regardless of age - followed the same EFL curriculum and were assessed at an equivalent academic level. Hence, it can be assumed that age differences did not affect cognitive factors relevant to language learning.

The sixteen VI learners included six completely visually impaired (CVI), with a visual acuity of below 3/60, and ten partially visually impaired (PVI) learners with a visual acuity between 3/60 and 6/60 (WHO, 2019, p.11). VI learners with other disabilities were excluded (e.g.,

hearing impairment). In relation to the stimulated recall interviews, they were conducted after the last delayed post-test with 16 students who had all participated in the intervention: 5 CVI and 3 PVI students from the experimental group, and 8 SI students from the comparison group. It is worth noting that the researcher is a faculty member at an English language institute at a Saudi university. Thus, the initial plan was to recruit more VI learners from the university to participate in the study's intervention stage. However, executing this plan was not viable since there was only one class for VI EFL foundation-year learners at the university, which shifted to an online teaching mode a week after the start of the intervention. Recruiting from this class became impossible at that point as the intervention sessions and tests were not designed to be delivered online.

The participants were not randomly selected since there was only one twelfth-grade class for the blind at the institute, while there was one twelfth-grade class and an eleventh-grade class for VI learners at the designated upper-secondary school. Both the experimental and comparison groups received the intervention during regular class time. The researcher ran all the classes to ensure that the same teaching procedure and vocabulary instruction were applied equally and consistently. To qualify for this study, participants were required to have, at minimum, a low-intermediate level of language proficiency (IELTS 4.5-5). Therefore, to ensure the participants' general English level was suitable for understanding the listening materials used in the intervention, the researcher recruited learners who had been exposed to English as a second language for at least six academic years. Two baseline tests (listening comprehension test and vocabulary knowledge test, detailed in the Methodology Chapter) were also administered to elicit more details about each learner's language proficiency level (see Appendix B for the tests). Moreover, English teachers of VI students at the designated upper secondary school and the institute for the blind were consulted to gain insight about these learners' proficiency levels. These

measures were used to confirm comparable English proficiency across VI and SI groups at baseline.

4.4 Data Collection Procedure and Timeline

The data for the intervention stage were collected from two groups, an experimental (VI) and a comparison (SI) group. The collection was carried out over two academic terms (with three intervention sessions each term) at the institute for the blind and the upper-secondary school. The researcher followed Zhang and Graham's (2020a) procedure. A session for administering baseline tests was organised to elicit more details about the participants' language proficiency level and vocabulary knowledge (weeks 1-2). The baseline tests included a general listening comprehension test to evaluate the participants' English proficiency level and McLean et al.'s (2015) English vocabulary knowledge test (LVLT) to assess general vocabulary knowledge. Like Zhang and Graham (2020a), the intervention target lexical items were intermingled with the LVLT items to assess participants' knowledge of these items.

Next, both groups experienced six teaching sessions (Term 1, weeks 3-5 and Term 2, weeks 1-3). In each 50-minute intervention session, the researcher administered a listening comprehension task and taught the meaning of the target lexical items through two types of vocabulary instruction: CS alone and CS plus AIM (AIMCS). For counterbalancing, AIMCS was used in the first session for the first five items, followed by CS for the next five items, then vice versa in the next session, and so on for the remaining sessions. After each session, a vocabulary post-test was administered to assess short-term retention of previously taught vocabulary (Term 1, weeks 3-5 and Term 2, weeks 1-3).

A delayed post-test was administered two weeks after each intervention session to assess longer-term retention. The delayed post-test for the first intervention session was combined with

the vocabulary post-test for the third session (Term 1, week 5). The delayed post-tests for the second and third intervention sessions were administered during the weeks with no intervention sessions (Term 1, weeks 6-7) to achieve the two-week period. The same procedure was followed in the second term. The delayed post-test for the fourth intervention session was combined with the vocabulary post-test for the sixth session (Term 2, week 3). The delayed post-tests for the fifth and sixth intervention sessions were administered during the weeks with no intervention sessions (Term 2, weeks 4-6) (see Figure 5). Towards the end of each intervention session, a review activity took place to revise the selected taught lexical items. Reviews occurred during the first term in weeks three, four and five (intervention sessions 1, 2 and 3). Review sessions were not carried out during weeks six and seven since some of the lexical items that were supposed to be reviewed were from the fourth intervention session, which was carried out in the second term (week 1). Again, as only three sessions took place in the second term, with only a two-week gap between each session and its relevant delayed post-test, two additional sessions were conducted, allowing the administration of the fifth and sixth intervention sessions' delayed post-tests (weeks 4-5). Review sessions were also carried out during the second term (weeks 1-5) (see Section 4.6 below for a detailed outline of the review activities in each session).

Stimulated recall interview sessions were conducted with eight learners from the experimental group and eight from the comparison group after the last delayed post-test in order to explore the strategies prompted by each intervention. Lastly, a final delayed post-test was administered five weeks after the last delayed post-test to assess the effect of repetition on vocabulary learning (Term 2, Week 11).
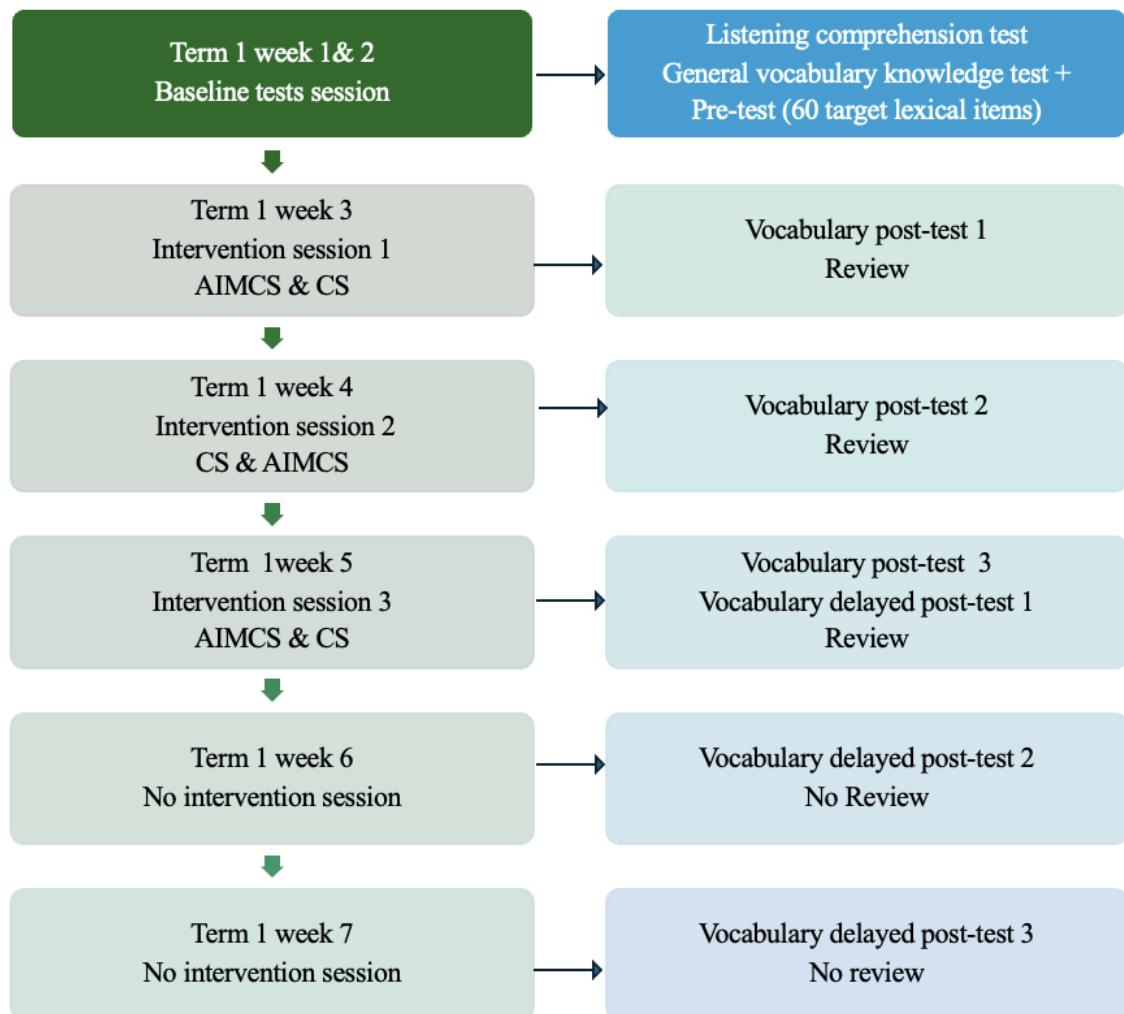
Figure 5 Data Collection Procedure (Term 1)
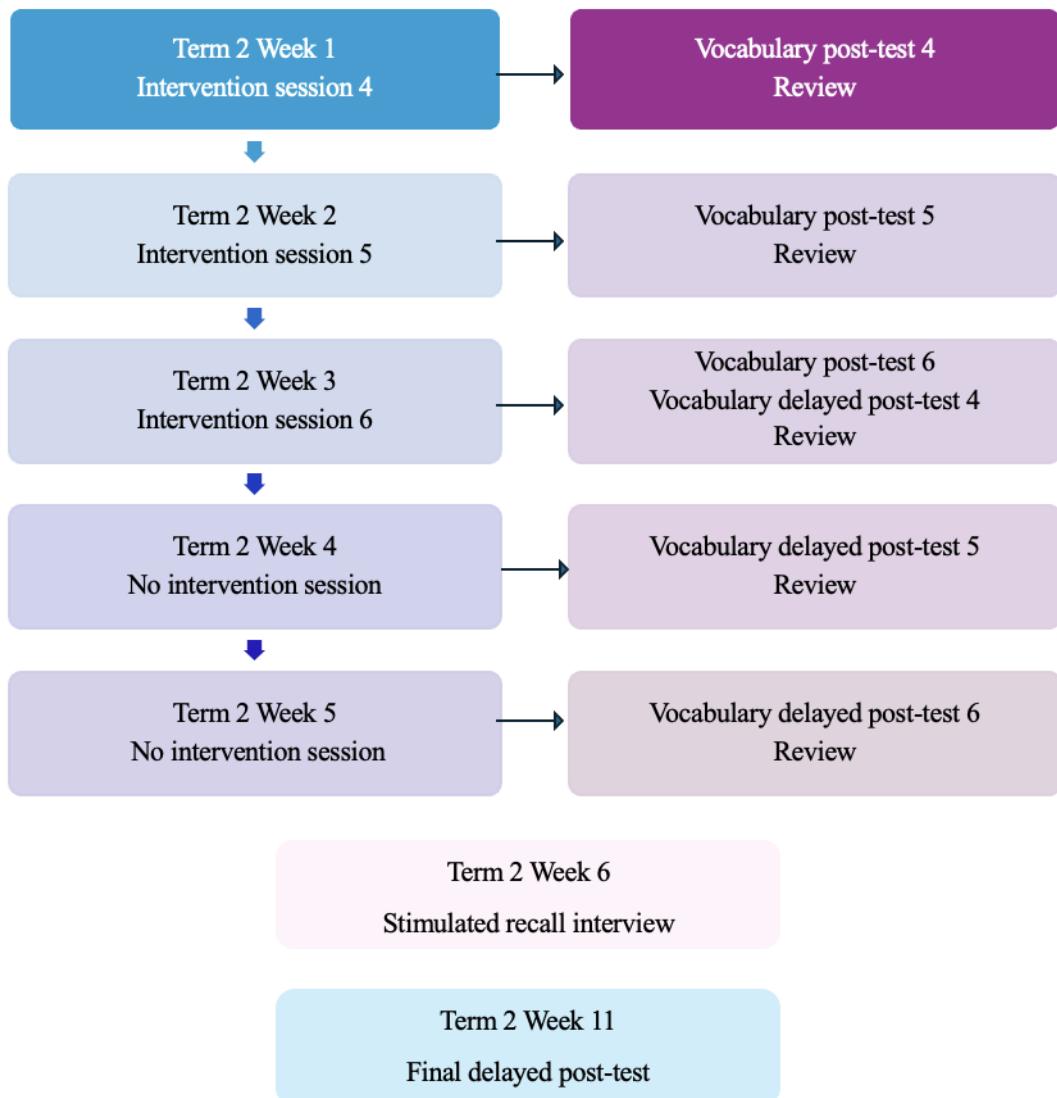
Figure 6 Data Collection Procedure (Term 2)

4.5 Research Instruments

The following subsections will outline how the research instruments in this study were constructed and implemented. However, before proceeding, it is important to ground the discussion by explaining how three key concepts were approached: listening comprehension, short-term learning and long-term learning.

Listening comprehension was operationalised as the learners' scores on a general listening comprehension test. This test was adapted from the first two sections of the IELTS listening exam and was administered via Microsoft Forms for the VI group and on paper for the SI group. Pre-existing vocabulary knowledge was measured by baseline scores on the LVLT, which in this study, intermingled the 60 target lexical items with standard frequency-band and AWL items. In addition, short-term learning was operationalised as gains on an immediate vocabulary post-test that was administered at the end of each intervention session using the same LVLT format. In relation to long-term learning, this was operationalised as the learners' scores on a delayed post-test that was administered two weeks after the intervention was delivered to assess longer-term vocabulary gain. Finally, learners' scores on the final delayed post-test, which was administered five weeks after the last two-week delayed post-test, assessed the impact of repetition on vocabulary retention. All vocabulary tests used the same aural MCQ format as the LVLT.

It is important to note that careful measures were taken to ensure inclusivity and that all tests and materials used in the study were accessible to both VI and SI learners. To accommodate their specific processing needs, VI participants were allocated extra time to complete the tests, and all questions and answer options were read aloud. All tests were delivered aurally by the researcher, with answer sheets being provided in a paper-based format for SI learners and via specialist adaptable software - Microsoft Forms - for VI learners who required immersive reader functions.

Similarly, teaching aids were presented using PowerPoint for SI learners and screen-reader–friendly Word documents for VI learners. Additionally, the linguistic complexity, speech rate, and text length of listening materials were carefully adapted to ensure suitability for all participants, regardless of visual ability. Finally, in recognition of the variability among VI and SI learners, efforts were made to reduce cognitive load and promote accessibility and fairness by ensuring that all tests followed a consistent aural, bilingual multiple-choice format, in line with the LVLT.

4.5.1 General Listening Comprehension Test and General Vocabulary Knowledge Test

This study used a general listening comprehension test to control participants' listening proficiency at the baseline before conducting the intervention. The general listening comprehension test was built on the International Language Test System (IELTS). Exploiting past IELTS listening tests to devise the materials needed for this general listening comprehension test offered several advantages. First, the IELTS is one of the most reputable English tests available to measure language proficiency levels for non-native English speakers planning to study or work in an English-speaking environment (Hashemie & Daneshfar, 2018). The IELTS is also recognised for its validity and reliability. Alavi et al. (2018) conducted a study with 480 participants from various English language institutes in Iran to investigate the validity of the IELTS listening test in terms of its construct validity. Through statistical analysis, including Cronbach's alpha, as well as statistical analysis of test scores and academic results, it was confirmed that all four constructs (i.e., gap filling (GF), diagram labelling (DL), multiple choice questions (MCQs), and short answer questions (SAQs)) were statistically significant, although only three SA items were significant. The ratio of the chi-square was below 3, so it can be concluded that the "overall model enjoys a good fit" (Alavi et al., 2018, p. 6). Moreover, recent statistics published by IELTS (2024) indicate that Cronbach's alpha for listening sections ranged between 0.91 and 0.94, with an average of 0.92.

This suggests a high level of internal consistency and reliability for the Listening component of the IELTS test.

Second, the IELTS practice test is easily accessible and free of charge. It has a paper-based format, which allows for content modification based on the participants' level of proficiency and any special needs (e.g., immersive-reader format). Moreover, since the test is not computer-based, the researcher can grant extra time to learners who may need it to complete the exam due to their disability. Lastly, it is unlikely that the participants would have encountered the test material before because the test is designed for students planning to study abroad. The VI participants who took part in the intervention in this study were already enrolled at the institute for the blind/upper-secondary school to complete their eleventh/twelfth grades. SI learners were also enrolled at the same upper-secondary school. As such, it was unlikely they were planning to study abroad, at least during the period the study was conducted.

The IELTS listening test is made up of four sections. Each section consists of 10 questions, with answer options appearing in the order they are heard in the recording. The first two sections involve discussions of everyday routines held in social contexts; the first is a dialogue between two speakers, and the second is a monologue. The final two sections are also a dialogue and a monologue, respectively, but in academic contexts. Like Zhang and Graham (2020a), only the first two sections of the listening test were used, taking into consideration the level of difficulty of the last two sections and the level of proficiency of the VI learners included in this study (low intermediate-CEFR level B1, which corresponds to 4.5 and 5 on the IELTS band score scale). The modifications made by the researcher to the first two sections of the test and the types of listening skills they assessed are discussed below.

Two IELTS listening comprehension tests were drawn upon to obtain appropriate listening passages for the proposed study. Each selected passage was scrutinised using "Text Inspector", a web-based language analysis tool that provides detailed information on a given text's lexical diversity, complexity, and estimated CEFR level (see https://textinspector.com). Based on the textual analysis, the researcher modified the test material in relation to lexical difficulties and proficiency level. Difficult lexical items were substituted with their synonyms. However, certain precautions, such as checking the frequency level, were taken to guarantee that the substituted words were "in line with the targeted level of the test" (Green, 2017, p. 39). Regarding proficiency level, "Text Inspector" confirmed that the modified listening passages corresponded to a level that was between low intermediate to intermediate.

A typical IELTS test consists of different types of questions that assess different listening skills (e.g., sentence completion, table completion and labelling a diagram). However, not all these questions were easily accessible to participants in this study because of their vision deficit; for example, labelling a diagram may not have been possible for these individuals. Therefore, the researcher selected three types of questions that accommodated participants' limited visual abilities, namely, SAQs, MCQs, and sequencing questions (SEQs). Questions were presented on Microsoft Forms, which is compatible with screen readers that convert on-screen content into audio or braille. The questions, along with the possible answer options, were also read aloud for greater accessibility.

In addition to the general listening comprehension test, a vocabulary knowledge test was also implemented. As this study focuses on teaching vocabulary through aural input, the researcher employed the Listening Vocabulary Level Test (LVLT) designed by McLean et al. (2015). This test is intended as a "diagnostic achievement instrument" to assess English vocabulary knowledge

taken from the first five 1000-word frequency levels and the Academic Word List (AWL) for research or pedagogical objectives (McLean et al., 2015, p.7). The LVLT utilises 24 items to measure each frequency level and 30 to measure the AWL. According to the professional opinions of two experienced teachers, one at the institute for the blind and the other teaching a class for VI learners at the upper-secondary school, the VI learners' proficiency level ranged from low-intermediate to intermediate. Considering this, only the first three 1000-word frequency levels and the AWL were administered. The time usually required to complete the LVLT test is 30 minutes. However, considering the participants' disability, the time was adjusted by allowing them an extra 40 minutes to complete the test. Moreover, the researcher read aloud the target lexical item, an example sentence, and the answer option twice. The same measures were taken with SI learners to ensure equality and consistency.

The English version of the LVLT was used and translated into Arabic. The participants had to choose the Arabic equivalent of the English word in an adaptation of the original version, as shown in the example below (Arabic translations of items a-d were added):

An Example of the Aural LVLT (Monolingual English Version) (McLean & Kramer, 2015)

Examinees hear: Time: They have a lot of **time**.
a. money (مال)
b. food (طعام)
c. hours (وقت)
d. friends (أصدقاء)

There are several reasons for using the LVLT test, in particular, to assess vocabulary knowledge in the present study. First, it is based on a multiple-choice format, which has several advantages: (a) the difficulty of each distractor can be manipulated; (b) marking is efficient, reliable, and can be conducted electronically; (c) the analysis of items can be conducted easily; (d) it supports item

independence; and (e) participants can demonstrate their knowledge of the meaning of each item (McLean et al., 2016). Additionally, the MCQ format not only allows for the testing of a large number of vocabulary words in a relatively short space of time, but it is also easy to implement in a classroom setting with VI learners. It can be adapted into assistive technology such as screen readers or Braille Sense machines. Moreover, the limited number of MCQ options makes it simple for VI learners to navigate them, reducing cognitive load. Another reason for adopting LVLT is the availability of bilingual versions. A bilingual version of this test leads to a more accurate estimation of the vocabulary size of participants whose knowledge of complex grammar and syntax is limited (Elgort, 2013; Nguyen & Nation, 2011). Employing bilingual tests reduces the anxiety level of the examinees, and using L1 definitions tends to make them perceive the test as easy and doable (Elgort, 2013). Moreover, the time required for completing these tests is less since examinees' reading speed in their L1 is relatively faster than in their L2 (Mclean et al., 2016). These tests also have shorter answer choices. Karami (2012) clarifies that "long distractors are unavoidable in monolingual tests to completely convey the meaning of more difficult words" (p. 55). Third, LVLT has a high sampling rate. Gyllsted et al. (2015) stated that a test provides more valid results if it includes more items (LVLT tests 24 sample items per frequency band). Lastly, besides being accessible to VI learners, the LVLT is most appropriate for this study since its purpose is to generally estimate the participants' knowledge of specific word bands, allowing for a partial account of the participants' general English language level rather than the total accurate number of words they know (i.e., vocabulary size) (Gyllsted et al., 2015). (see Appendix B for the test).

4.5.2 Selecting Listening Comprehension Material and Target Vocabulary Items

This study focuses on the effectiveness of teaching L2 vocabulary to VI learners through listening. When preparing the intervention, the selection of appropriate listening materials to teach the target vocabulary was essential. The listening passages were modified to account for factors that would affect difficulty for both groups of participants, especially VI learners. This included: learners' interest in the topic, appropriateness of instructional material, linguistic complexity, and text length (Min, 2008). Table 1 presents a detailed outline of the lexical profile of each passage.

Min (2008) and Tian (2011) suggested that the selected materials should be relatively authentic and cover various topics to motivate and interest students. Green (2017) supported this claim and asserted that selected topics that are "accessible, interesting and motivating" have a positive impact on the test taker's performance (p. 40). In turn, the higher the level of motivation, the greater the extent to which learners engage in listening behaviour (Vandergrift, 2005). Mohammed (2021) investigated the perspectives of pre-intermediate level students at British Councils across the Middle East on using authentic material in EFL learning. Based on 100 surveys given to learners at British Councils across the Arab Gulf, the findings indicated that learners want "invigorating and mentally stimulating material to help them grasp the English language better" (Mohammed, 2021, p. 82). He concluded that using authentic material fuses the real world with the classroom and significantly invigorates the EFL class and the whole learning experience. Moreover, "exposing the students to cultural features and references especially is bound to spawn a deeper understanding of and a sustained interest in the subject" (Mohammed, 2021, p.83). Taking these findings into consideration, the listening passages in the current study were selected from two resources to ensure authenticity and that they covered a variety of motivating topics for students: 1) *Learn English Teens*, a free website from the British Council; and 2) *Unlock 3,*

Listening, Speaking & Critical Thinking, Student's Book, 2nd edition (English profile B1) by Cambridge (Tilbury et al., 2015). Both resources provided passages that drew on authentic real-life contexts and everyday situations, which motivated the students to learn by exposing them to natural aspects of real word language. In addition, the researcher consulted experienced teachers and VI learners to ensure the selected topics were interesting and likely to motivate students to learn.

Importantly, neither of the selected resources was part of the curriculum assigned to teach learners with VI at the upper secondary school or the institute for the blind where this study took place. Two experienced teachers of VI students at the designated upper secondary school and the institute for the blind were consulted to ensure that using materials that were not part of the participants' curriculum would not raise any challenges. Both confirmed the suitability of the materials. Moreover, the British Council and Cambridge *Unlock* are known for producing pedagogical material with authentic content and level-appropriate listening selections. For VI learners, the materials were adapted to accommodate their proficiency level and vision deficit, such as modifying visual descriptions in the listening passage to suit their needs.

Regarding instructional appropriateness, the selected materials needed to correspond to themes in the learners' English textbooks and be appropriate to learners' proficiency level in their context (Min, 2008; Tian, 2011). In this study, all listening passages corresponded to the themes included in the L2 English textbooks taught to twelfth-grade students at the upper secondary school and the institute for the blind (e.g., cultural events, giving advice, health habits, etc). In terms of linguistic complexity, the listening passages were selected based on the participants' estimated Common European Framework of Reference (CEFR) level to ensure that they met the participants' basic comprehension and proficiency levels. Research suggests that lexical coverage in the range

of 95-98% is sufficient to easily comprehend a listening passage (Bonk, 2000; Nation, 2006, Stæhr; 2009; van Zeeland & Schmitt, 2013), which means that comprehension can be attained with 2-5% of the words being unknown (Schmitt et al., 2017). Tian and Macaro (2012) used listening texts where approximately 5% of the words were unknown to examine the L2 vocabulary learning of first-year Chinese university students. Similarly, Zhang and Graham (2020a) employed oral texts with 95% lexical coverage to assess the L2 vocabulary learning of first-year high school EFL learners. Hence, the present study adopted the same lexical coverage of 95%.

The following measures were employed to address linguistic complexity. First, each passage was analysed using 'Text Inspector'. An overall lexical profile analysis for each listening text was carried out and a score was given as a percentage to indicate the text's difficulty level. A "scorecard" was then generated to show the metrics used to calculate the lexical profile for the listening text and distinguish its level in terms of the CEFR. Next, the CEFR level of each lexical item in the text was analysed using the English Vocabulary Profile (EVP). This method aided in identifying the level of each word found in the text according to the CEFR on a scale of A1-C2, allowing the researcher to modify the text further to support the participants' basic comprehension. The difficulty of the texts was also assessed by two highly experienced native English speakers, two L2 teachers at a Saudi university (one sighted teacher and one blind teacher), one L2 teacher at the institute for the blind, and one blind MA student whose level of proficiency was advanced. These measures provided a comprehensive understanding of the difficulties the participants would likely face, ensuring that the issue of lexical complexity would be largely managed (van Zeeland & Schmitt, 2013). After selecting the appropriate CEFR level, the modified passages were analysed further using both the 'Classical Web Vocabulary Profiler' (see https://www.lextutor.ca/vp/eng/) and the 'Complete Web English Profiler' (see

https://www.lextutor.ca/vp/comp/) to select the target lexical items. The reason for using these two profilers was that 'Text Inspector' did not provide cumulative coverage of the text difficulty, which aids in selecting the target lexical vocabulary to be taught to reach general comprehension (e.g., sorting text by putting the easiest first, K-1: 72%, K-2: 86%, K-3: 95%, coverage).

When addressing linguistic difficulty, it is necessary to consider speech rate. A speaker's talking speed contributes to an oral input's difficulty level (Brindley & Slatyer, 2002; Field, 2013; Lynch, 2010). Speech at a fast rate provides listeners with less time for "real-time processing", resulting in more comprehension difficulties, especially for low-proficiency L2 listeners (Brunfaut, 2016, p. 102). Rosenhouse et al. (2006) investigated the impact of both speech rate and noise on bilingual listeners' speech perception in L1 Arabic and L2 Hebrew. They found that weaker listening performance correlated with the rate of speech delivery in both L1 and L2, with a more significant effect on L2. Tauroza and Allison (1990) analysed British English speech rate in four types of oral input and found that speech rate ranged from 150-170 words per minute for "radio monologues", 125-160 for "academic lectures", 160-210 for "interviews", and 190-230 for "conversations" (p. 102). Taking into consideration the proficiency level of participants in this study and their disability, a speech rate ranging from 120-150 words per minute was implemented for the listening passages (monologue and dialogue). The 190-230 speech rate was not employed for the dialogue mode because, as an experienced teacher for learners with visual impairment, the researcher believed this was too fast. Based on many listening tests, Green (2017) has also argued that a person who speaks English at over 200 words per minute (wpm) is too fast; even native speakers will find it challenging to listen to speech at this speed.

Another aspect considered when preparing the dialogues for the intervention was the number of voices involved in the listening passage. The number of voices should correspond to

the target difficulty level (Green, 2017; Field, 2013). At lower proficiency levels, such as that of the present study, it is recommended to use fewer voices to reduce the "cognitive demands" (Field, 2013, p. 116), which, if increased, would also increase the listening difficulty. Green (2017) also supports Field (2013) and suggests employing "standard accents" in listening tasks to reduce the cognitive demands on the listener further (p. 46). In line with Field (2013) and Green (2017), the researcher attempted to minimise phonological variation by only using two standard accents in this study: Standard American English and Standard British English. As these accents are commonly used within educational materials in Saudi Arabia, especially formal listening practices, they were familiar to the learners. In addition, this study only incorporated dialogues that included two or three voices to avoid confusing the listener. When three voices were used, the three speakers did not speak simultaneously. Moreover, the speakers employed different pitch levels to help the listener distinguish between the voices. These techniques reduced the difficulty of the text.

Finally, the length of the oral text should be considered when selecting the listening passages. The length of the sound file needs to align with the objective at hand (Green, 2017). This study employed a counterbalancing procedure for the two types of vocabulary instruction (CS or AIMCS) using a single audio file during each intervention session. Therefore, the researcher aimed to select passages of a length that would allow the order of treatment to vary without increasing the difficulty of the text. Tian and Macaro (2012) employed oral texts ranging from 175-313 words to examine the L2 vocabulary learning of their first-year university students. They used 17 listening passages over six weeks, each intervention session lasting approximately two hours. Zhang and Graham (2020a) also investigated EFL vocabulary learning through oral input, but only among sighted senior high-school learners. Their study differed from Tian and Macaro (2012) in terms of learners' proficiency, teaching environment, length of the intervention sessions (45

minutes), and number and length of the listening text (only one passage with around 250 words). The present research differs from both these previous studies in the following ways: 1) participants were learners with visual impairments; 2) participants' level of proficiency; 3) the teaching environments included classes designated for VI learners at an upper secondary school and an institute for the blind; and 3) listening passages included both monologues and dialogues. As such, it was necessary to take into consideration all the distinct aspects of this study when making decisions about the length of the oral texts. It was thus decided that one audio file would be administered during a 50-minute session and that the texts would have an average length of approximately 280 words.

This study employed 60 target lexical items for the intervention: 31 nouns, 11 verbs, and 18 adjectives. It is well established that different word classes vary in how difficult they are to learn. For example, verbs, which usually require deeper syntactic processing, are generally more challenging. In contrast, nouns are often acquired more easily due to their tangible and imageable nature (Nation, 2001; Schmitt, 2000). These differences are reflected in distinct learning mechanisms: while noun learning is typically supported by imageability and associative memory (van Hell & de Groot, 1998), verb acquisition more often relies on morphosyntactic and contextual cues, making it more of a challenge for verbs to be learnt and remembered (Laufer, 1997; Laufer & Waldman, 2011).To address these item-level variations, the present study used generalized linear mixed-effects models in R (R Core Team, 2024), incorporating random intercepts for items. This method, which includes statistically controlling systematic variability in item difficulty, has been shown to neutralise such differences in the accuracy of responses across samples (Baayen et al., 2008). The target vocabulary items were chosen from the modified listening passages using the following measures: 1) the glossary or the preparation exercise presented before the listening

passage to highlight the difficult words in the text; 2) a lexical text analysis using both the 'Classical Web Vocabulary Profiler' (see https://www.lextutor.ca/vp/eng/) and 'Complete Web English Vocabulary Profiler'(see https://www.lextutor.ca/vp/comp/). The first profiler divides words in the text into four categories based on frequency in the language: K1 words (1-1000), K2 words (1001-2000), AWL words, and Off-List words. The second profiler classifies each word into 25 frequency bands, namely K1 to K25 words (24,000-25,000) and Off-List words. Recommendations were also collected from native speakers, L2 teachers at the English Language Institute (ELI) at King Abdulaziz University, L2 teachers at the institute for the blind, and an MA student with VI. For this study, most lexical items were selected from K2 and K3 words, though some were from other frequency bands, such as K4, based on the items suggested from the glossary and the preparation exercise. Moreover, words from AWL and Off-List frequency bands were included because they were crucial to reach 95% coverage. There were also approximately 5% unknown lexical items, which were single words from various classes. See Table 1 for a detailed outline of the lexical profile of each passage.

Table 1 Lexical Profile of Listening Passages

Task	Topic	Type	Text length	Speech rate (words/min)	%unknown vocabulary
1	Advice for exams	monologue	294	120	4%
2	Llamas	dialogue	269	123	4%
3	An introduction to a lecture	monologue	291	136	4%
4	Organising your time	dialogue	319	151	4%
5	Chinese moon cakes	monologue	289	120	4%
6	Long and happy Life	dialogue	297	148	4%

4.5.3 Vocabulary Pre- Post- and Delayed Post-Tests for the Classroom Intervention

A pre-test was administered to assess participants' preexisting knowledge of the 60 target lexical items in the intervention. The researcher employed Zhang and Graham's (2020a) method of intermingling pre-test items with LVLT items. As such, the same testing procedure was used as the LVLT. The rationale for adopting this method is as follows: first, this method allowed the researcher to avoid pre-test sensitisation, or "the potential or actuality of a pretreatment assessment's effect on subjects in an experiment" (Salkind, 2010, p. 1091). Integrating the 60 target lexical items into the LVLT prevented the participants from making a connection between "the object of the pre-test and the nature of the treatment" (Salkind, 2010, p. 1091), which could otherwise cause participants "to bias their answers to make them more palpable to either the researcher or the public at large" (Bonate, 2000, p. 52). The pre-test adopted the same format as the LVLT (i.e., a meaning recognition test using an MCQ format), which enabled the researcher to assess participants' knowledge of a larger number of items in a short space of time and to prevent participants from learning which lexical items were the focus of the study (Zhang & Graham, 2020a).

An immediate vocabulary post-test was employed at the end of each session to assess the effectiveness of the intervention on vocabulary gains. After each intervention session, a two-week delayed post-test was scheduled to examine longer-term retention. The two-week period was similar to what was implemented in previous studies, namely, Jones and Waller (2017), Zhang and Graham (2020a) and Tian and Macaro (2012), and it was selected because of the number of weeks for which students were present within the academic term. Five weeks after the last delayed post-test, a final delayed post-test was administered to assess the impact of repetition on vocabulary gains. The data collected were compared to determine the impact of the intervention.

All tests were aural and had the same format and testing procedure as the pre-test. The rationale for adopting the same format was, firstly, to ensure comparability between the pre- and post-tests (Mackey& Gass, 2016). Mackey and Gass (2016) clarify that improvement is unlikely to be evident after treatment if the pre-test is difficult and the post-test is easy. Therefore, to address comparability, the format of the post-tests was very similar to that of the pre-test, particularly in terms of grammatical structure and level of difficulty. For example, the pre-test sentence *there are (plenty) of bananas this season* has a comparable level of difficulty to *there are (plenty) of apples in the fridge*. To further address comparability, the researcher consulted "Text Inspector" using its vocabulary profile (EVP) to check the lexical diversity, complexity, and estimated CEFR level of the post-tests to ensure they were comparable with the pre-test. Secondly, it was also important to adopt the same format as the pre-test to reduce the cognitive demands that could result from formats such as SAQ, which require producing actual words instead of depending on written text, such as reading (Field, 2013; Green, 2017). Thirdly, using a bilingual format similar to the pre-test would eliminate the anxiety that may accompany the introduction of a monolingual format and would allow a more accurate estimation of the range of students' L2 EFL vocabulary knowledge, especially for beginners and low intermediate learners (Elgort, 2013).

It is important to take into consideration, however, that the employment of the same format in the pre- and post-test may result in a practice effect, "where participants perform a task better in later conditions because they have had a chance to practice it" (Jhangian, 2017, p. 124). To eliminate this effect, the researcher counterbalanced the vocabulary post-tests by using sets of sentences different from the pre-test (see below examples).

Example of the Aural Pre-Test (Arabic Translations of Items a-d are Added):

In the pre-test, examinees hear: mistreat: They **mistreat** their workers.

a. assist (يساعد)
b. protect (يتظاهر)
c. abuse (يسئ معاملة)
d. judge (يحكم)

Example of the Aural Post-Test (Arabic Translations of Items a-d are Added):

In the post-test, examinees hear: mistreat: She **mistreats** her friends.

a. assist (يساعد)
b. protect (يتظاهر)
c. abuse (يسئ معاملة)
d. judge (يحكم)

For the delayed and final delayed post-tests, the researcher used a combination of sentences from the pre- and post-tests and reordered the MCQ answer options (see Appendix B for all tests). Details concerning the timescale and administration of the tests have been outlined in the data collection discussion in Section 4.5.

4.6 Teaching Procedure and Types of Vocabulary Instruction

This study included both an experimental group (VI) and a comparison group (SI). The teaching procedure for both groups was the same, with six intervention sessions lasting approximately 50 minutes each over two terms, employing two types of vocabulary instruction (CS and AIMCS), and finally two review sessions. The only difference was how the target lexical items were presented, as PowerPoint was used with SI learners while a Microsoft Word document was more suitable for VI learners as it was accessible with a screen reader. Six English listening comprehension lessons were carried out, involving listening comprehension tasks. Teacher-student interactions followed each task to ensure a general understanding of the relevant listening selection and to deliver explanations of the target lexical items.

The teaching procedures employed were as follows: the first and second weeks involved baseline test sessions, which started with a warm-up activity, allowing the researcher to introduce

herself and interact with the participants. The first intervention session took place in the Third week. Like Tian and Macaro (2012) and Zhang and Graham (2020a), a pre-listening activity was utilised to familiarise the students with the listening topic. During the pre-listening activity, participants were given some initial background information about the upcoming listening passage. Then, participants received a multiple-choice listening comprehension question sheet before listening to the passage to help them concentrate on meaning rather than unfamiliar lexical items (Tian & Macaro, 2012).

SI participants were allotted two minutes to read the questions. Regarding VI participants, the questions were supplied in Microsoft Forms and read aloud with the options. After that, the listening activity took place. The listening passage was played once, and then the students were directed to complete the listening comprehension task in two minutes. After the allocated time was over, the answer sheets were collected immediately to guarantee a focus on the general meaning rather than on the unfamiliar lexical items.

After collecting the answer sheets, the researcher used a communicative approach and employed teacher-student interaction by taking the following measures: first, the participants were divided into groups and given five minutes to briefly discuss the passage's main idea. Once they finished, the researcher enquired about their general comprehension of the listening passage and the main idea. Up to this point of the session, all discussions were conducted in the L2, focusing on the participants' listening comprehension.

Next, the researcher continued to follow Tian and Macaro's (2012) and Zhang and Graham's (2020a) procedures and replayed the listening passage in segments, sentence by sentence. Like Tian and Macaro (2012) and Zhang and Graham (2020a), visual aids (PowerPoint slides) were used during the replay for the SI participants. Regarding VI learners, the target lexical

items were presented in a Microsoft Word document, permitting the use of a screen reader

function. During the replay, the researcher interjected at the end of each sentence to explain the

meaning of the target vocabulary. At this intervention stage, the two conditions, CS or AIMCS,

were used to teach the target vocabulary within each passage. As outlined in section (4.4),

counterbalancing for CS (five items) and AIMCS (five items) was used. AIMCS was used in the

first session for the first five items, followed by CS for the next five items, then vice versa in the

next session, and so on for the remaining sessions. Whenever a target lexical item was presented,

the researcher provided the students with an additional example, which they briefly discussed. All

groups received vocabulary instruction in CS and AIMCS. Figure 7 gives an example of both types

of instruction.

CS Condition:

Listening material: I'm going to give you some ***advice*** to help you prepare for the exams next week.

CS explanation: *Here, advice is a noun, which means* نصيحة *So, 'advice to help you' means* نصيحة *to help you. Another example for this word is "I decided to follow your advice and take* a holiday".

AIMCS Condition

Listening material: Eat food that gives you ***energy***. (item voiced with increased volume)

CS explanation (with increased volume for each instance of the target item): Here, energy is a noun, which means طاقة. So, 'gives you energy' means gives you طاقة. Another example for this word is "The boy was no longer sleepy, but full of energy and excitement".

Figure 7 Examples of CS and AIMCS Instruction

In the CS phase, teacher codeswitching was used to explain the meaning of the L2 target

lexical item in L1 (Arabic). In the AIMCS phase, the target lexical item was artificially

manipulated through volume increase, in both the listening passage and the teacher's explanation, followed by CS explanation. In both conditions, students were given an additional example to ensure they understood the target word. Then, the example was briefly discussed in the L2. Efforts were made to ensure that explanations in both conditions were equivalent in length and duration of delivery. Both groups had access to the written version of the target vocabulary, with SI learners receiving PowerPoint slides and VI learners receiving a screen reader or an Immersive Reader-enabled Word document.

Following these initial explanations, the teacher went over the passage's general meaning in the L2 only, and the respective explanations for the target lexical items were repeated. The passage recording was then played for a third time to ensure that the participants understood the overall meaning, and the answers to the comprehension questions were provided to the students with reference to the relevant parts in the listening input. Last, an immediate vocabulary post-test was administered to measure the participants' knowledge of the target lexical items. See Figure 8 for an example of one intervention session for the experimental and comparison groups.

Listening comprehension task 1- Advice for Exams

1. Introduction (5 minutes) (L2 only)

a. Do you know the word exam?

c. What types of exams do you prefer (MCQ, essay, etc)?

b. How do you prepare for an exam?

2. Listening task (10 minutes)

a. Handing out question sheets for the assigned listening comprehension task

b. Playing the passage once

c. Requesting participants to answer the questions

d. Collecting the answer sheets

3. Vocabulary explanation (25 minutes)

a. Playing the listening passage in segments (sentence by sentence)

b. Presenting the target items via Microsoft Word documents or PowerPoint. Treatment takes place at this stage either in CS or AIMCS

c. Revising the whole listening passage and the target lexical items

d. Playing the passage for the third time and going over the answers for the comprehension questions with the participants

4. Vocabulary post-test (10 minutes)

a. Handing out the post-test or delayed post-test and collecting them

b. Revising the selected target vocabulary

c. Final remarks and ending the lesson

Figure 8 Teaching Procedure of One Intervention Session for the Experimental and Comparison Groups

Two weeks after each intervention session, a delayed post-test was administered to measure longer-term retention (see Section 4.6.4 for all tests). Lastly, a review of selected target lexical items was conducted to assess the effects of a certain number of repetitions on vocabulary retention.

4.6.1 Review Activities Procedure

Similar to Zhang (2022), each intervention session included a review activity. This allowed the teacher to revisit certain target lexical items from the current or previous sessions to examine the effects of repetition on vocabulary learning. Initially, the teacher read out the target lexical item twice during the review activity. Subsequently, learners were asked to recall the word and say its meaning aloud. Next, the teacher confirmed the meaning by repeating the CS/AIMCS vocabulary explanation. The vocabulary explanation of the four words (advice, tempted, anxious, stretch) taught in Session 1 were heard by learners a total of nine times. This occurred twice during the initial teaching of the target lexical items in the intervention session and seven additional times during the review activities. Furthermore, four words from Session 2 and four words from Session 3 were repeated seven and four times, respectively. Last, learners encountered the remaining target lexical items taught in Session 1 and Session 2 only three times, with two of these encounters occurring during the intervention. The final delayed post-test, which evaluates the effect of repetition, was administered five weeks after the last delayed post-test. All the sessions were audio recorded with consent from the participants. Table 2 below presents a detailed outline of the review activities, and Table 3 presents the number of repetitions different words received.

Table 2 Details of the Review Activity in Each Session (Adopted from Zhang, 2022).

Teaching Session	Details of the review activity
Intervention session 1	All words from Intervention Session 1
Intervention session 2	All words from Intervention Session 2
Intervention session 3	4 words from Intervention session 1 and 4 words from Intervention session 3
Intervention session 4	4 words from Intervention session 1 and 4 words from Intervention session 2
Intervention session 5	4 words from Intervention session 1 and 4 words from Intervention session 3
Intervention session 6	4 words from Intervention session 1 and 4 words from Intervention session 2
Review session 1	4 words from Intervention session 1 and 4 words from Intervention session 2
Review session 2	All words from Session 1 to Session 6

Table 3 Details of How Many Repetitions Different Words Received

Number of repetitions	Lexical items
9 repetitions	4 words from Intervention session 1: advice, tempted, anxious, stretch
7 repetitions	4 words from Intervention session 2: domesticated, mistreat, curious, demand
4 repetitions	4 words from Intervention session 3: lecture, associate, absorbed, inspiration
3 repetitions	**Other lexical items** plenty, stroll, review, hydrated, sociable, contents, respond, gentle, theory, exterior, condition, involved, technique, invented, intensive, satisfaction, admire, complicated, mould, refreshing, proves, reaction, ridiculous, doubt

4.7 Stimulated Recall Interview (SRI)

In this study, the experimental group (VI) and the comparison group (SI) experienced two different modes of vocabulary instruction. In this context, "the meta-principle of maximizing sustained engagement with the lexical items which need to be learned appears to underlie all effective vocabulary learning" (Schmitt, 2008, p.354). Thus, to explore the ways in which learners engaged with the lexical items, their strategy use while listening to the teacher's input was explored, along with their perceptions of the two modes of instruction in terms of helpfulness. Stimulated recall interviews (SRI) were conducted after the last delayed post-test to obtain these qualitative insights.

The SRI methodology is commonly employed by researchers interested in second language learning and teaching and is frequently used alongside other data collection methods to support triangulation or deeper investigations (Gass & Mackey, 2000, 2016). "It is an introspection procedure in which (normally) videotaped passages of behaviour are replayed to individuals to stimulate recall of their concurrent cognitive activity" (Lyle, 2003, p. 861). Gass and Mackey (2016) contend that the SRI can deeply explore cognitive processes and learners' strategies through visual or aural stimuli, something that quantitative methods alone cannot achieve. They also clarify that the SRI can capture learners' perspectives on learning and identify additional experimental aspects that might have affected their responses or behaviour. However, the SRI has its limitations, one of which is timing, as it is essential to conduct the interview as soon as possible after the conclusion of the experimental procedure (Gass & Mackey, 2000). Indeed, accessing long-term versus short-term memory may result in recall interference, due to which "the participants will say what they think the researcher wants them to say because the event is not sharply focused in their memories" (Mackey & Gass, 2005, p. 78). As such, the SRIs in this study

took place immediately after the last delayed post-test. Moreover, ensuring that "questions/prompts do not alter the cognitive process being employed at the time of the event" (Lyle, 2003, p. 865) is crucial to enhancing validity, which can be achieved by reducing the intrusiveness of the questions posed. Notwithstanding these limitations, the SRI offers substantial advantages for research on teaching, mainly in "capturing the complexity and subject specificity of classroom interaction" (Lyle, 2003, p. 874).

Stimulated recall interviews were conducted with sixteen students: five CVI students and three PVI students from the experimental group, and eight SI students from the comparison group. For the stimuli used in the interviews and the transcription and coding, see Section 4.9.2.1. Before the interview, the researcher considered the three baseline test scores (general listening comprehension test, general vocabulary knowledge test, and pre-test) to initially select interviewees with different proficiency levels. However, interviewing the selected learners was not accomplished for several reasons: 1) students did not commit to the assigned time slots; 2) students were absent or had to leave due to transportation issues; 3) students had final exams and requested to be excused. Therefore, the researcher had no choice but to interview the available students, which resulted in participants with a very limited range of proficiency levels. Moreover, time limitations and the small pool of participants also added to the challenges. It was, however, still possible to classify the participants using the following criteria: the learners' proficiency level based on their three baseline test scores (general listening comprehension test, general vocabulary knowledge test, pre-test); a composite test score (generated by adding up the three baseline test scores, following Tian, 2011); and gain scores from pre- to post-tests and from post- to final delayed-tests (big gain, small gain) (see Section 5.4.1).

The listening scores were calculated as percentages and then ranked in order. Next, the median for the listening test score was obtained, and students were divided into two groups and ranked by listening proficiency: high-proficiency listeners (above the median) and low-proficiency listeners (below the median). Second, small and large gains from pre- to post-test and post- to final delayed test gain scores were calculated to assess learners' progress and retention. To guarantee the anonymity of the learners, they were assigned a unique pseudonym based on their eye condition and listening proficiency level. Thus, the higher proficiency learners from the experimental and comparison groups were labelled CVIH6, PVIH2, and SIH24, while the lower proficiency learners were labelled CVIL10, PVIL13, and SIL25. An overview of the interviewees' listening comprehension test scores and vocabulary test scores is presented in the Findings Chapter (see Section 5.4.1)

Considering the interviewees' proficiency level, SRIs were conducted in Arabic to give the participants a chance to express their thoughts and feelings comfortably. The interviews were audio-recorded and lasted fifteen to twenty minutes. During the SRI, interviewees first listened to an audio clip, which included the teacher's explanations of the two lexical items; *a stroll* and ***absorbed*** (see Section 4.9.2.1 for the stimuli). They were then asked how they comprehended the teacher's CS/AIMCS explanations and their perceptions of the two modes of vocabulary instruction. The interview questions for CS and AIMCS vocabulary instruction are presented in Appendix D.

4.8 The Pilot Phase

A group of four VI individuals were asked to take part in a pilot study. They all graduated from university in 2017, and three were still practising English via courses and through the frequent use of social media platforms. All participants had received at least six years of EFL education

(lower-intermediate). The listening comprehension test was piloted with all four participants, and the vocabulary knowledge test was piloted with three of them. Due to time constraints and the difficulty of accessing students, neither the intervention nor testing with the comparison group was piloted (see Appendix F for the pilot procedure**).**

4.8.1 Implications for the Main Study

The piloting of the listening comprehension test and the vocabulary knowledge test aimed to investigate if the testing format and content would be appropriate given VI learners' special needs and level of proficiency. A small number of issues arose whilst conducting both tests, suggesting that some changes and adaptations needed to be made before the final versions were prepared for the main study.

The listening comprehension test was carried out face to face, and though the test length was appropriate, issues related to using Microsoft Forms and the recorded listening passages resulted in the test running longer than anticipated. The test was supposed to take around 45 minutes, although it ended up lasting for two hours. More specifically, the delay was due to: 1) technical issues related to Microsoft Forms, 2) the rapid speech rate of the recorded listening comprehension passages, and 3) the format of the questions.

Concerning Microsoft Forms, though the VI participants found the form to be easily accessible, they struggled when it came to the fill-in-the-blank question format. The participants could not tell where to post the answer because the use of the symbol (_____) to represent the blank space misled and distracted them. The researcher had to stop the recording and try to make quick modifications to help the participants proceed with the test. Concerning the speech rate of the first recorded listening passage, 143 words per minute, one of the participants felt it was a bit too fast, and thus she could not follow along. This issue was especially apparent when she

listened to the section involving the fill-in-the-blank questions. Therefore, the researcher had to stop the recording and read the passage herself. The second recording was at a suitable speech rate for all participants; however, the participants felt that the speaker's voice became harder to hear at the end of some sentences. In terms of the question format, the fill-in-the-blank format was somewhat problematic in this case because the students had to spell the words out, which required more time than the MCQ format.

In light of the findings of the pilot study, a number of modifications were made to the listening comprehension test to ensure these challenges were not encountered in the main study. It was decided that the fill-in-the-blanks questions would employ the symbol (…….) instead of (_____) to avoid confusion. This modification was based on the participants' recommendations, as they generally supported this question format, affirming that such questions were able to accurately assess their level of proficiency without depending on too much guessing. However, extra time was allocated in the main study to answer the fill-in-the-blank questions.

There were a few complications and some confusion around Q13, and particularly the spelling of the word *Rajasthan.* While the speaker said *Indian region of Rajasthan* during the recording, the students ended up writing *India* or *Indian* instead of *Rajasthan* as they could not spell it. Consequently, the word *Rajasthan* was deleted in the main study, and *India* was considered the correct answer. Moreover, it was decided that spelling would only be considered if the meaning of the intended word was altered. In terms of the recording, the passages were re-recorded and read at an appropriate speech rate of 120-150 words per minute. The modified version of the recording was sent to the four pilot participants so they could assess it before the main study was conducted.

The vocabulary knowledge test was carried out online using Microsoft Forms (aural form) one week after the listening comprehension test. The researcher read aloud the target lexical item, an example sentence, and the answer options. The test consisted of four parts and was conducted over two days instead of being completed within a single 45-minute session as initially planned. The first two parts took an hour and 45 minutes, and students requested to leave because they felt fatigued since the test started late at night (9 PM) due to their limited availability. The second two parts took place the next day and were also long and took an hour and 30 minutes. The unexpectedly long duration of the test occurred for two reasons: 1) participants' conflicting schedules and commitments, and 2) weak internet connection on the participants' side. Otherwise, the use of Microsoft Forms went smoothly. These issues were not a concern when it came to the main study, as the test took approximately 50 minutes. This was probably because it was conducted face-to-face on the premises of the designated school and institute for the blind.

While conducting the vocabulary knowledge test, the repetition of two tested items became a matter needing attention. The words *celebrate* and *external* were selected by the researcher as part of the 60 target lexical items to be taught during the intervention sessions. Both words were present in McLean's (2015) LVLT. The researcher noticed the repetition while conducting the exam in the pilot, and one of the participants commented that she thought she had heard the word *celebrated* before. To resolve this issue, the researcher decided to substitute the repeated words and to request extra revisions from colleagues. Arabic translation was another matter needing attention. The variety in translation affected the answer selection of the participants (e.g., the word *complicated* resulted in some confusion since the students knew another synonym other than the one placed in the choices). The researcher revised the piloted version and consulted

the participants on certain words that caused some doubt. This ensured that the researcher's translation matched that of the participants.

The results of the listening comprehension test revealed that the test met different proficiency levels. Participants' scores ranged from 65% to 100%, indicating that the designed test was appropriate for low-intermediate learners (see Appendix F). The results for the vocabulary test revealed that the target lexical items were easy for the participants. One participant knew 76% of the target lexical items, while the other two knew 73% and 61%. This may have been due to the fact that these students practised English more than they had informed the researcher. For example, three participants stated that they took an English course, and one of the three participants stated that she used social media platforms for language practice. Yet, two of the participants informed the researcher that they considered themselves not fluent in English. The third participant confirmed that she had not been practising the language since she graduated in 2017. However, her score did not reflect this. It was important to take into consideration though that the number of participants in the pilot was very low and, therefore, the pilot might not accurately reflect the different levels of proficiency. It is also important to note that the proficiency level of these pilot students was advanced, compared to the low-intermediate level of participants who were planned to take part in the main study. Therefore, it was no surprise that they achieved high results in the test. However, the importance of the pilot phase was in allowing the researcher to assess the reliability of the test as well as its accessibility for VI students.

4.9 Data Analysis

This study collected quantitative data through two tests (i.e., a general listening comprehension test and a vocabulary knowledge test), six vocabulary post-tests, six vocabulary delayed post-tests, and a final delayed post-test. Thus, data from the intervention were gathered at

four time points: before the whole intervention, immediately after each teaching session, and two weeks after initiating each intervention session. The final delayed post-test was administered five weeks after the last delayed post-test. The reliability, descriptive statistics and statistical analysis of the quantitative data are reported in Section 4.10. Qualitative data were collected via stimulated recall interviews.

4.9.1 Quantitative Data Analysis

The quantitative data were analysed using generalised linear mixed effects models in R (R Core Team, 2024) with the ImerTest package (Kuznetsova et al., 2017). More detailed information about this can be found in the Findings Chapter.

4.9.1.1 Grading scheme

The listening comprehension test included 20 questions with one mark assigned for each, resulting in a total possible score of 20. The test included items in different formats: SAQs, MCQs, and SEQs. In the data entry and coding phase, answers were coded via a binary coding scheme where 1 was correct and 0 was incorrect. Concerning the scoring scheme of the SAQs, answers were provided in blank spaces, and accurate answers were granted one mark. Taking into consideration the participants' disability and language proficiency level, the researcher did not adopt the grading scheme of IELTS, which prohibits misspelling. As long as any misspelling did not change the meaning of the correct answer, it was ignored (e.g., chicken versus chiken). Inter-rater reliability was calculated to ensure spelling mistakes were treated accurately. The misspelt items were sent to another English language instructor for evaluation. There was a 100% agreement rate on the marking of these items. For the SEQs, only correct sequencing was accepted, and one mark was granted. Also, each correct choice for the MCQs was granted one mark.

The LVLT consisted of four sections. Each of the first three sections included 24 items, and the fourth included 30. Additionally, it included the pre-test's 60 target lexical items from the intervention. This test used the same scoring schema as the MCQs, namely, 1 or 0. Overall, the test had 162 items, and each answer was granted one mark. All post-, delayed post and final delayed post-tests used the same scoring schema since they had the same format as the LVLT.

4.9.2 Qualitative Data Analysis

4.9.2.1 Interview Stimuli

Within the interviews, two vocabulary items, a noun and an adjective, were used as stimuli to explore a range of strategies the learners might use when learning different lexical items. The noun *a stroll* was selected due to cultural differences since the common concept in Saudi culture is *a picnic.* Taking *a stroll* was not a familiar concept to the learners, and in class they all immediately assumed that the lexical item was a synonym for *a picnic*. The selection of the second stimulus, *absorbed*, was motivated by the confusion it caused among learners. In class, most learners confused this lexical item with *observed*. The initial plan was to use six items as stimuli: two nouns, two adjectives, and two verbs. Executing this plan, however, was challenging because the school administration gave the researcher strict instructions to minimise the interview time due to final exams. Rescheduling the interviews was not desirable since the further away the interviews were from the intervention, the lower the likelihood of accessing unaltered memory structures and facilitating accurate recall (Gass & Mackey, 2016).

4.9.2.2 Analysis of Students' Strategy Use (Transcription and Coding of Interview Data)

Sixteen interviews were conducted, evenly divided between the experimental and comparison groups: eight with students from the experimental group (five CVI and three PVI) and eight with SI students from the comparison group. Each interview lasted around fifteen minutes.

Interviews were audio recorded, enabling the researcher to revisit them whenever needed. The audio recordings were transcribed into Arabic via Microsoft Word 10, which turns the audio material into a written script. All transcripts were reviewed and translated into English. Two Saudi lecturers in Education at a Saudi university's English language institute assessed six transcripts to check translation accuracy. Both lecturers were fluent in Arabic and English. Generally, they agreed that there were no substantial errors in the translation and only identified minor issues regarding the accuracy of synonyms and grammatical structures. The percentage of instances on which the researcher and coders agreed was calculated, and the inter-coder reliability rendered a 90.07% agreement rate. Recommendations were considered, and changes were made to ensure uniformity.

Before coding, it was appropriate to explore the various approaches that have been used in the field to code verbal protocols, mainly in relation to student strategies. According to the literature, it is advantageous to employ both inductive (bottom-up) and deductive (top-down) approaches (Gu, 2014; Miles & Huberman, 1994; Saldaña, 2021). To investigate the strategies exploited by the learners to comprehend the teacher's vocabulary explanations, the researcher used inductive coding to identify strategies pertaining to students' responses. The researcher also simultaneously used deductive coding because it is recommended to consider an existing theoretical framework (e.g., Fung & Macaro, 2021; Vandergrift & Goh, 2012) "when your inquiry is theory-driven" (Saldaña, 2021, p. 40).

A first round of coding was carried out, and an initial codebook including primary codes that emerged from students' transcripts and previous research was generated. Four randomly selected transcripts, two from the VI experimental group (one CVI learner and one PVI learner) and two from the SI comparison group, were thoroughly scrutinised for meaningful responses in

terms of: 1) strategies used when encountering unfamiliar lexical items; 2) strategies used to comprehend the teacher's talk and vocabulary instruction, including vocabulary learning strategies; and 3) strategies used to consolidate the learning of the target lexical items. The transcripts were read more than once, and then each meaningful instance was assigned codes. Codes were generated using two methods: they were either derived from previous research findings and taxonomies, mainly Fung and Lo (2023), Fung and Macaro (2021), Schmitt (1997), Vandergrift and Goh (2012), and Graham and Zhang (2024). Alternatively, new codes were generated inductively, and labelled as new, when existing taxonomies could not provide a suitable code. Upon completion, the codebook, which included the code labels, definitions, and examples, was given to a colleague and a fellow researcher to assess the relevancy of the code to the given example. Later, a meeting was held with both coders to discuss points of disagreement. The codebook was then modified based on their recommendations.

During the first coding cycle, the code assigned to "a datum" was no longer static and became flexible, allowing for consideration and interaction with additional "observations and ideas" (Saldaña, 2021, p. 13). Thus, a second cycle was conducted in which a different colleague and fellow researcher was asked to revise the codebook and the transcripts. A meeting was held, and all codes were discussed. The second coder suggested further modifications concerning code labelling. For example, '*connection to familiar word*' was changed to '*making connections*' since there were several instances where learners connected the target lexical item to different aspects, such as real-life situations or the same starting sound. The codebook was modified and used by the main researcher to code the remaining transcripts.

To further maximise reliability, a third round of coding was conducted. A third colleague and fellow researcher was asked to revise the coding of all interview transcripts. To evaluate inter-

coder reliability, at least two different researchers must code the same body of text and the coders'

outcomes should be compared (Mouter & Noordegraaf, 2012). As such, the researcher's codebook

and the third coder's coding were compared to check inter-coder reliability. The percentage of

instances on which the researcher and coder agreed was calculated, and the result of the inter-coder

reliability was 86.44%. The researcher and the coder met to discuss differences and resolve points

of disagreement. For instance, the coder proposed minor modifications to the definitions of certain

codes, such as including the term '*classmate*' in the definition of '*seeking help*'. It was necessary

because some learners tried to seek help from their colleagues instead of the teacher to figure out

the meaning of the unfamiliar lexical item. After the third round of revisions, a final codebook was

generated to analyse and report the findings. The final codebook draws upon all the researchers'

recommendations and existing taxonomies, mainly listening comprehension strategies (Fung &

Lo, 2023; Fung & Macaro, 2021; Vandergrift & Goh, 2012) and vocabulary learning strategies

(Schmitt, 1997; Graham & Zhang, 2024). Table 4 below presents a sample of the identified codes

and their definitions. See Appendix G for the final codebook.

Table 4 Codebook (Based on Fung & Lo, 2023, p. 6; Fung & Macaro, 2021, p. 548; Schmitt, 1997; Vandergrift & Goh, 2012, p. 277-284; Zhang, 2018, p. 284-288)

No.	Strategy	Definition
	Section 1	**L2 listening comprehension strategies**
1	***Contextualisation**	"Placing what is heard into a specific context in order to prepare for listening or assist comprehension".
2	***Linguistic contextualisation**	Relating a word or a phrase heard to an environment where the word has appeared before.
3	**Selective attention on AIM**	Attending to the loudest words in the language input (i.e., aural input enhancement) to assist in understanding and/or task completion.

4.9.2.3 Thematic Analysis of Students' Perceptions (Transcription and Coding)

To analyse the interviewees' responses concerning their perceptions of the effectiveness of the two modes of vocabulary instruction, thematic analysis was carried out. Thematic analysis is a qualitative approach used to analyse and uncover recurring patterns and themes pertinent to the research questions (Braune & Clarke, 2006). Howitt (2016) describes it as the analysis of "what is said rather than how it is said" (p.163). As such, it is an appropriate descriptive method to analyse interviews that investigate individuals' behaviours, perceptions or evaluations of a certain topic. This analysis "does not carry the theoretical baggage" and is not restricted to fixed criteria to determine the themes (Howitt, 2016). Braune and Clarke (2006) argue that thematic analysis is a flexible and valuable technique, and its "theoretical freedom" leads to a more comprehensive and intricate understanding of the data (p. 5). Therefore, using thematic analysis in this study was suitable because it helped the researcher: 1) gain a deeper understanding of learners' views, particularly regarding the effectiveness of CS and AIMCS vocabulary instruction; and 2) capture themes exclusive to VI and SI learners in this context.

First, key themes were extracted and then coded. The initial codes were drawn from the same four transcripts that were chosen earlier to identify learners' strategies. Meaningful instances relating to the learners' perceptions of the effectiveness of the two modes of vocabulary instruction were highlighted. Each instance was then assigned a code; for example, the sentence "*yes, I can use it when I speak English*" was coded as *confidence in completing the task successfully*. Similar responses throughout the rest of the transcripts received the same code, such as *"yes, I actually use it with my classmates".* The same procedure was adopted to generate the rest of the codes. The initial codebook entailed the identified codes with their definitions and corresponding examples. The researcher was able to ensure the validity and reliability of the codebook by implementing the

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same measures that were used when coding learners' strategies, as mentioned earlier. This involved carrying out three rounds of coding. Inter-coder reliability was calculated, rendering a 92.24% agreement rate. The researcher and coder met to discuss and resolve discrepancies, and after revisions were implemented, the final codebook was generated. Importantly, the themes arose organically from the data rather than being imposed by theory, and they related mainly to improved self-efficacy, effectiveness of CS, effectiveness of AIMCS, and learning preferences. A table containing the key themes extracted from the interview transcripts, including their definitions, can be found in the Findings Chapter, Section 5.4.2.2, Table 14.

4.10 Reliability and Validity

A research instrument must be valid and reliable. Thomas (2017) clarifies that validity is "the degree to which the instrument measures what it is supposed to be measuring" (p. 146). Concerning quantitative research, validity refers to "meaningfulness and appropriateness of the interpretation of the various test scores or other assessment procedure outcomes" (Dörnyei, 2007, p. 50). Reliability concerns the stability or consistency of the measurement process and the extent to which an instrument or procedure can produce outcomes that are generalisable (Dörnyei, 2007). Moreover, reliability ensures that results and processes are replicable, meaning the results should be consistent if the study was conducted in a different context (Drost, 2011; Leung, 2015). In qualitative research, validity refers to selecting the appropriate instruments, processes, and data to obtain findings that reflect the participants' true perspectives (Leung, 2015). Reliability, in turn, is the consistency of research measurements (Dordt, 2011) as opposed to quantitative research, which is concerned more with producing generalisable results (Dörnyei, 2007).

The present study was able to maintain validity and reliability by implementing a number of measures. Cronbach's alpha (Cronbach, 1951) is most commonly used to assess reliability

across different items (internal consistency). It examines the correlations between each item included in an instrument (e.g., tests, questionnaires) to ensure they measure the same variable (Loewen & Plonsky, 2016). Cronbach's alpha was calculated using SPSS to measure the internal consistency among the test items at the three time points (pre-, post- and delayed post-tests). Confidence intervals of 95% were calculated respectively. As indicated in Table 5, all tests demonstrated high levels of reliability.

Table 5 Reliability Statistics for Pre, Post and Delayed Post-Tests

Tests	Cronbach's alpha	95% CI		No. of Items
		LL	*UL*	
Pre-test	.94	.91	.97	60
Post-test	.94	.91	.97	60
Delayed post-test	.93	.89	.96	60

The listening comprehension test consisted of two sections which had 20 questions in total. In order to examine the test's reliability, each question was considered an item. The scale indicated a high level of internal consistency as determined by Cronbach's alpha: .896, 95% CI [.837, .941] (for the test's grading scheme, see Section 4.9.1.1 in this chapter). Cronbach's alpha was also calculated to measure internal consistency among the LVLT's items. The test consisted of four parts; each part included 24 items, except part four, which included 30 items. Confidence intervals of 95% were calculated respectively. As indicated in Table 6, all test parts demonstrated high levels of reliability.

Table 6 Reliability Statistics for LVLT

Tests	Cronbach's alpha	95% CI		No. of Items
		LL	UL	
Part 1	.87	.80	.93	24
Part 2	.87	.78	.92	24
Part 3	.82	.72	.90	24
Part 4	.80	.80	.92	30

Concerning the listening materials, all six listening passages were selected from two authentic English resources. The selected passages were modified to accommodate VI learners' proficiency level and disability. In addition, to ensure authenticity and the suitability of the modified passages to the learners' level of proficiency, the modified passages were scrutinised by two highly experienced native speakers, two L2 teachers at a Saudi university (one sighted teacher and one blind teacher), one sighted female L2 teacher at the institute for the blind, and one MA student with VI whose level of proficiency was advanced. Moreover, the modified passages were analysed using the lexical profiler 'Text Inspector' to distinguish each listening text level in terms of the CEFR. The intervention was carried out in the participants' classrooms to achieve face validity.

Two IELTS listening comprehension tests were combined, with only the first two sections used due to the learners' level of proficiency (presumed low-intermediate based on the professional opinions of three expert teachers who teach VI learners). Modifications were made, and the listening passages were scrutinised using "Text Inspector", which provided detailed information about the lexical diversity, complexity, and estimated CEFR level. Moreover, like a typical IELTS test, the designed test consisted of different questions

assessing different listening skills. However, not all questions in an IELTS test are easily accessible to VI learners. Therefore, only three types of questions that accommodated participants' special needs (SAQs, MCQs, and SEQs) were included. These different question formats minimised guessing, which could have affected the reliability of the test. The test was also revised by two native speakers and one language teacher.

The vocabulary knowledge test adopted for the present study was the Listening Vocabulary Level Test (LVLT), designed by McLean et al. (2015). Only its first three sections and the AWL section were used. These sections were selected to match the students' proficiency level, which was presumed to range from low-intermediate to intermediate. This range may be considered a limitation; however, the test was not employed to measure the participants' actual vocabulary size but to give a general idea of their vocabulary knowledge and to support the results obtained from the listening comprehension test concerning their proficiency level. Regarding the intervention vocabulary tests, the pre-test used the same format as the LVLT and the 60 target lexical items were integrated into the LVLT to prevent drawing the participants' attention to the study objectives. The post and delayed-post-tests also adopted this format. Although using the same format may be a limitation, it reduced cognitive demands, saved time, and prevented the anxiety that could result if the learners had to face different formats.

Finally, regarding the qualitative data, the researcher conducted the SRIs soon after the last delayed post-test to maximise validity and reliability. The participants became acquainted with the researcher over two academic terms, which was a critical factor in building trust and rapport before the interview. At the start of the interview, the researcher also allowed the participants to listen to the audio recording relevant to the taught lexical item in order to help them remember details. The interview took place immediately after they finished listening.

4.11 Ethical Issues

The main ethical consideration raised by this project relates to the issue of recruiting visually impaired students. Respect, consent, and privacy principles are fundamental to ethical research involving all human participants; nevertheless, they may be overlooked in studies involving disabled individuals (National Disability Authority, 2024). It is essential to uphold the rights of the participants and ensure that their safety is not compromised by the study (Cohen et al., 2011). Therefore, this research conformed to the ethical protocols and requirements of: The Saudi Ministry of Education, Department of General Administration of Special Education (Girls section); the institute for blind people and the upper-secondary school from which participants were recruited, both based in Saudi Arabia; and the University of Reading (UoR). Before conducting the intervention, ethical approval was obtained from the Institute of Education and Research Ethics Committee, UoR, Department of General Administration of Special Education (Girls section), and the heads of the designated institute for the blind and the upper-secondary school (see Appendix I for ethical approval documents).

The researcher was fully aware of the sensitivity of this study and took necessary precautions to ensure that ethical procedures were upheld at all times. The researcher attempted to diffuse the power dynamics that differentiated between her position as a teacher and figure of authority, and the participants as students, by building trust and rapport and creating a relaxed and informal atmosphere. A fun and casual ice-breaker exercise was conducted during the first 30 minutes of the first intervention (pre-test) to provide an opportunity for participants to interact with the researcher on an informal level.

Before the intervention was conducted, the heads of department, the head teacher, the class teacher, parents, and participants recruited for this study were provided with an information sheet

and consent form in both English and Arabic (see Appendix I). All parties involved were reassured that participants could withdraw their consent at any time during the study, and that the only requirement was to inform the researcher. Both the sheet and the form were made accessible to visually impaired learners by using Microsoft Forms. The information sheet explained the aim and details of the study, reasons for recruiting the participants, risks and benefits, data protection, and what would happen if any of the parties decided to withdraw their consent. The consent form outlined the activities that would take place throughout the intervention in a bullet point format and participants were invited to tick a box to give their consent to participate (e.g., providing details about the VI learners' eye condition, completing listening and vocabulary tests, and participating in a stimulated recall interview).

At the start of each intervention session, the researcher reiterated that participants were not obliged to participate in the study and that they had the right to withdraw at any time without providing a reason and without repercussions. More specifically, the participants, as well as the heads of department/school, were informed that neither their participation nor their withdrawal would affect their grades. To create further assurance, the researcher: 1) submitted the overall test grades to the students upon request, and 2) encouraged the students to voice their feedback during the interview, positioning herself as a listener, thus enabling the students to feel more in control. These steps were taken to help raise students' confidence and to avoid them feeling that they had to answer in a specific way to satisfy the teacher.

Finally, participants were informed that this study was completely anonymous and that their participation details or data relating to them as individuals would not be shared with heads of department/school or with teachers/parents. Moreover, they were reassured that the data collected would remain confidential, and that pseudonyms would be used in this thesis or any subsequent

publications. The researcher also shared with participants details about data protection. She informed them that during the study, all data, including interview audio recordings and audio recordings from the classes, were safely stored on a password protected laptop owned by her, and that they would be destroyed at the end of the research.

CHAPTER FIVE: FINDINGS

5.1 Introduction

This chapter presents findings from both quantitative and qualitative data collected from classroom intervention sessions and interviews. Quantitative data were collected before, during and after the intervention session from 32 (VI and SI) upper-secondary school EFL learners in SA. Prior to the intervention, students were asked to complete two baseline tests: one general listening comprehension and a general vocabulary knowledge test, which included a vocabulary pre-test of the 60 target lexical items. During the intervention sessions, students were given six immediate vocabulary post-tests and six two-week vocabulary delayed post-tests. Additionally, they took a vocabulary final delayed post-test five weeks after the last delayed post-test. Qualitative data were collected from 16 selected students (8 VI and 8 SI) through stimulated recall interviews at the end of the intervention. This chapter presents the quantitative and qualitative data, as well as the key insights gained from analysing them with respect to the main RQs.

5.2 Results Related to the Quasi-experimental Research Questions

Prior to analysing the quantitative data for the first three research questions, it is important to examine the reliability of the instruments used in this study. Reliability statistics for the pre-, post-, and delayed post-tests, LVLT, and the listening comprehension test are presented in Section 4.10 in the Methodology Chapter.

5.2.1 Descriptive Statistics

Descriptive statistics were first calculated (Table 7) for the outcome variable (i.e., meaning recognition) by each test time point (pre-test, post-test, delayed post-test), group (SI, VI) and instruction condition (AIMCS, CS) and for the two moderation variables (LVLT and Listening) by group. Table 7 indicates that at pre-test SI learners had higher scores than VI learners in all tests.

Table 7 Descriptive Statistics for All Variables

Variables	Group	Condition	*M*	*SD*	Min	Max
Pre-test	VI	AIMCS	15.13	6.96	5.00	28.00
	VI	CS	17.75	6.18	6.00	30.00
	SI	AIMCS	18.63	6.48	3.00	26.00
	SI	CS	20.88	6.61	5.00	29.00
Post-test[a]	VI	AIMCS	28.94	2.86	19.00	30.00
	VI	CS	28.69	2.18	23.00	30.00
	SI	AIMCS	28.13	2.55	21.00	30.00
	SI	CS	28.06	2.41	21.00	30.00
Delayed post-test	VI	AIMCS	24.31	5.76	10.00	30.00
	VI	CS	25.63	4.05	17.00	30.00
	SI	AIMCS	25.44	4.77	11.00	30.00
	SI	CS	25.13	5.04	11.00	30.00
LVLT[b]	VI	-	46.38	21.62	17.00	94.00
	SI	-	58.44	17.06	13.00	80.00
Listening[c]	VI	-	11.07	4.53	2.00	19.00
	SI	-	12.93	5.95	3.00	20.00

Note. a target items, out of 60, b, out of 102, c, out of 20

Prior to the quantitative analysis, an exploratory factor analysis was carried out with the six post-tests and six delayed post-tests (see Appendix H). Results showed that all post-tests loaded onto one factor, accounting for 71.36 % of the variance. Similarly, the six delayed post-tests were loading on one factor, accounting for 81.46 % of the variance. Given the relatively high factor loadings, it was regarded admissible to aggregate scores for the six post-tests and, separately, all six delayed post-tests, yielding one total score for each (Zhang & Graham, 2020a). The quantitative data were analysed using generalized linear mixed effects models in R (R Core Team, 2024) with the *lmerTest* package (Kuznetsova et al., 2017). For the vocabulary meaning recognition tests (post- and delayed post-tests), items were coded via a binary coding scheme where (0) is wrong and (1) is correct, so all items received equal weighting. The fixed effect structure was theory

driven, including five fixed factors: Pre-test; LVLT (vocabulary knowledge test); Listening (pre-listening comprehension test); Group (VI vs. SI); Condition (AIMCS vs. CS). The continuous fixed effects factors, Pre-test, LVLT and Listening, were standardised as z-scores before being included in the model.

To address the first research question, two models were constructed: one using the post-test data as the outcome variable to examine short-term learning effects, and another using the delayed post-test data to assess long-term learning effects. The models included the five fixed factors and Pre-test was set as a control variable. VI and AIMCS were selected as the baseline for Group and Condition respectively. The random effects structure included both by-participants and by-time random intercepts. The first model is the simplest model. All the predictors were used to predict the score of meaning recognition (i.e., at post-test), but there were no interactions between these predictors

In order to address the second research question and a second model was built including the five fixed factors and two three-way interactions, LVLT × Group × Condition and Listening × Group × Condition to explore the moderation effect of learners' pre-existing vocabulary size and listening proficiency. The final random effects structure included by-participant and by-item random intercepts, allowing for the control of variability in item difficulty and individual learner performance. To address the third research question, a first model was built to explore the learning and repetition effects at the final delayed post-test. In addition to the five fixed factors which were included in the post-test first model: a sixth factor, Repetition, was included in this model. VI and AIMCS were also selected as the baseline for Group and Condition respectively. Again, random effects structure included both by-participants and by-item random intercepts.

5.2.2 RQ1: What is the effect of two types of vocabulary instruction (CS and AIMCS – artificially increasing the volume followed by CS) during aural activities on a) VI and b) SI learners?

To address the first research question, a first model was built to explore the learning effects at the post-test level. The model included five fixed factors: Pre-test; LVLT (vocabulary knowledge test); Listening (pre-listening comprehension test); Group (VI vs., SI); Condition (AIMCS vs., CS). VI and AIMCS were selected as the baseline for Group and Condition respectively. The random effects structure included both by-participants and by-item random intercepts.

Short-Term Learning Effects

Fixed effects indicated that learners' listening proficiency was a significant predictor for their post-test scores (*odds ratio* = 6.09, *SE* = 0.42, *z* = 4.21, *p* <.001). Additionally, there was a significant effect of group (*odds ratio* = 0.33, *SE* = 0.53, *z* = -2.056, *p* = .040). The odds ratio indicated that the VI learners were three times (1/0.33) more likely to successfully recognise the meaning of the target words than SI learners at the post-test. In terms of conditions, there was no significant difference between AIMCS and CS. Also, LVLT was not a significant predictor in this case. The results for the first model are presented in Table 8.

Table 8 First Model Results for Post-Test

Predictors	Score_meaning_recognition		
	Odds Ratios	*CI*	*p*
(Intercept)	128.82	45.07 – 368.15	**<0.001**
Pre meaning recognition	0.50	0.19 – 1.35	0.172
Score LVLT	1.22	0.47 – 3.13	0.685
Pre listening	6.09	2.63 – 14.11	**<0.001**

Group [SI]	0.33	0.12 – 0.95	**0.040**
Condition [CS]	0.92	0.50 – 1.71	0.803

Random Effects

σ^2	3.29
$\tau_{00 \ \text{Item}}$	0.61
$\tau_{00 \ \text{Participant}}$	0.72
ICC	0.29
N $_{\text{Item}}$	60
N $_{\text{Participant}}$	30

Observations	1800
Marginal R^2 / Conditional R^2	0.323 / 0.518

Since the first model indicated significant effects for listening proficiency and Group, more complex models were built to further explore the moderation effects of these predictors. These models will be presented in the sections below.

5.2.3 RQ2: How is the instruction effect on vocabulary learning moderated by learners' listening proficiency and their existing vocabulary size?

To address the second research question, a second model was then built to explore the moderation effect of learners' listening proficiency and their existing vocabulary size on vocabulary learning. In addition to the five fixed factors which were included in the first model, this second model added two three-way interactions, LVLT × Group × Condition and Listening × Group × Condition, to the fixed effects structure. Again, by-item and by participants random intercepts were included as random effects. As the three continuous fixed factors (Pre-test, LVLT, and Pre-listening) were measured on different scales, they were first standardised by calculating the z-scores before entering them into the model. Overall, the second model served as a good fit to

the data (R2 $^{\text{marginal}}$ = 0.594, R2 $^{\text{conditional}}$ = 0.670). In total 59% of the variance was explained by the fixed effects and an additional 8% of the variance was explained by the random effects.

Model results (Table 9) showed that the three-way LVLT × Group × Condition and Listening × Group × Condition interactions were not significant, which indicated that either LVLT or Listening did not moderate the effects of Group × Condition interactions. However, there were significant two-way Listening × Group and Listening × Condition interactions, suggesting that learners' listening proficiency significantly moderated the learning differences between the two groups and between the two conditions respectively. The effect plots for these interactions are respectively given in Figures 9 and 10. Examining the odds ratio suggests that within the AIMCS condition, with one *SD* increase of learners' pre listening proficiency, VI learners were 50 times (1/0.02) more likely to outperform their SI counterparts (Figure 9). In addition, for VI learners, when their listening proficiency increased by one *SD*, they were 16.67 (1/0.06) times more likely to benefit from AIMCS than from CS (Figure 10). In other words, higher listening proficiency was more important for VI learners than for SI learners in the AIMCS condition, and it was more important in AIMCS than in CS. See Table 9 for the second model results.

Table 9 Results From the Generalized Linear Mixed Effects Model for Post-Test (Moderation Effect of Listening Proficiency and Existing Vocabulary Size on Vocabulary Learning for VI & AIMCS)

	Score_meaning_recognition		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	2299.58	94.78 – 55790.41	**<.001**
Pre meaning recognition	0.65	0.32 – 1.30	.225
Score LVLT	0.37	0.09 – 1.50	.165
Group [SI]	0.01	0.00 – 0.35	**.009**

Condition [CS]	0.04	0.00 – 0.96	**.047**
Pre listening	163.22	9.58 – 2781.39	**<.001**
Score LVLT × Group [SI]	4.12	0.84 – 20.35	.082
Score LVLT × Condition [CS]	2.19	0.52 – 9.22	.286
Group [SI] × Condition [CS]	18.03	0.69 – 470.20	.082
Group [SI] × Pre listening	0.02	0.00 – 0.37	**.008**
Condition [CS] × Pre listening	0.06	0.00 – 0.91	**.042**
(Score LVLT × Group [SI]) × Condition [CS]	0.58	0.11 – 3.13	.528
(Group [SI] × Condition [CS]) × Pre listening	10.64	0.58 – 193.98	.110

Random Effects

σ^2	3.29
$\tau_{00\ \text{Item}}$	0.62
$\tau_{00\ \text{Participant}}$	0.15
ICC	0.19
N_{Item}	60
$N_{\text{Participant}}$	30
Observations	1800
Marginal R^2 / Conditional R^2	0.594 / 0.670

Figure 9 Effect Plot for Listening × Group (Within AIMCS Condition)
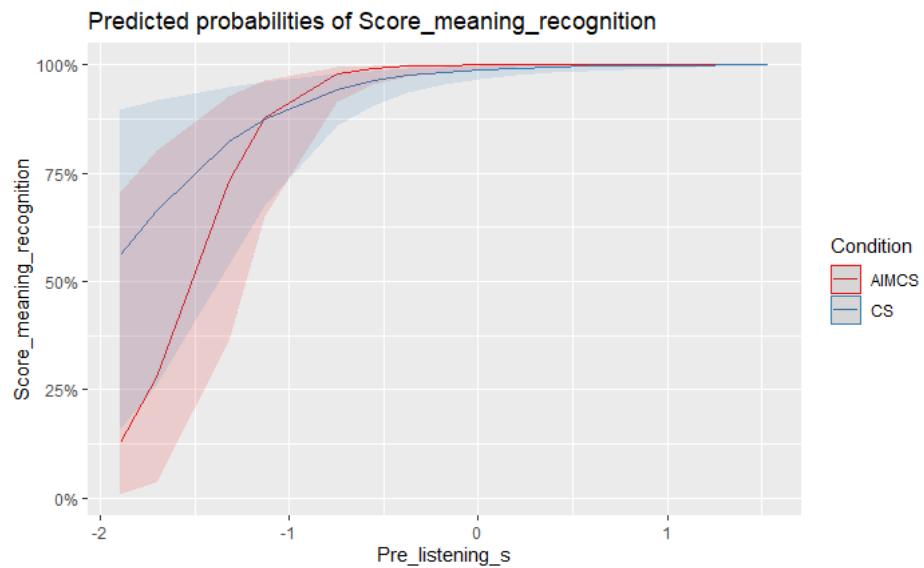
Figure 10 Effect plot for Listening × Condition (for VI Learners)

The second model only considered the two-way interactions, nested within the three-way interactions, where the two fixed factors, VI and AIMCS, were selected as the baseline for Group and Condition. In order to explore the moderation effect of listening proficiency and existing

vocabulary size on vocabulary learning for SI learners and for the CS condition, a third model was built. Relevelling of the categorical predictors was carried out and SI and CS were selected as the baseline for Group and Condition respectively. Similar to the second model, the third model included the five fixed factors and added the two three-way interactions, LVLT × Group × Condition and Listening × Group × Condition to the fixed effects structure. Again, by-item and by-participants random intercepts were included as random effects. Similar to the second model, the standardized three continuous fixed factors (Pre-test, LVLT, and Pre-listening) were entered into the model. Overall, the third model also served as a good fit to the data ($R2^{marginal} = 0.594$, $R2^{conditional} = 0.670$). In total, 59% of the variance was explained by the fixed effects and an additional 8% of the variance was explained by the random effects.

Model results (Table 10) showed that the three-way LVLT × Group × Condition and Listening × Group × Condition interactions were not significant. Additionally, there was only one significant two-way Listening × Group interaction, suggesting that learners' listening proficiency significantly moderated the learning differences between the two groups. Unlike the second model, the Listening × Condition interaction was not significant, suggesting that listening proficiency did not significantly moderate the learning differences between the two conditions. The effect plot for the Listening × Group interaction is given in Figure 11.

Examining the odds ratio in Table 10 suggests that within the CS condition, with one *SD* increase of learners' listening proficiency, VI learners were four times more likely to outperform their sighted counterparts. That suggests that having good listening proficiency was more essential to VI learners than SI learners under the CS condition. The odds ratios within the CS condition (Table 10) and AIMCS condition (Table 9) are above one *SD* indicating that listening proficiency is essential to VI learners than SI learners under both conditions.

Table 10 Results from the Generalized Linear Mixed Effects Model for Post-Test (Moderation Effect of Listening Proficiency and Existing Vocabulary Size on Vocabulary Learning for SI & CS)

	Score_meaning_recognition		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	24.16	12.36 – 47.24	**<.001**
Pre meaning recognition	0.65	0.32 – 1.30	.225
Score LVLT	1.96	0.82 – 4.70	.132
Group [VI]	3.72	1.18 – 11.76	**.025**
Condition [AIMCS]	1.42	0.58 – 3.48	.446
Pre listening	2.18	1.01 – 4.71	**.046**
Score LVLT × Group [VI]	0.42	0.12 – 1.41	.159
Score LVLT × Condition [AIMCS]	0.79	0.33 – 1.89	.591
Group [VI] × Condition [AIMCS]	18.03	0.69 – 472.13	.083
Group [VI] × Pre listening	4.33	1.17 – 15.98	**.028**
Condition [AIMCS] × Pre listening	1.62	0.64 – 4.13	.311
(Score LVLT × Group [VI]) × Condition [AIMCS]	0.58	0.11 – 3.14	.528
(Group [VI] × Condition [AIMCS]) × Pre listening	10.64	0.58 – 194.67	.111

Random Effects

σ^2	3.29
$\tau_{00 \ Item}$	0.62
$\tau_{00 \ Participant}$	0.15
ICC	0.19
N_{Item}	60
$N_{Participant}$	30
Observations	1800
Marginal R^2 / Conditional R^2	0.594 / 0.670

Figure 11 Effect Plot for Listening × Group (Baseline for Group SI)

Longer-Term Learning Effects

Another first model was built to explore the learning effects at the delayed post-test. Similar to the first post-test model, the model included five fixed factors: Pre-test; LVLT (vocabulary knowledge test); Listening (pre-listening comprehension test); Group (VI vs. SI); Condition (AIMCS vs. CS). VI and AIMCS were also selected as the baseline for Group and Condition respectively. Again, the random effects structure included both by-participants and by-item random intercepts.

Fixed effects indicated that learners' pre-test meaning recognition was a significant predictor for their delayed post-test scores (*odds ratio* = 2.04, *SE* = 0.30, *z* = 2.36, *p* = 0.018). Additionally, there was a significant effect of listening proficiency (*odds ratio* =1.92, *SE* = 0.23, *z* = 2.76, *p* = 0.006). The results of the model are presented in Table 11.

Table 11 First Model Results for Delayed Post-Test

	Score_meaning_recognition		
Predictors	*Odds Ratios*	*CI*	*p*

(Intercept)	11.51	6.50 – 20.41	**<0.001**
Pre meaning recognition	2.04	1.13 – 3.69	**0.018**
Score LVLT	1.00	0.54 – 1.85	0.997
Pre listening	1.92	1.21 – 3.06	**0.006**
Group [SI]	0.75	0.40 – 1.38	0.353
Condition [CS]	1.16	0.69 – 1.97	0.576

Random Effects

σ^2	3.29
τ_{00} Item	0.72
τ_{00} Participant	0.34
ICC	0.25
N Item	60
N Participant	30
Observations	1800
Marginal R^2 / Conditional R^2	0.279 / 0.456

The odds ratio indicated that with one *SD* increase of learners' pre-test meaning recognition, VI and SI learners were two times more likely to successfully recognize the meaning of the target words at the delayed post-test. Likewise, when their listening proficiency increased by one *SD*, they were 1.29 times more likely to recognize the meaning of the target words at the same test. The effect plots for these interactions are given in Figures 12 and 13. The delayed post-tests results suggest that on a longer-term basis listening proficiency is equally important for both groups. In terms of conditions, there was no significant difference between AIMCS and CS. Also, neither group nor LVLT were significant predictors in this case. In other words, on a longer-term basis, both conditions seemed to show similar effects on both VI and SI learners' vocabulary gains, and overall, the two groups seemed to have benefited equally from the intervention.

More complex models to explore the moderation effect of learners' listening proficiency and their existing vocabulary size on vocabulary learning were not built. Unlike the post-test, there was no simple main effect for Group nor for Condition, so further exploration of the moderation effect did not seem necessary.

Predicted probabilities of Score_meaning_recognition
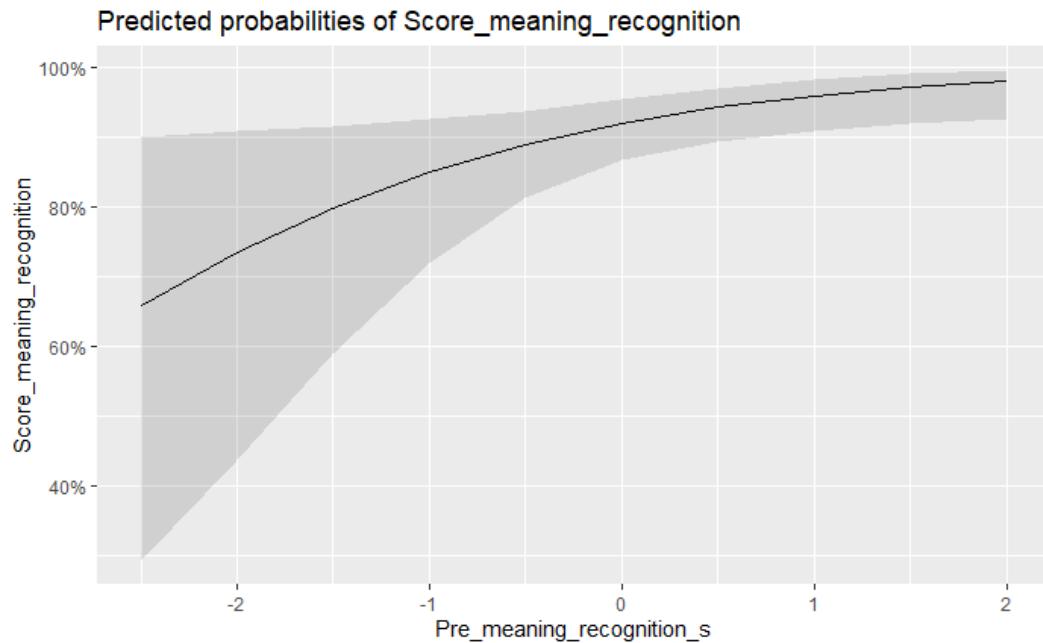
Figure 12 Effect Plot for Pre-Test (Pre Vocabulary Test)
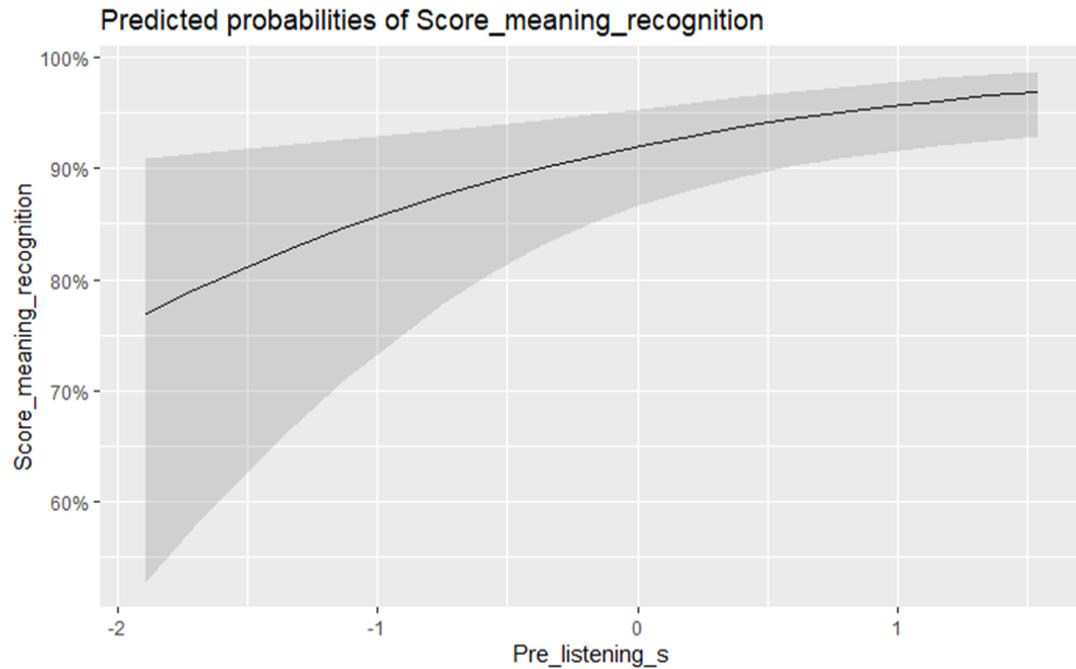
Figure 13 Effect Plot for Listening (Pre-Listening Comprehension Test)

5.2.4 RQ3: To what extent does the number of repetitions affect the retention of vocabulary items for VI and sighted learners?

Prior to analysing the quantitative data for RQ3, descriptive statistics were first calculated by Test time point, Repetition, Group, and Condition.

Table 12 Descriptive Statistics for Pre-test and Final Delayed Scores Across Groups, Conditions, and Repetitions

Time	Group	Condition	Repetitions	M	SD	Range
Pre-test	SI	CS	Three	39.50	12.66	8.00–55.00
Final delayed	SI	CS	Three	0.85	0.13	0.58–1.00
Pre-test	VI	CS	Three	32.88	12.72	15.00–58.00
Final delayed	VI	CS	Three	0.86	0.13	0.50–1.00
Pre-test	SI	AIMCS	Three	39.50	12.66	8.00–55.00
Final delayed	SI	AIMCS	Three	0.82	0.21	0.23–1.00
Pre-test	VI	AIMCS	Three	32.88	12.72	15.00–58.00
Final delayed	VI	AIMCS	Three	0.83	0.17	0.41–1.00
Pre-test	SI	CS	Four	39.50	12.66	8.00–55.00
Final delayed	SI	CS	Four	1.00	0.00	1.00–1.00
Pre-test	VI	CS	Four	32.88	12.72	15.00–58.00
Final delayed	VI	CS	Four	1.00	0.00	1.00–1.00
Pre-test	SI	AIMCS	Four	39.50	12.66	8.00–55.00
Final delayed	SI	AIMCS	Four	0.80	0.33	0.00–1.00
Pre-test	VI	AIMCS	Four	32.88	12.72	15.00–58.00
Final delayed	VI	AIMCS	Four	0.89	0.16	0.67–1.00
Pre-test	SI	CS	Seven	39.50	12.66	8.00–55.00
Final delayed	SI	CS	Seven	0.90	0.21	0.50–1.00
Pre-test	VI	CS	Seven	32.88	12.72	15.00–58.00
Final delayed	VI	CS	Seven	0.83	0.24	0.50–1.00
Pre-test	SI	AIMCS	Seven	39.50	12.66	8.00–55.00
Final delayed	SI	AIMCS	Seven	0.77	0.37	0.00–1.00
Pre-test	VI	AIMCS	Seven	32.88	12.72	15.00–58.00
Final delayed	VI	AIMCS	Seven	0.93	0.18	0.50–1.00
Pre-test	SI	CS	Nine	39.50	12.66	8.00–55.00
Final delayed	SI	CS	Nine	0.87	0.35	0.00–1.00
Pre-test	VI	CS	Nine	32.88	12.72	15.00–58.00
Final delayed	VI	CS	Nine	0.80	0.41	0.00–1.00
Pre-test	SI	AIMCS	Nine	39.50	12.66	8.00–55.00
Final delayed	SI	AIMCS	Nine	0.91	0.15	0.67–1.00
Pre-test	VI	AIMCS	Nine	32.88	12.72	15.00–58.00
Final delayed	VI	AIMCS	Nine	0.91	0.20	0.33–1.00

To address the third research question, a first model was built to explore the learning and repetition effects at the final delayed post-test. In addition to the five fixed factors which were included in the post-test first model: Pre-test; LVLT (vocabulary knowledge test); Listening (pre-listening comprehension test); Group (VI vs., SI); Condition (AIMCS vs., CS); a sixth factor, Repetition, was included in this model. VI and AIMCS were also selected as the baseline for

Group and Condition respectively. Again, random effects structure included both by-participants and by-item random intercepts.

Fixed effects indicated that learners' listening proficiency was a significant predictor for their final delayed post-test scores (*odds ratio* = 2.20, *SE* = 0.42, *z* = 3.78, *p* <.001). Additionally, there was a significant effect of group (*odds ratio* = 0.49, *SE* = 0.29, *z* = -2.59, *p* = .011).

Table 13 First Model Results for Final Delayed Post-Test (Moderation Effect of Repetition on Vocabulary Learning)

	Final_delayed_Score_meaning_recognition		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	14.52	7.94 – 26.58	**<0.001**
Pre meaning recognition	1.56	0.95 – 2.57	.079
Score LVLT	1.18	0.70 – 1.96	.535
Pre listening	2.20	1.46 – 3.32	**<0.001**
Group [SI]	0.49	0.28 – 0.85	**0.011**
Condition [CS]	1.39	0.78 – 2.50	.264
Repetitions [4]	1.73	0.52 – 5.77	.372
Repetitions [7]	0.92	0.30 – 2.85	.892
Repetitions [9]	1.85	0.56 – 6.13	.316
Random Effects			
σ^2	3.29		
$\tau_{00 \text{ Item}}$	0.85		
$\tau_{00 \text{ Participant}}$	0.18		
ICC	0.24		
N_{Item}	60		
$N_{\text{Participant}}$	28		

Observations	1680
Marginal R^2 / Conditional R^2	0.298 / 0.466

The odds ratio indicated that with one *SD* increase of learners' listening proficiency learners, regardless of their group, were two times more likely to successfully recognize the meaning of the target words at the final delayed post-test. Also, the odds ratio suggests that regardless of the teaching condition (i.e., either CS or AIMCS), VI learners were two times (1/0.49) more likely to successfully recognise the meaning of the target words than SI learners at the final delayed post-test. The effect plots for these interactions are given in Figures 14 and 15. In terms of conditions, there was no significant difference between AIMCS and CS. Also, neither pre-test meaning recognition nor LVLT were significant predictors. Repetition too was not a significant predictor in this case. Again, building other complex models to explore the moderation effect was not appropriate because no simple main effects for Condition or Repetition were found.
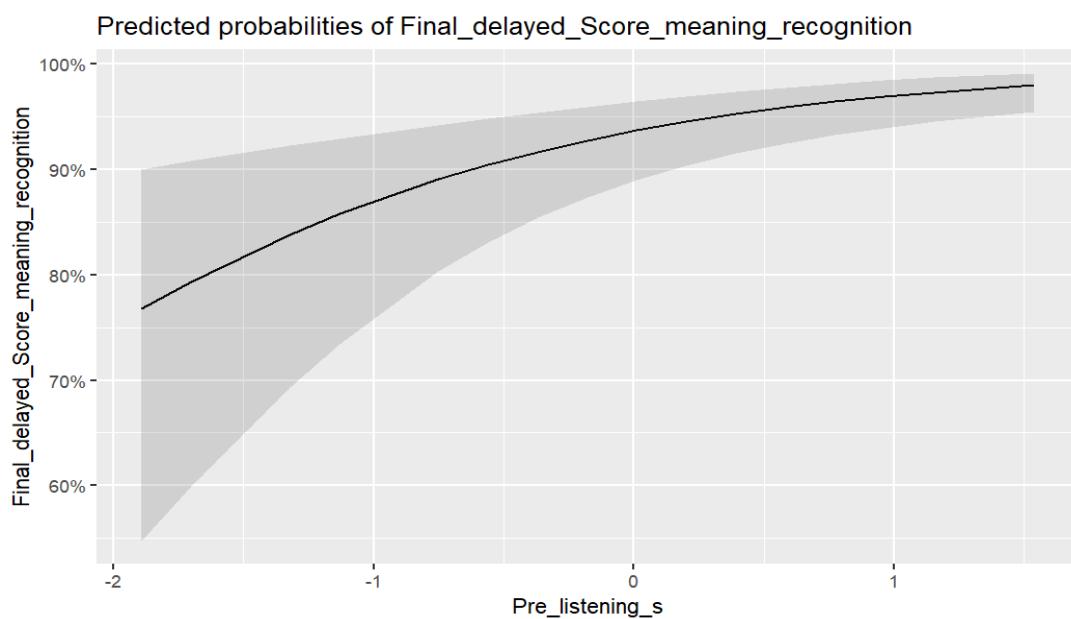
Figure 14 Effect Plot for Listening (Pre-listening Comprehension Test)

Predicted probabilities of Final_delayed_Score_meaning_recognition
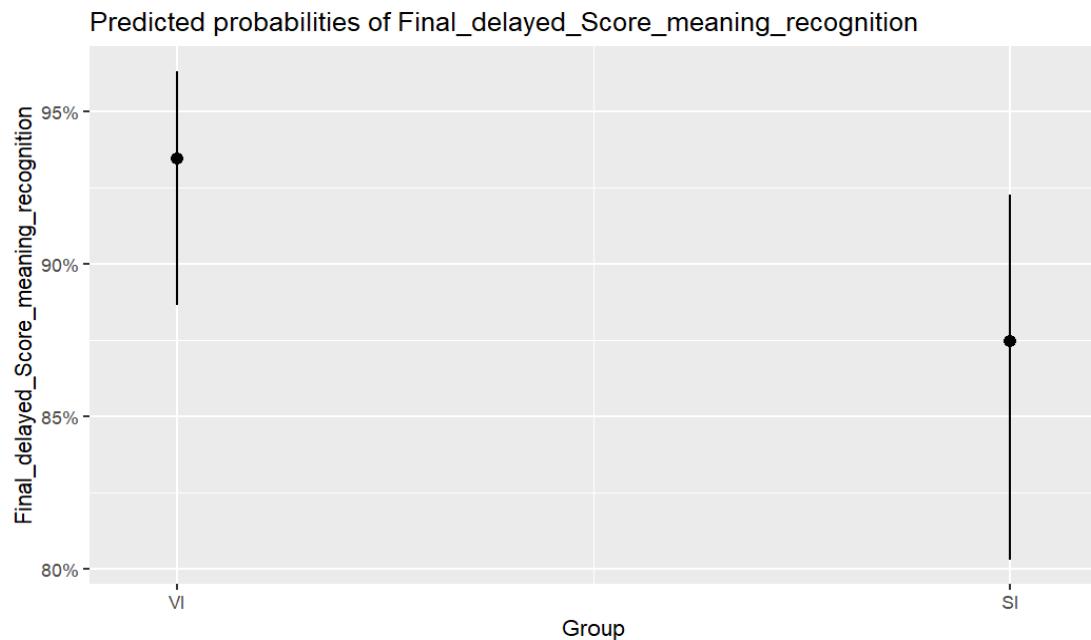
Figure 15 Effect Plot for Group (VI & SI)

The previous sections reported the findings of the quantitative analysis of the data collected through the quasi-experimental design, which revealed the impact of the two different types of vocabulary instruction on VI and SI learners' short- and longer-term vocabulary learning. The results of looking into the impact of listening proficiency on vocabulary gains were also presented, along with results related to the effects of repetition on vocabulary retention. In addition to exploring the impact of vocabulary instruction on vocabulary learning, the present study aimed to gain insight into VI and SI learners' strategy use while listening to the teacher's CS/AIMCS explanations, along with their perceptions of the two modes of instruction in terms of helpfulness. This was important, and findings related to these learners' strategy use and perceptions of the teaching experience supplement what was found in the quantitative analysis, offering a clearer picture of the learning outcomes.

5.3 Summary of Quantitative Findings

The following points outline the key findings from the analysis of the AIMCS and CS teaching approaches, with particular attention to differences across VI and SI learners:

1. The AIMCS instructional approach proved more effective than the CS method for both VI and SI learners, particularly in the short term. VI learners, regardless of the teaching method used, demonstrated greater vocabulary gains than their SI peers. However, the initial advantage associated with AIMCS and VI learners diminished over the longer term.

2. Learners with lower pre-existing vocabulary knowledge exhibited the most substantial progress, irrespective of learner group or the instructional method used. This effect was consistent in both short-term and long-term learning.

3. Learners with higher levels of listening proficiency gained more short-term benefits from the AIMCS method than from the CS method. Nonetheless, this advantage associated with listening proficiency was not sustained in the longer term.

4. Listening proficiency had a more pronounced effect on VI learners than on SI learners across both short- and long-term outcomes. As a result, VI learners with stronger listening skills experienced greater benefits from the instructional interventions than SI learners with similar listening abilities.

5. Repetition of vocabulary items did not significantly influence vocabulary retention for either VI or SI learners, suggesting that repeated exposure alone was insufficient to enhance long-term lexical retention.

5.4 Qualitative Analysis of Students' Strategy Use and Perceptions

5.4.1 Participants for the Stimulated Recall Interviews

To address this fourth research question, stimulated recall interviews were conducted after the last delayed post-test with sixteen students: five VI students, three PVI students from the experimental group, and eight SI students from the comparison group. For the stimuli used in the interview and the transcription and coding, see Section 4.9.2.1 in the Methodology Chapter. Initially, the researcher selected interviewees based on their baseline test scores (listening comprehension, vocabulary knowledge, and pre-test) to ensure varied proficiency levels. However, many students missed their interviews due to scheduling conflicts, absences, transportation issues, or final exams. As a result, the researcher had to interview available students, leading to a limited proficiency range and a small pool of participants. Despite these challenges, participants were classified using their baseline test scores, a composite score (sum of the three tests, per Tian, 2011) and gain scores from pre- to post-tests and post- to delayed-tests.

The listening scores were calculated as percentages and then ranked in order. Next, the median for the listening test score was obtained, and students were divided into two groups and ranked by listening proficiency: high-proficiency listeners (above the median) and low-proficiency listeners (below the median). Second, small and large gains from pre- to post-test and post- to final delayed test gain scores were calculated to assess learners' progress and retention. To guarantee the anonymity of the learners, they were assigned a unique pseudonym based on their eye condition and listening proficiency level. Thus, the higher proficiency learners from the treatment and comparison groups were labelled CVIH6, PVIH2, and SIH24, while the lower proficiency learners were labelled CVIL10, PVIL13, and SIL25. Table 14 presents an overview of the interviewees' listening comprehension test scores and vocabulary test scores.

Table 14 Interviewees' Composite Test Scores and Vocabulary Test Scores

ID	List (20)	%	Pre-test (60)	LVLT (102)	Comp Score	Vocabulary post-test	Vocabulary delayed post-test	Final delayed post-test
SIH24	19	95	52	68	139	58	59	57
SIH27	18	90	48	71	137	60	51	60
SIH29	18	90	43	68	129	60	57	NA
SIH20	17	85	50	58	125	60	58	58
CVIH6	16	80	54	82	152	59	59	60
CVIH2	15	75	40	53	108	60	59	59
SIH21	14	70	39	60	113	60	48	50
PVHI2	13	65	40	58	111	59	53	57
SIL25	12	60	47	65	124	55	58	55
SIL18	11	55	35	57	103	58	51	55
CVIL9	11	55	26	36	73	60	53	55
PVIL3	11	55	20	33	64	60	36	NA
PVIL4	9	45	16	35	60	60	48	48
SIL23	8	40	30	61	99	56	50	49
CVIL5	6	30	35	24	65	52	44	45
CVIL0	6	30	33	54	93	53	40	47

Note. The maximum score for the listening comprehension test is 20. The maximum score for the LVLT test is 102. The maximum score for each vocabulary test is 60. The maximum score for the composite test score (comp) is 182.

Table 14 shows that as listening test scores declined, the post-final delayed losses tended to increase in size, indicating that forgetting was linked to lower listening proficiency. VI learners generally made larger vocabulary gains at the post-test than SI learners. At the delayed post-test,

all learners retained more than half the vocabulary knowledge they gained at the post-test. The overview of the results also shows that high proficiency VI learners, namely CVIH12 and PVIH2, had almost similar vocabulary knowledge and vocabulary gains as their proficient SI counterpart, SI12H. However, SIH12 also had the highest level of forgetting among learners with high listening proficiency. Concerning learners with lower listening proficiency levels, PVIL14, CVIL9, and PVIL13 all had low vocabulary scores in the pre-test, but PVIL14 had the largest pre-post-test gain in the whole group and the highest level of post-final delayed forgetting. At the post-test, she gained approximately 73% of the lexical items taught but lost 25% of the knowledge she gained in the final delayed test. Also, SIL23 had a low listening score but made relatively large pre-post-test vocabulary gains, approximately 43%. The qualitative analysis addresses these variations in learning trajectories in more depth.

5.4.2 RQ4: How do learners respond to each type of instruction, both in terms of the strategies it prompts and in terms of their perception of helpfulness?

5.4.2.1 Analysis of Students' Strategy Use

As outlined in the Methodology Chapter, two vocabulary items, *a stroll* and an *absorbed*, were used as stimuli to explore strategies that learners could employ when learning the target lexical items (see Section 4.9.2.1). The analysis of the data collected from the sixteen interviewees yielded a final codebook that consisted of both listening comprehension and vocabulary learning strategies they used. The 16 interviews were submitted to NVivo 12 to be coded based on the final codebook. Next, scripts were labelled according to each learner's visual condition (CVI, PVI and SI) and proficiency level, more proficient (high) and less proficient (low). Later, NVivo 12's Framework Matrix function was used to summarise and categorise the data to examine the

similarities and differences within and between groups and identify patterns. For a detailed outline of the codes and their corresponding definitions, see Appendix G.

The following section begins by comparing and contrasting listening comprehension and vocabulary learning strategies employed by, on the one hand, higher proficiency learners (VI and SI), and on the other, lower proficiency learners (VI and SI) to comprehend newly encountered lexical items, understand the teacher's vocabulary explanations, and consolidate the learning of new lexical items. Regardless of whether the condition was AIMCS or CS, learners employed nearly the same listening comprehension strategies and strategies for determining the meaning of a new word in response to the vocabulary explanations. In other words, the two types of vocabulary explanation did not prompt the employment of a wide range of different strategies. In contrast to the CS explanation, the AIMCS explanation elicited only two new strategies related to the form of the target lexical items: *selective attention on pronunciation* and *selective attention on spelling*. Therefore, differences were only examined in terms of proficiency level and sight condition. Differences in strategy use between the more proficient (VI and SI) and less proficient (VI and SI) learners were discussed in relation to: 1) encountering unfamiliar words while listening to the passage; and 2) encountering unfamiliar words while listening to the teacher's explanations.

In reporting on the findings from the SRI analysis, the term AIM will be used when specific reference is being made to the aural input manipulation aspect only (i.e., increased volume); when reference is made to its pairing with CS, the term AIMCS will be used. An L2 translation will also be provided in square brackets for clarification whenever an Arabic word is quoted (e.g., *I visualised us gathering and going to "Albar* [camping in the desert]*"*. With regards to the *repetition* strategy, when it is used by the learners as a listening comprehension strategy, an asterisk will be used to indicate the strategy (*repetition).

5.4.2.1.1 Differences in Strategy Use between More Proficient and Less Proficient Learners

The qualitative analysis of learners' strategy use revealed considerable differences between the range of strategies employed by learners with higher and lower proficiency while listening to both the passage and to the teacher's input (see Appendix G) Despite the similarities in how these learners used specific strategies (e.g., *making connections* and *monitoring*), higher proficiency learners used them together with a broader range of other strategies. The same strategies were employed by lower proficiency learners, but they were combined with a smaller number of other strategies. For instance, all learners employed the *selective attention on AIM* strategy while listening to the passage; however, only more proficient learners combined it with *selective attention on parts of speech* and *selective attention on spelling.* Similarly, while listening to the teacher's explanation, both more and less proficient learners exploited the *selective attention on CS strategy*. However, while the more proficient learner CVIH12 combined it with nine additional strategies, the less proficient peer SIL18 combined it with only three. See Appendix G for the differences in the range of strategies used by higher and lower proficiency learners while listening to the passage and to the teacher's explanations.

5.4.2.1.1.1 Encountering Unfamiliar Vocabulary while Listening to the Passage

The qualitative data analysis indicated that more and less proficient learners used various strategies when encountering unfamiliar lexical items while listening to the passage. The frequently used strategies were *making connections* and *selective attention on AIM. Imagining* was exploited only by learners with higher proficiency. VI learners used this strategy without any visual elements. The following section compares higher listening proficiency learners and lower listening proficiency learners' strategy use when they heard the sentences that included ***a stroll*** or ***absorbed*** for the first time.

Making connections

This strategy was used by more proficient learners while listening to the passage to determine the meaning. It involved creating a link between the unknown lexical item and a familiar word, a similar starting sound, a concept, or a feeling. For example, CVIH6 and SIH21 combined *making connections* with the *recall prior knowledge* strategy to arrive at the meaning. Once they encountered the unfamiliar word ***absorbed***, they became confused and associated it with **observed** CVIH6 said, "*I confused it with the second word, which is observed…maybe it was a problem with pronunciation*", justifying the establishment of the connection because of how the word was pronounced but disregarding the relevant context. Next, the learner showed signs of becoming less strategic as she stated: "*I wanted to ask you what the difference was between them, but I decided to memorise the word instead*". CVIH6 wanted to use the *seeking help* strategy before the explanation, but she backed off and turned to *repetition while listening to the audio recording to ensure the retention of the target lexical item. CVIH6 likely exploited the *waiting* strategy because she was confident that she would receive the L1 meaning through the AIMCS explanation.

Like CVIH6, SIH21 assumed that the target lexical item was **observed**. She clarified: "*First, I thought it was observed, which is close in meaning… I considered the sentence containing the word and tried to associate it with the word I had in mind, but it did not fit*". SHI21 thought that ***absorbed*** and "*observed*" meant the same, possibly because both lexical items involved attention or concentration regardless of their distinct meaning. Next, the learner moved to use the *inferencing* strategy to increase the accuracy of the connection she established earlier. The potential reason these learners established the connections above was to select a word that had a similar onset sound and that was familiar to assist comprehension despite knowing it was irrelevant

to the context. They seem to rush into deciding the meaning due to the lack of distinction of similar vowel sounds and recalling old vocabulary to assist their comprehension.

PVIH2 also employed the *making connections* strategy when encountering an unfamiliar lexical item, but the connection she established was based on a different element, namely feelings. When asked about her reaction when she first heard **a stroll**, she stated: "*The pronunciation of the word sounded soft*"; therefore, she "*associated it with something pleasant*". A similar reaction was reported concerning **absorbed**: "*... I felt it could be something profound, a word that referred to something profound*". PVIH2 seemed to rely heavily on the *selective attention on pronunciation* strategy to create a connection between the target lexical item and its meaning. Once she achieved that connection, she immediately turned to the context to infer the meaning (*inferencing*), which can be implied from her words concerning her attempts to understand **absorbed**: "*I tried to figure out what it meant, but nothing went through my mind*". PVIH2's unsuccessful attempts (*making efforts*) to arrive at the meaning made her *give up*, which indicates that she waited for the teacher's explanations (*waiting*).

Learners in the lower listening proficiency group also exploited the *making connections* strategy like their more proficient counterparts. Again, the established connections were related to different elements such as concepts, familiar words or a similar starting sound. For instance, CVIL9 and CVIL5 adopted this strategy and established a connection related to a particular concept to figure out the meaning of **absorbed**. Once CVIL9 recognised the unfamiliar lexical item, she associated it with happiness: "*I was thinking of stuff related to happiness and tried to recall anything I heard about or related to happiness*". During this period, she exploited the *recall prior knowledge* strategy and made several attempts to arrive at the exact meaning (*making efforts*), which can be implied from her frequent use of the word "*tried*" as in "*I tried to associate it with*

something but could not understand its meaning". Like her more proficient counterpart, PVIH2, CVIL9's unsuccessful attempts to arrive at the meaning made her wait for the teacher's AIMCS explanation (*waiting*). CVIL5 behaved similarly and connected the word to the concept of healthiness. She pointed out: "*I thought it had to do with mental or physical health*". The learner employed *linguistic inferencing* and relied on a known word in the context, "*psychology*", to link the meaning to well-being. Like CVIH6, a more proficient learner, CVIL5 used **repetition* to consolidate the target lexical item before the explanation. They likely exploited **repetition* before the explanations as a listening strategy to equip themselves for the teacher's explanations; therefore, they could immediately focus on the meaning of the target lexical items. This proactive behaviour might have enhanced comprehension and retention when the teacher explained the word. Another potential reason could be related to these learners' vision deficit. They memorised the words before the explanations, which might leverage their auditory skills to keep up with the class.

SIL25 behaved similarly to her more proficient counterparts (SIH21 and CVIH6) and established the connection using a familiar word based on her prior knowledge. She associated the word ***absorbed*** with another familiar lexical item she tried to recall during the listening. During the interview, the learner could not remember the word she used to arrive at the meaning and stated: *"...I cannot remember now. I think deserve! I thought it was a synonym for it, but later I found out it was not*". SIL25 was hesitant about her answer, "*deserve*"; thus, she might have confused it with "*observed*" mainly because she perceived it as a synonym for the unknown vocabulary item like the more proficient counterpart SIH21. Next, she elaborated on her attempts to recall the word (*making efforts*) but "*could not figure out the meaning*" until the teacher explained it. PVIL13 resembled the more proficient learners SIH21 and CVIH6 in creating a

connection using a familiar word with a similar starting sound to figure out the meaning of *a stroll*. PVI13 clarified: "*I do not know why. When I pronounced it, I felt it was "a shock" then I said, "a stroke" [laughed]*". Here, the learner made multiple attempts (*making efforts*) to arrive at the meaning. She created a connection by paying *selective attention on pronunciation* and recalling prior vocabulary knowledge to find a word to guide her understanding of the new lexical item. She selected words with similar starting sounds, although she was certain they were irrelevant to the context, as she mentioned: "*I felt it was strange, but that was the first thing I thought of*". Overall, the *making connections* strategy, employed by both more and less proficient learners, highlights their tendency to link unfamiliar lexical items to familiar words, concepts, sounds, or feelings to aid comprehension, though sometimes at the cost of contextual accuracy.

S*elective attention on AIM*

This strategy was exploited by all high listening proficiency learners except SIH24 and SIH27, the most proficient learners among the SRI group, to identify the unfamiliar word ***absorbed***. The following quotations illustrate this strategy:

> *SIH20: Yes, the voice increased to emphasise the word. This indicates the word's importance in the context and that we must learn it.*
>
> *...*
>
> *SIH20: When you increased the volume, I focused on the context to know what comes before and after the word.*
>
> *CVIH12: It made me notice that the word was important and helped me focus on the pronunciation.*

PVIH2: Yes, yes! All of a sudden, the tone changed. The sound changed and became louder. The increased volume made me think of the word and notice that it was weird, and we would focus on it that day. So, I kept it in mind and concentrated on the context to understand the meaning. I focused on it more than the rest of the words.

Here, SIH20, CVIH12, and PVIH2 used AIM to identify the target lexical item and improve their focus to arrive at the meaning. Attention to AIM encouraged them to employ further strategies to assist their comprehension. The quotations above suggest that *selective attention on AIM* led these learners to focus on different aspects of the form of the unfamiliar lexical item *absorbed*. For instance, SIH20 and PVIH2 used the increased volume to maximise their attention while focusing on the relevant context to infer the meaning from it (*inferencing* and *between parts inferencing*). Moreover, SIH20 employed *selective attention on part of speech* to capture another aspect of vocabulary learning (grammatical category), "*I focused on the context to know what comes before and after the word*". Similarly, CVIH12 exploited AIM to recognise unfamiliar lexical items and increase her focus on the relevant context to comprehend the meaning. However, she combined it with the *selective attention on pronunciation* strategy to focus on the phonological aspect of the word. SIH29 exploited AIM but focused on the word's orthography: "*The increase in volume drew my attention, and I started to spell the word in my mind*" (*selective attention on spelling*).

CVIH6, also a more proficient learner, disagreed with her peers and clarified: "*But when the voice got louder when we heard the word, it definitely caught my attention. But it definitely was not something I benefited from*". Here, the learner affirmed that AIM only drew her attention to the target lexical item but did not have an impact on her comprehension. The learner solely

employed *selective attention on AIM* to locate the unfamiliar vocabulary item. However, unlike her peers, she did not use it to implement additional strategies that could assist in capturing various aspects of the unfamiliar words, such as phonological and orthographical aspects. One possible explanation is that CVIH6 was sure that the teacher's explanation would include the Arabic meaning of the word, so she did not use any further strategies except *waiting* for the AIMCS explanation.

SIH24 and SIH27, learners with the highest listening proficiency scores, failed to recognise the increased volume. However, SIH27 clarified that she did not notice the increased volume in the word "**absorbed**" but rather in some other target vocabulary items, referring to them as stressed words: *"No, I did not". I did notice it in some other words, but not in this one. I knew they were the required words. I felt she stressed the words; she did not say them out loud"*. SIH27's statement of noticing the increased volume in other target vocabulary and describing them as stressed words suggests that she might have missed the AIM due to a potential lack of attention while listening to this particular sentence. Another reason could be the learner's false assumption that she knew the target lexical item, which distracted her attention from noticing the AIM. SIH27 did, however, actively engage in several mental processes to comprehend the exact meaning. She made an effort (*making efforts*) to recall when or where she first encountered the word, relying on her prior knowledge (*recall prior knowledge*). When she was unable to recall, she exploited the relevant context (*inferencing*) to establish a link between the notion of happiness and being "**absorbed in something**" *(making connections)*, as demonstrated in the following quotation:

> *SIH27: I noticed that I had heard this word before but could not remember the topic or context.*

...

*SIH27: I started to think about the sentence and what makes a person have a life (silence), something close to **absorbed**, but I came up with nothing.*

R: You mean you were thinking about what might make a person happy?

*SIH27: Yes, and the meaning of **absorbed**. I tried to recall where I heard it but could not.*

By contrast, SIH24's failure to recognise the AIM could potentially be due to her inability to focus on the increased volume while using various strategies to understand the meaning, as she reported:

I did not know the word. The first thing that came to mind was that it was a verb similar to serve. I thought it was close to it in meaning.

...

I was unsure of the meaning; I thought of a second option and whether it would be right or wrong... I felt it was similar to deserve. I felt that the sentence might be about deserving something. I tried to make a connection between the words.

The above quotation illustrates an ongoing process involving various strategies to determine the meaning. Once SIH24 acknowledged the unfamiliar vocabulary item, she combined *selective attention on part of speech* and *recall prior knowledge* to link **absorbed** to a familiar word (*making connections*). SIH24 used *monitoring* when she doubted the connection she established. Once again, she referred to the relevant context (*inferencing)* and made a second attempt to comprehend the meaning (*making efforts*). This series of strategy use might have resulted in directing SIH24's attention only to the relevant context, ignoring anything else, as she mentioned:

"No. I was focusing on the sentence to understand the word's meaning. When I think of something, I cannot think of something else".

Less proficient learners also frequently used *selective attention on AIM*, except for SIL23 and PVIL14. The learners agreed that they had noticed the increased volume when pronouncing various unknown vocabulary items, including ***absorbed.*** They confirmed that saying the word aloud drew their attention to the target lexical item and increased their focus. The following segments present this strategy use:

> *SIL25: The volume increase was evident and made me notice that the word would be taught today… That was good because it made me focus on the word, its meaning, and the sound of the letters.*

> *CVIL10: Yes, I noticed that the voice increased when the word you would teach was pronounced. What came before and after was normal, but the volume increased when **absorbed** was pronounced, so I focused.*

> *PVIL13: Maybe the tone of voice got a little higher; I mean, it focused on the word…I noticed that the word was important.*

Here, the three learners focused on the emphasised word (*selective attention on AIM*) and identified it as the target lexical item for later explanation. SIL25 drew on AIM to recognise the unfamiliar vocabulary item and maximise her concentration on the relevant context to infer its meaning (*inferencing*). Additionally, she exploited this strategy further to attend to the phonological aspects of the word (selective *attention on pronunciation*). CVIL10 also paid

attention to the word's pronunciation when spoken aloud, demonstrating *selective attention on pronunciation*, although she did not explicitly report it here. CVIL10 confirmed using this strategy when asked about her feelings towards the AIMCS explanations at the end of the interview. CVIL10 stated, "*Sure! The increased volume helped me to acknowledge the pronunciation and concentrate on the spelling*". The learner provided more evidence that she has employed *selective attention on pronunciation and spelling*. CVIL10 also employed the *directed attention* strategy to maintain her attention during the listening process, given that the information presented "*before and after was normal*".

CVIL9 also employed selective *attention on AIM* but seemed to have quite a good level of metacognitive insight compared to her peers. She declared:

> *Yes, and also in* **theory**. *Concerning myself, any sound that is louder than usual or has emphasis draws my attention. Why was the volume increased or emphasised here? To indicate that the word was essential.*

Once CVIL9 noticed the increase in volume, her attention was maximised, and she employed the *wondering* strategy to figure out the reason for this sudden increase and concluded that this word is essential for understanding the relevant context. Immediately, the learner noticed the condition that would increase her focus on comprehending the meaning (*self-management*).

Imagining

For more proficient learners, *imagining* was one of the strategies employed by both SI and VI learners. For example, SIH29, CVIH12 and PVIH2 exploited this strategy when they heard the

sentence that had the word ***a stroll*** for the first time. The following transcript segments illustrate this strategy use:

*SIH29: I started to imagine a place. What would that place be like, and who would I go with for **a stroll**? What should I bring, and what kind of food would I eat? Was it far or near my house? How would I get there by car or on foot? …*

R: What did you do after that?

SI29: I tried to determine whether it was an adjective or a noun, but I could not figure it out.

CVIH12: Wondering! Questioning! What did it mean? It is a new word. I tried to imagine the pronunciation and spelling. I kept asking myself about the meaning. Then, I asked you, and you told me to wait for the explanation after answering the comprehension questions.

PVIH2: I tried to figure out its meaning; I tried to imagine what it could be…

R: What did you imagine?

PVIH2: The pronunciation of the word sounded soft; I liked it. Based on that, I associated it with something pleasant

On the surface, the three learners seemed to employ *imagining,* which possesses an element of wondering and uncertainty as defined earlier; h*owever,* the VI learners used it differently from how the SI learners did. For instance, SIH29 mentioned "*imagine*", but the scene she created to arrive at the meaning reflected aspects of visualisation and included typically visually based

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elements, such as pictures of places, people, and food. She created a vivid mental image with a rich storyline based on her prior experience (*recall prior knowledge*), but it was a false image because she mistakenly assumed that ***a stroll*** meant **a picnic**. Next, SHI29 used the *selective attention on part of speech* strategy to figure out if the lexical item "was *an adjective or a noun*". Concerning the VI learner, CVIH12's use of *imagining* seemed to lack visual elements: "*tried to imagine the pronunciation and spelling*". Initially, she combined *wondering* and *imagining*. She noticed the unfamiliar word, ***a stroll***, and started questioning its meaning. At the same time, she went through various mental processes to figure out the meaning and learn different aspects of the target word. She exploited *imagining,* attending to orthographical aspects of the word (*selective attention on spelling*) and the phonological aspects (*selective attention on pronunciation*). Then, she continued to make several attempts to arrive at the meaning (*making efforts),* including turning to *seeking help* from the teacher. Like CVIH12, PVIH2's *imagining* was void of visual elements but was associated with her feelings. While searching for the meaning, she tried to imagine "*the pronunciation of the word*" (*selective attention on pronunciation*) and created a connection (*making connections*) between how the word was pronounced and its meaning. For her, ***a stroll*** was articulated "*softly*"; hence, she associated its meaning with pleasantness.

Concerning lower proficiency learners, only SIL18 used *imagining* when she encountered the unknown vocabulary item, ***a stroll***. Like CVIH12, she combined *wondering* with *imagining*, which is evident in this quotation: "*It was an unfamiliar word. I did not know it, and I wondered what it meant. I imagined it had to do with relaxing, with being away from pressure*". Here, the learner resembled her more proficient counterpart and questioned the meaning of ***a stroll*** when she realised her lack of knowledge of the word; meanwhile, she exploited *imagining* by exploring

different notions that could be relevant to the word's meaning and employed the *making connections* strategy to encompass these probabilities under the concept of relaxation.

5.4.2.1.1.2 Summary of SRI findings: Listening to the passage

To sum up, higher and lower proficiency learners employed various strategies when encountering the unfamiliar vocabulary ***a stroll*** and ***absorbed*** while listening to the passage for the first time. There were some subtle differences in strategy use between high proficiency learners and low proficiency learners. While both groups employed almost similar strategies while listening to the passage, such as *monitoring*, more proficient learners combined *monitoring* with a wider range of strategies than less proficient learners. In relation to sight, noticeable differences emerged in the use of the *imagining* strategy. In attempts by both more and less proficient learners (VI and SI) to arrive at the meaning before receiving the teacher's explanations, *making connections and selective attention on AIM* strategies were the most frequently used. Concerning *making connections,* learners exploited various connections to establish a link between unfamiliar lexical items and familiar words, similar starting sounds, concepts, or feelings to aid comprehension. Regardless of sight, learners across the two levels of proficiency exploited concepts such as happiness, health, etc., to *create connections* that aided their comprehension. All learners employed the strategy *selective attention on AIM* strategy except two SI learners with higher proficiency, one SI learner with lower proficiency, and one PVI learner. The increased volume drew learners' attention to the target lexical item and its form, consequently maximising their concentration. The two SI learners with the highest listening scores, SIH24 and SIH27, might not have recognised AIM because their higher proficiency perhaps led them to use multiple strategies or because they paid insufficient attention while listening. The failure of SIL23 and PVIL14, lower

listening proficiency learners, to notice AIM could have arisen from a lack of attention due to the increased cognitive demand of the task. *Imagining* involving a sense of questioning while listening to the passage was another strategy that emerged from the analysis. However, this strategy was mainly used by only four higher (VI and SI) and one (SI) lower proficiency learners, yet it is interesting because VI learners used it differently. CVIH12 and PVIH2 used this strategy with a sense of *wondering* to aid their understanding and focus on phonological and orthographical aspects of the word. Unlike their SI peer, SIH24, their image was void of visual elements.

5.4.2.1.1.3 While Listening to the Teacher's Vocabulary Explanations

The analysis indicated that the most frequently used strategies to comprehend the teachers' explanations by learners with higher and lower listening proficiency were *visualisation, monitoring* and *selective attention on CS.* The *directed attention* strategy was used mainly by VI learners. Moreover, higher proficiency learners seem to use a wider range of strategies than lower proficiency learners regardless of sight. The following section compares higher and lower proficiency learners' strategy use while listening to the teacher's CS or AIMCS explanations.

<u>Visualisation</u>

Visualisation was frequently used by learners with higher and lower proficiency to comprehend the teacher's explanations for both target lexical items, ***a stroll***, and ***absorbed***. Although CVI learners used the same strategy, the way they used it was different from how SI learners used it, regardless of proficiency level. The following section discusses the strategy use among the learners, highlighting how CVI learners used this strategy differently.

More proficient learners tried to move beyond the confines of the teacher's explanation by adopting proactive learning behaviour through exercising *visualisation* to comprehend the

teacher's explanations. For instance, SIH24 used various strategies in response to the teacher's CS explanation for the target lexical item, *a stroll*. She stated:

> *I translated the sentence and started picturing the scene in my mind- taking a break or **a stroll**. I stopped studying. I took a break or **a stroll** around the house and smelled fresh air… Then, based on your explanation, I double-checked the accuracy of my translation, placed the word in a sentence, and then double-checked it again.*

Initially, *SIH24 exploited* the teacher's example (rely on examples). Then, she turned to a more learner-focused strategy, translation (i.e., translating the entire example sentence to Arabic), to succeed in creating a vivid mental image of herself engaged in taking *a stroll* (*visualisation*) to ensure comprehension. Next, she moved on to using the monitoring strategy and formed a sentence including the target lexical item *(creating examples).* Then, she went back to *monitoring* to guarantee comprehension and retention. The learner also used the *selective attention on CS* strategy as a milestone for building her vibrant image before translating the example sentence, as she declared*: "… it clarified the meaning and helped me imagine the scene".* Like SHI24, CVIH12 combined *selective attention on CS* and *visualisation.* She behaved to a certain extent like SIH24 but did not depend on translation as mentioned below:

> *I tried to put the word in a sentence. I visualised us gathering and going to "Albar* [camping in the desert]*".*

While listening to the teacher's explanation, CVIH12 first exploited the Arabic word (selective attention on CS) and relied on the teacher's example *(rely on examples)* to ensure

understanding of the exact meaning of the word (the quotations below illustrate these strategies). Next, she took advantage of the CS and attempted to build a sentence *(creating examples)* to aid the mental image she created *(visualisation)* by establishing a connection that entails a familiar cultural concept, camping in the desert. How she pictured things seemed simple, lacked visual elements and depended on a familiar concept. Next, to consolidate the learned vocabulary, she stated:

CVIH12: By listening and memorising the words... When you translated the words, I tried to understand as many words as possible and the revisions helped me discover my ability to retain them.

R: How did you memorise the word?

CVIH12: When you explained the word and placed it in a sentence, I connected it with something relevant, such as a garden or camping. I associated it with a landmark.

Similar to SIH24, CVIH12 undertook various mental processes to cement **a *stroll*** in her memory. She used *directed attention, selective attention* on *CS, making connections* to aid retention of the new word. To cement the target lexical item, CVIH12 adopted the same strategies she used to comprehend the explanations. The learner attentively listened to the CS explanation (*directed attention*), exploiting the Arabic-translated word and the teacher's example (*rely on examples*) to create a connection in her mind that associated the word with a "landmark" (i.e., a recognisable place in the Saudi desert, Albar). Finally, CVI12 used the *reviewing* strategy by exploiting the previously taught materials the teacher offered her.

PVIH2 was as active as SIH24 and CVIH12 and exploited *visualisation* while listening to AIMCS explanations. She clarified:

> *I felt as if I was sitting among lots of books and papers, completely immersed. I imagined myself among books and papers, and I held something every once in a while.*

Here, the student adopted a proactive approach involving *visualisation*. Shifting from *imagining* what she had used before receiving the explanation to *visualising*, she created a mental image that lacked any sense of questioning the meaning of ***absorbed***. At the same time, an ongoing process of comprehending the English explanation and committing the word to her memory took place. She stated:

> *I created mental pictures, and my brain started to draw certain things depending on the topic and the word. This is something that usually happens when someone explains something to me. For example, I start visualising the people, their looks, and their places. Immediately, I created a scenario in my mind. I do not know how to explain it further…*
>
> *…*
>
> *When you add the CS, you comprehend more and faster.*
>
> *…*
>
> *Usually, when I like a word, I memorise it and cement it during the explanation. I tried visualising the word and created a connection in my mind until I memorised it…I visualised the spelling of the word…*

The learner affirmed that *visualisation* was crucial for her to create a link (*make connections*) that assisted in producing a vibrant mental image, including a scenario being "a*mong books and*

papers", to ensure comprehension of the explanation and retention of the word and its meaning. Also, she used the *selective attention on CS* strategy to facilitate understanding the English context and create a precise mental image of being ***absorbed.*** PVIH2 continued to behave actively to attend to the word's spelling (*selective attention on spelling*). A combination of *visualisation* and *recall prior knowledge* strategies was adopted to assist in predicting the word's spelling and cement the word. She tried to picture how to spell ***absorbed*** by recalling her prior phonological and orthographical knowledge: "*I depend on my prior knowledge and the rules I have learned from the school curriculum"*.

Concerning lower listening proficiency learners, five out of eight learners used *visualisation* while listening to the teacher's explanation. When CS explanation occurred, SIL25, SIL18 and CVIL9 resembled higher proficiency learners and exploited *visualisation* to comprehend the meaning of the target lexical item, ***a stroll.*** The segments below illustrate the strategy use:

SIL25: I tried to visualise the situation.

R: How?

*SIL25: For example, go out, **a stroll**, and words like these. I tried to connect it to a situation to recall it…I imagined we would go to the garden.*

*SIL18: I was trying to visualise the situation, the "nuzha (**a stroll**)". I visualised my family and I sitting in a garden.*

*CVIL9: When you said "nuzha means (**a stroll**)", I started thinking of the difference between **a stroll** and a picnic... Then, I imagined going to "Albar* [camping in the desert]*" and associated it with **a stroll**.*

R: Why "Albar [camping in the desert]*"?*

CVIL9: I felt that when a person goes to "Albar [camping in the desert]*", it changes his mood, and **a stroll** also helps you relax and feel happy.*

Here, the three learners adopted proactive learning behaviour and drew on *visualisation* to understand the meaning. SIL25 and SIL18 created a similar mental image, which involved a scene in "*a garden*" to picture taking **a stroll**. However, SIL25 was more strategic when she combined *visualisation* with the *making connections* strategy to comprehend the meaning and cement it simultaneously. Initially, she connected the unfamiliar lexical item with relevant words, such as "*going out*" and "*garden*", and then visualised the scene to ensure comprehension and retention. Like SIL25, CVIL9 also used *making connections* and *visualisation* strategies. CVIL9 behaved like her more proficient counterpart CVIH12 and tried to differentiate between a familiar lexical item, "*a picnic*" (*recall prior knowledge*), and **a stroll** by linking it to a familiar cultural concept, "*Albar* [camping in the desert]". The reason for creating this connection seemed to be that going camping or taking **a stroll** is a source of relaxation and happiness. Like CVIH12, CVIL9 created a simple mental image that differed from PVIH2, SIL25 and SIL18's images in its lack of visual representation. The lack of visual elements in CVIH12 and CVIL9's mental images indicated that vision deficit impacted CVI learners' strategy use.

While listening to the AIMCS explanation, learners with lower listening proficiency also used *visualisation*, just as those with higher listening proficiency did; however, they combined it

with fewer strategies in comparison to higher listening proficiency learners. When SIL25, SIL23 and CVIL5 were asked about what went through their mind during the explanation, they reported the following:

> *SIL25: I tried to understand your talk and I understood the word when you used in the sentence.*
>
> *R: What else?*
>
> *SIL25: I imagined a person who was **absorbed** in studying. I associated it with being absorbed in studying since that was my current situation.*
>
> *CVIL5: I was **absorbed** in something or studying. This word depicted our situation, but we did not know it in English.*
>
> *SIL23: I thought of a person **absorbed** in his life or something he loves and then how to put the word in a sentence.*

Here, initially, SIL25 relied on the teacher's example (*rely on examples*) to understand the meaning. Then, she moved on to picturing a mental image that depicted the condition of being ***absorbed*** in studying in association with personal experience (*visualisation* and *making connections*). SIL23 created an image similar to SIL25's but tried to go beyond the teacher's confinements and tried to "*put the word in a sentence*" (*creating examples*). Like SIL25, CVIL5 depended on *visualisation* and *making connections* to create a mental image based on personal experience, as she mentioned: "*This word depicted our situation*". Like her more proficient peers, CVIH12 and CVIL9, she created a simple mental image that lacked visual representation. To

ensure retention, CVIL5 used a combination of *repetition* and *follow-up* as she reported, "*I memorise while listening to the explanation… My classmates and I used to revise the words together after class to avoid forgetting them… I use it with my classmates…*". SIL23 used the same combination: "*I repeated the word… When I went home, I tried to recall it. I wrote the word and its meaning and made a sentence…*" while SIL23 only *"repeated the word*" in her mind.

Monitoring

Monitoring was another strategy that both higher and lower proficiency learners used while listening to the teacher's explanations. Five out of eight high proficiency learners used this strategy. For instance, SIH20 used *monitoring* extensively while listening to the AIMCS explanation. Her responses showcased critical thinking and contextual awareness, indicating a high level of metacognitive insight. The transcript extracts below illustrate this:

> *Was my guess correct? When could I use it? Could I use it in different situations, or is it limited to specific contexts? … For example, when I talk about a positive situation like being **absorbed** in worship, could I use it or not? Also, could I use it in a negative situation?*

SIH20 adopted a questioning attitude (*wondering*) while listening to the AIMCS explanation. She did not only question the guess she made before the explanation but also went beyond this and thought about the word usage and the context in which the word could appear. From the quotation, it can be inferred that she used *selective attention on part of speech* in order to figure out the word usage. At the same time, the learner was coping with the English explanations and cementing the word by employing multiple learning strategies. She clarified:

> *… knowing the word's meaning and how to use it in a sentence helped me cement the word more than writing it. I visualised the word as a picture and associated it with its Arabic meaning; therefore, I would remember it... I tried to put it in a sentence to cement*

it in my mind. For instance, I incorporate the word into a sentence that depicts the image I have visualised, ensuring that I would not forget it, as I now have both the image and its description.

Here, the learner seemed to exploit the teacher's materials to the maximum, but at the same time, she acted autonomously to try to guarantee comprehension and retention. She depended on the teacher's example (*rely on examples*) and combined it with the *selective attention on CS* strategy to cement the word. Additionally, the learner referred to the word's use in a sentence, indicating that she was keen on learning the target lexical items' meaning and form. As an active learner, she continued to employ more strategies and moved beyond the teacher's input. She created a mental picture of someone ***absorbed*** in worshipping Allah (i.e., God) (*visualisation*), then linked it to the Arabic meaning that the teacher provided. Moreover, she used the *create examples* strategy to transfer the simple mental image to a vibrant image through the sentence she created, ensuring further consolidation.

CVIH6 also used *monitoring* while listening to the AIMCS explanations. The following quotation illustrates the strategy use:

*When you started explaining it, I also felt confused. Then I said OK, it is the same print. It is the same pronunciation as the word observed. Where is the difference, **absorbed** and observed?*

…

*OK, when you explained it to me and did the code-switching part. I knew for a fact that "(**absorbed)** means munngamis".*

…

*The English explanation stuck with me, actually; that is why I use **absorbed** more now…*
But I think when you revised them with us the next time you visited and gave us the test, it
made it easier to remember.

Here, CVIH6 adopted the *monitoring* strategy and combined it with *selective attention on*
spelling and *pronunciation* to ensure learning the unfamiliar lexical item and distinguish between
it and the word she had confused it with, *observed,* which is in her language repertoire. CVIH6,
like SIH20, acted autonomously when she tried to *create connections* between **absorbed** and a
word she learned before (*recall prior knowledge*). She also exploited the *selective attention on CS*
strategy to eliminate confusion and ensure comprehension and retention. The potential reason for
this confusion could be that the learner knew *observed* which has a similar starting sound and
vowel length (i.e., short vowel). Moreover, the similar "ed" ending could have resulted in
perceiving the words as similar. The learner affirmed that despite the confusion, she managed to
learn and cement the word through the AIMCS explanations. She used various strategies to cement
absorbed in her memory. The learner exploited the *reviewing* strategy and took advantage of the
teacher's revisions and tests to cement the word further to guarantee retention.

Monitoring was also used by learners with lower listening proficiency, but they used it less
frequently than those with higher listening proficiency. Additionally, less proficient learners
employed this strategy alongside fewer other strategies compared to their more proficient peers.
This strategy was mainly used by VI learners. The segment below exemplifies this strategy:

PVIL13: At that time, I was thinking about my prediction, and then I said no, that was wrong, so I listened attentively. I wanted to know the meaning. I wanted to ask you immediately to make sure. I started to concentrate. I wanted to arrive at the meaning.

R: Ok, what else?

PVIL13: When you explained it, I tried to memorise the word so that I would not think about anything irrelevant.

PVIL13 employed the *monitoring* strategy during the explanations to verify her guess and correct her comprehension. She acknowledged that she did not figure out the correct meaning; thus, she used the *directed attention* strategy to ensure comprehension. Eager to know the meaning of the unfamiliar lexical item, ***a stroll***, she wanted to *seek help* from the teacher but then changed her mind and decided to exercise *waiting* and "*concentrate*" more, given that the word's meaning would be provided in the L1 (*selective attention on CS*). Once she figured out the meaning, she employed *a* combination of *repetition* and *follow-up,* which is evident in this quotation:

> *I repeated it in my mind during the class…. Moreover, whenever I go out or at home, I try to create a situation so I can practise using the word, and it becomes engraved in my mind*

CVIL10 also used *monitoring* and acknowledged where she went wrong, as she mentioned: *"thought my answer was correct, but I was shocked* [laughed] *when I noticed it was not. I associated it with going out; I thought it meant a picnic".* The learner was able to spot her mistake, which was confusing the meaning of ***a stroll*** with "*a picnic*". Like PVIL13, she exploited *repetition* and the *follow-up strategy* to achieve retention. She stated:

CVI10... I repeated it until I memorised it... After that, I tried to put it in a sentence to cement it more in my mind.

R: In class?

CVI10: No, when I went home.

R: Do you remember the sentence?

*CVI10: Yes, I think I told my sister, "I am **absorbed** in your love" [laughed].*

S*elective attention on CS*

S*elective attention on CS* was also frequently used by learners of both higher and lower listening proficiency. All learners relied on this strategy to arrive at the meaning and cement the unfamiliar lexical items. Concerning more proficient learners, SIH24 exploited the *selective attention on CS strategy* to eliminate confusion when learning the meaning of **a stroll and** cementing it. She clarified: "…*when Arabic was used, it assured me that the word I had visualised and cemented was correct"*. Focusing on the word the teacher translated into Arabic made her confident that she had visualised and retained the required target lexical item. Like SIH24, CVIH12 also exploited *selective attention on CS* to ensure that the mental image she had created for **absorbed** was accurate, as she declared: "*The translated word helped me visualise and cement the image and the words*". CVIH6 also employed the same strategy and agreed with her peers that paying attention to the Arabic word made the meaning clear and guaranteed retention, as she declared:

*When you said that the meaning of "munngamis" is **absorbed**, I kept repeating the meaning in my mind, "munngamis munngamis munngamis". Then, I put it in an example sentence: I am absorbed in work.*

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Here, CVIH6 relied on *selective attention on CS* and combined it with *repetition* to ensure retention of the meaning. Furthermore, knowing the Arabic meaning allowed her to go beyond the teacher's input and use the *creating examples* strategy to guarantee comprehension and retention further. PVIH2 also agreed with her peers and added: "*It helped me make the connection, memorise the word, and also it helped me to know how to use it in a sentence*". Like her more proficient counterparts, the learner took advantage of CS and exploited it further to attend to an essential vocabulary learning aspect, part of speech (*selective attention on part of speech*).

For lower listening proficiency learners, *selective attention on CS* was essential in aiding their comprehension of the teacher's explanation and retention of unfamiliar vocabulary items. SIL25 reported: "*…only a few sentences were difficult. Also, the Arabic words helped a lot*". SIL18 agreed with SIL25 and affirmed that "*the Arabic word with the example helped*" her to understand the unfamiliar lexical item and "connect it to its English word". She exploited the Arabic-translated word and the teacher's example (*rely on examples)* and combined them with the *making connections* strategy to achieve comprehension. Like SIL25, CVIL9 depended on the *selective attention on CS* strategy for comprehending and *creating connections*. She clarified that CS assisted her in creating "*a connection between the English word and something that could remind*" her of it, "*Albar* [camping in the desert]". PVIL13 also highlighted that "*a bit of Arabic was a must to comprehend and cement your sentence*". PIVL14 agreed and affirmed that exploiting the *selective attention on CS* aided her comprehension and retention of the target lexical item.

Directed attention

Directed attention was mostly used by lower listening proficiency learners to cope with the English explanation and arrive at the meaning of the target lexical item. While listening to the

CS and AIMCS explanations, PVIL13 attended to the teacher's talk and ignored any distractions. She mentioned: "*I listened attentively*" "*I was listening to you*" to arrive at the meaning. PVIL14 also maintained attention and "*was only listening*" to the CS explanations. SIL23 also employed the *directed attention* strategy, yet she combined it with *repetition* to cement ***a stroll.*** She stated: "*I was trying; I listened and repeated the word in my mind*". CVIL5 reported: "*I tried to listen and understand. As much as I listened and understood, I tried to memorise*". Like SIL23, CVIL5 listened attentively while trying to cement ***absorbed*** using the *repetition* strategy. It is worth noting that among the higher listening proficiency learners, only VI learners used the directed attention strategy. CVIH12 exploited the *directed attention* strategy and, like SIL23 and CVIL5, combined it with *repetition* to commit a ***stroll*** to her memory. When asked how she handled the English explanation, she declared: "*By listening and trying to memorise the word*".

5.4.2.1.1.4 Summary of SRI findings: Listening to the teacher's explanations

To summarise, regardless of sight, higher and lower proficiency learners frequently used *visualisation, monitoring* and *selective attention on CS* while listening to the teacher's CS and AIMCS explanations. Despite the commonalities between these learners in using these specific strategies, higher proficiency learners used them with a broader range of other strategies. Lower proficiency learners exploited these strategies but combined them with fewer other strategies, such as *repetition* and *follow-up.* Concerning *visualisation,* vision deficits seemed to impact the use of this strategy among CVI learners regardless of their proficiency levels. While SI and PVI created images that involved visual presentation, CVI learners' images lacked visual elements and were associated with cultural concepts or personal experiences. While listening to the vocabulary explanations, the *monitoring* strategy was also used by most of the more proficient learners, and

mostly by VI less proficient learners, to verify comprehension. *Selective attention on CS* was also frequently used among higher and lower proficiency level learners. The Arabic meaning of the target lexical item played an essential role in establishing a link between the L1 and its L2 equivalent, creating accurate mental images and guaranteeing retention of the target lexical item. Lastly, *directed attention* was employed largely by learners with lower listening proficiency to attend to the teacher's explanation and avoid any distractions. Additionally, only VI learners with higher listening proficiency exploited this strategy to maintain attention and comprehension. The potential reason for these learners exploiting this strategy could be to compensate for their vision deficit or to cope with the cognitive demands of the listening task.

5.4.2.2 Analysis of Students' perceptions of the two teaching approaches

Learners' perceptions of the helpfulness of the two teaching approaches (CS and AIMCS) were explored through thematic analysis (see Section 4.9.2.3 in the Methodology Chapter). Four main themes emerged: improved self-efficacy, effectiveness of CS, effectiveness of AIMCS and learning preference. Table 15 presents the codes used in the analysis and their definitions.

Table 15 Themes and Codes of Thematic Analysis of Students' Perceptions

Theme	Code	Definition
Improved self-efficacy	Confidence in completing the task successfully	"an individual's belief that they are able to "organise and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3)
effectiveness of CS	Improved comprehension and retention	Improvement of comprehension and retention through the teacher's CS explanation
Effectiveness of AIMCS	Improved attention and comprehension	Improvement of attention and comprehension through the teacher's AIMCS explanation.
Learning preference	CS (mode 1) AIMCS (mode 2)	The mode of vocabulary instruction the learners found most engaging to aid their comprehension,

5.4.2.2.1 Improved self-efficacy

One of the main themes that emerged from the analysis was related to confidence in completing the task successfully, interpreted as improved self-efficacy. Self-efficacy is defined by Bandura (1997) as "an individual's belief that they are able to "organise and execute the courses of action required to produce given attainments" (p. 3). In their own words, students with higher and lower proficiency levels asserted their beliefs in their improved ability to successfully and accurately use the target lexical items in the future, as shown in the following quotations from higher proficiency learners:

> *SIH24: I have started using it in real-life situations… I went to the hospital to visit one of my relatives and asked the nurse, "Can I take this patient to take a stroll?".*

> *CVIH6: Yes, yes, and that happened to me with the word **absorbed**… Ok, so I feel confident because if I open the dictionary and look for definitions for the word absorbed, I would have many meanings for this word. So, when you did the code-switching part, I would confidently say I was **absorbed** in doing this. Ok, since I know what it means.*

Here, it can be implied that the teacher's explanations played a vital role in increasing the two learners' self-efficacy. SIH24 strongly believed in her ability to use *a stroll* correctly in a different context. She proved her competence by illustrating how she exploited the taught lexical item by requesting to take her sick relative for *a stroll*. CVIH6 also showed that she felt competent in using the taught lexical item, *absorbed,* by placing it in a sentence. She clarified that her confidence arose from knowing that if she searched for the word in a dictionary, she could spot the definition applicable to the context in which she intended to use it without hesitation. Like her peers, CVIH12

provided an example sentence to reflect her competence in using the target lexical item, ***a stroll***: "*By the end of this year, I will call my father to go for a stroll*".

Learners with lower proficiency voiced viewpoints similar to those of their higher proficiency counterparts. All learners believed they could use the new target vocabulary accurately and efficiently. For example, PVIL14 responded enthusiastically when asked about her confidence in using the new vocabulary in the future, saying, "*Why not!*". From her viewpoint, if any word were explained, she would add it to her "*vocabulary repertoire*". She provided further evidence and created an example to reflect self-efficacy, *"I am **absorbed** in studying"*. CVIL5 behaved similarly and provided further evidence by exploiting ***absorbed*** in real-life situations, such as interacting with her classmates. Responding to her classmates' text messages by saying: "*I am **absorbed** in studying*", confirms retention, comprehension and successful use of the new vocabulary item. CVIL9 agreed with her counterparts and affirmed that the CS explanation "*Absolutely!*" increased her confidence in using the target lexical item, a ***stroll***. She elaborated that her firm belief that she could use the target lexical item stemmed from knowing the exact meaning of the word through CS, as she clarified: "*I got this confidence after I knew the word and its meaning. I mean, **a stroll** is not ordinary in Arabic; it is rare. Most of the people say a picnic*". CVIL9 provided more evidence that the teacher's explanations led to her success in distinguishing between ***a stroll*** and "*a picnic"*; hence, she definitely can use the new word in the future. She stated: "Now *I know the exact meaning: a picnic differs from **a stroll** in Arabic and English. So, in a sentence, if I meant "nuzha", I would use **a stroll**, not "rihlah" [a picnic]. Do you understand me?"*

5.4.2.2.2 Effectiveness of CS

Another theme that emerged from the analysis was related to enhancing learners' comprehension and retention, interpreted as the **effectiveness of CS**. The qualitative data highlighted that employing CS explanation positively impacted the learners' understanding and retention of the target lexical item, ***a stroll***. Concerning higher proficiency learners, SIH24 clarified: "*I cannot memorise without visualising the scene in my mind… when Arabic was used, it assured me the word I have cemented and visualised was correct*". SIH24 seemed aware of the conditions that maximised her comprehension and retention, *"visualising"*, but she was hesitant about the accuracy of the mental image she created. Exploiting CS impacted SIH24 learning by assuring her that she understood the meaning of the target vocabulary item and consolidated it using an accurate mental picture. PVIH2 had a similar viewpoint regarding using CS. She affirmed that the presence of the L1 word's meaning, "*nuzha*" (***a stroll***), was essential to create a connection that aided her comprehension and retention. SIH24 and PVIH2 were aware of their strength in achieving comprehension through *visualisation*, so once they noticed the presence of an element that would maximise their understanding and retention, they exploited it (*i.e., CS*). CVIH6 provided more evidence and mentioned:

> *...because in that way, I would know where to put it in context. So, when someone tells me we are going for **a stroll**, I will understand that she means "nuzha" because you have said it in that context... I think I will remember it well.*

Here, CVIH6 stated that CS enhanced her comprehension and helped her to focus on the form, mainly part of speech. Moreover, using the Arabic meaning and integrating it within the listening

material during the explanation guaranteed the learner's comprehension and retention of the word (i.e., "*advice to help you*" means نصيحة *to help you*").

As for higher proficiency learners, CS explanations also positively impacted less proficient learners' comprehension and retention. SIL18 agreed with her more proficient counterparts and provided more evidence that the CS explanation "*made the meaning more apparent*" and aided her *visualisation;* consequently, she was able to create a connection and cement the word: "*I prefer that someone gives me the Arabic meaning of the word so that I can practise the English word. I cannot make a connection when the whole context is in English*". Like PVIH2, SIL18 clarified that she managed her L2 vocabulary learning by creating a link between L1 and L2. PVIL14 agreed with SIL18 that exploiting CS made the "*meaning became more apparent*" and enhanced comprehension. Moreover, she confirmed that if this mode of vocabulary explanation were not offered, she "*would face difficulty understanding and connecting the new word to the sentence*".

5.4.2.2.3 Effectiveness of AIMCS

A third theme related to enhancing learners' attention and comprehension was the effectiveness of AIMCS. AIMCS instruction had a positive impact on learners' attention and comprehension. Higher and lower proficiency learners reported that AIMCS played an essential role in increasing their focus on the target lexical items, including other aspects of vocabulary learning such as pronunciation and spelling besides comprehension. SIH20 mentioned that increasing the volume made her "*realise the importance of the word*" for achieving comprehension. Consequently, she started to create a mental picture of the word and consider its form (part of speech and pronunciation), as she stated: "I *started to imagine the word and how it fits in the context and what came before it. It also drew my attention to the pronunciation*". She also stated that using one's "*mother tongue facilitates comprehension*". It is evident that AIMCS

explanation increased SIH20's concentration level and made her focus on the unfamiliar lexical item, including its phonological aspect and grammatical category. As soon as she attended to the target item, she moved on to employ various strategies and exploit the L1 word to arrive at the meaning and cement it.

CVIH12 agreed with SIH20 that the increased volume made her immediately notice that "*the word was important*" and focused on an essential aspect of vocabulary learning "*pronunciation*". She also asserted that it drew her attention to the word's spelling: "*When I heard it, I also paid attention to the spelling, o b s e r v, a b s o r b d*". The learner's attempts to spell the word indicated that AIM maximised her attention on the word's form. Besides drawing on AIM to focus on essential vocabulary learning aspects, CVIH12 affirmed that teacher exploitation of CS besides AIM positively affected her comprehension and retention and enabled her to create a mental image of her brother entering her room while she was reading a novel and telling him: "*Please! I am absorbed in reading my novel. Why did you enter before you knocked on the door?*".

Lower proficiency learners agreed with higher proficiency learners and reported similar viewpoints. SIL25 mentioned that AIMCS helped her recognise and focus on the unfamiliar vocabulary and increased her focus on the relevant context to comprehend the meaning: "*… and pay attention to the sentence to understand*". Moreover, she described it as "*good*" because, similar to her more proficient counterparts, it made her "*focus on the word, its meaning, and the sound of the letters, the pronunciation*". CVIL10 also confirmed that AIMCS explanations positively affected her concentration and comprehension. Moreover, it assisted her in attending to the spelling of the word. The following quotation presents her viewpoint:

The increased volume helped me to acknowledge the pronunciation and concentrate on the spelling. Concerning the shift to Arabic, I know Arabic better than English, so I need to know the words first in Arabic and then in English. I would not understand if you did not translate the L2 word. I might understand, but I would not know the exact meaning.

CVIL10 declared her lack of English vocabulary knowledge by highlighting that she knows *"Arabic better than English"*. Therefore, using the AIMCS approach was beneficial in helping the learner achieve attention, leading to comprehension. PVIL13 agreed with the other learners and perceived the instruction as beneficial, mainly because it made her sense *"the importance of this word compared to the others"*. Acknowledging the target item that required attention to achieve comprehension alerted PVIL13 to maximise her focus on this particular item because it would aid her understanding of the relevant context, as she stated: *"It showed that I had to focus on this; it would help me understand the sentence"*.

5.4.2.2.4 Learning preference

Learning preference, which pertains to the mode of vocabulary instruction the learners found most engaging to aid their comprehension, also arose as another main theme. Generally, regardless of sightedness, most learners declared they preferred the AIMCS explanation over the CS explanation. They affirmed that using CS provided a comprehensive understanding of the word (see Section 5.4.2.2.2). However, AIM was the essential element that boosted their concentration, which led to focusing on the target items and relevant context, achieving successful comprehension and retention. Higher and lower proficiency sighted learners both preferred AIMCS vocabulary instruction. The following examples from SIH21 and SIL23 highlight their preference. SIH21 clarified:

Also, that was a new technique, and it suited me. It was more suitable than the first one because the increased volume was like a signal to focus more on the sentence. Indeed, the CS was appropriate because I needed to understand it in both languages, but I am a person who daydreams a lot in classes, so increasing the volume drew my attention to the important word or sentence.

Here, SIH21 was aware of the difference between the two instructional modes and how the combination of AIM and CS impacted her attention, comprehension, retention and execution of the task. Within a classroom environment, SIH21 identified herself as a daydreamer reflecting the learner's awareness of her learning needs and the conditions that maximised her comprehension (i.e., *self-management*). AIM helped SIH21 overcome a personal challenge as a learner, daydreaming, by maintaining focus. SIH21 believed that CS was essential to arrive at the meaning. However, firstly, she needed to mitigate the lack of attention, which was accomplished through AIM. SIL25 agreed with SIH23 that the AIMCS explanation was more effective than CS since it increased her focus. Moreover, it helped her capture an essential aspect of vocabulary learning, pronunciation:

It helped me recognise and focus on the word to be taught and pay attention to the sentence to understand. I preferred it more than CS alone because it made me focus on pronunciation.

Turning to higher and lower proficiency VI learners, most learners, like sighted learners, preferred the AIMCS approach. However, their comments illustrate how the AIM aspect was

tailored to address their vision deficits. CVIH12 declared: "*As a blind person, I prefer it more than the first one… It made me notice that the word was important and helped me focus on the pronunciation*". It could be implied that this preference was due to enhanced concentration while listening, which was crucial for CVIH12 since she depended on listening to acquire knowledge. As an auditory learner, CVIH12 exploited AIM to the maximum and used it to capture different vocabulary learning aspects besides meaning, such as "*pronunciation*" and "*the spelling of this word*". CVIH12 believed she had to learn all aspects of unfamiliar lexical items to achieve comprehension and retention. Although that CS explanation gave her the exact meaning and part of speech of the word, she felt it was not as efficient as AIMCS. When she received the explanations for the unknown vocabulary, she wanted to know "*the spelling, pronunciation, part of speech in addition to its meaning*" to use the word in her "*daily life*".

PVIH2 agreed with her counterparts and echoed a similar viewpoint:

> *Absolutely! Because it grabs your attention and makes you concentrate. Then, when you add the CS, you comprehend more and faster*.

This quotation provides more evidence that proficient learners favoured AIMCS vocabulary instruction more than CS alone. For PVIH2, maximising concentration paved the way for the next step (adding CS), which increased and facilitated comprehension. PVIH2 reported on her challenge of maintaining focus, mainly while listening to long passages: "*I easily get bored, especially if the passages are too long. So, if I do not like the topic, I get bored, and I lose focus even if someone is explaining*". PVIH2 was aware of her weakness as a learner; consequently, she took advantage of AIM to mitigate boredom and maximise her concentration. As an auditory

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learner, PVIH2 claimed not to *"...depend on writing very much"* and who *"likes to create connections between things"* in her mind. Thus, using AIMCS equipped her with essential tools to overcome her deficit and personal and learning challenges, which was reflected in this quotation: *"I got excited and focused more"*.

Lower proficiency VI learners concurred with their proficient counterparts, favouring AIMCS explanation over CS. Similarly, they evaluated the technique in terms of increased attention and comprehension and how such a mode of instruction benefits learners with vision deficits. PVIL13 reported that she was "*fond of the technique*" since it maximised her focus by noticing "*there was something new*". Like her more proficient counterparts, PVIL13 judged that AIMCS vocabulary instruction increased comprehension and retention by exploiting both AIM and CS together. PVIL13 described AIMCS instruction as novel and commented that "*no one had used it before*". The learner seemed confident about her preference and stated that the AIMCS explanation was a better approach, especially if the task involved listening because it maximised" concentration and comprehension". Moreover, PVIL13 further explained that:

> *Because I depend on hearing more than anything else, I concentrate by listening attentively. A technique like this drew my attention to the listening, and when my attention was drawn, I concentrated more...*

Like her more proficient counterparts, PVIL13 identified herself as an auditory learner. Thus, AIMCS vocabulary instruction paired with aural input perfectly catered to this student's learning needs. She clarified that she had to listen attentively to acquire knowledge, so exploiting AIM heightened her concentration and made her aware of the listening comprehension process. Although PVI13 did not state it clearly, she referred to her vision deficit when she mentioned that

she had to "*depend on hearing*". CVIL5 echoed a similar viewpoint and clarified that as a VI individual, she learnt best through listening, as she pointed out:

> *As a blind person, I cannot view a projector, so this technique helped me notice that something important was being said. So, we can learn by listening without relying on things used by sighted learners.*

From the quotation, it could be implied that AIM gave the learner a sense of assurance; consequently, she could learn through listening without the fear of missing out on important information that aided her learning process. CVIL9 expressed similar views, declaring that the efficacy of AIMCS vocabulary instruction revolved around "*ease of comprehension*". She provided further evidence and stated that the AIMCS explanation made her acknowledge her "*hearing ability*" and consider it "*a sign of strength*" because it maximised her focus, which led to comprehension. AIMCS's approach made CVIL9 aware of the listening comprehension process, similar to her peers, PVIL13 and CVIL5.

It is worth noting that PVIL14 was the only VI learner who did not notice the AIM among VI learners and believed that increasing the volume would not effectively enhance attention, leading to increasing comprehension or focusing on the phonological and orthographical aspects of the target lexical items. She stated:

> *PVIL14: I only noticed the CS and prefer it because increasing the volume would not make a difference.*
>
> *R: You mean it will not make a difference in noticing the word and its pronunciation or spelling?*

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PVIL14: No, it will not.

The potential reason for receiving AIM negatively might be that the learner noticed that CS was exploited throughout all teaching sessions, which made her focus only on the Arabic word and ignore AIM. Moreover, using multiple elements to deliver the explanation, such as repetition of the audio recording and providing example sentences, was enough cognitive load for PVIL14 while listening to the teacher's explanation. Her words imply this: "*You used various resources, such as listening to the audio clips, providing examples, and translating words… It is amazing! You used different techniques to deliver the information, which helped you convey it to us clearly*".

5.4.2.2.5 Summary of Students' perceptions of the two teaching approaches

In summary, learners' perceptions of CS or AIMCS in terms of helpfulness revealed the following: 1) improved self-efficacy, 2) effectiveness of CS, 3) effectiveness of AIMCS and 4) learning preference. With regards to self-efficacy, both vocabulary instruction approaches had their merits in the eyes of participants and positively impacted the self-efficacy of both higher and lower proficiency learners (SI and VI). Both teaching methods increased their confidence in engaging with the L2 listening materials and reinforced their belief in their ability to accomplish the task. The effectiveness of CS pertained to the enhancement of comprehension and retention. The CS explanation positively impacted higher and lower proficiency learners' understanding and retention of the target lexical item, ***a stroll***. The explanation made the meaning of the target lexical item visible; thus, learners were assured that the images or connections they created to understand and cement the meaning were accurate. Considering the effectiveness of AIMCS, students with higher and lower listening proficiency levels agreed that the AIMCS approach maximised concentration. Additionally, the technique drew their attention to different aspects of vocabulary

learning (pronunciation, spelling, and part of speech). All these elements led to enhancing comprehension. Lastly, regarding learning preference, the most engaging mode of instruction to aid comprehension, the majority of learners deemed AIMCS to be a better approach than CS alone, a view that was particularly strongly expressed by VI learners. They affirmed that AIMCS catered to their vision deficits by exploiting their auditory skills through pairing AIM with CS, which elevated both attention and comprehension, making them aware of the listening comprehension process. Overall, there was a consensus that the AIMCS explanation was a novel technique that enhanced concentration, thus maximising comprehension and retention.

5.5. Summary of Qualitative Findings

The following points summarise the key findings from the qualitative analysis of strategy use among VI and SI, as well as their perception of the helpfulness of CS and AIMCS.

1. Overall, VI and SI learners used similar listening and vocabulary learning strategies under both instructional methods (CS and AIMCS).

2. VI learners employed certain strategies differently and used some that were either exclusive to them or predominantly favoured, reflecting their adaptation to vision loss and greater reliance on alternative sensory channels.

3. Higher proficiency learners, regardless of visual ability, employed a broader and more complex range of strategies compared to lower proficiency learners.

4. The CS approach promoted the *selective attention on CS* strategy, encouraging learners to actively engage with the teacher's explanations, examples, and L1 translations to verify the meaning.

5. The AIMCS approach promoted the *selective attention on AIM* strategy, encouraging learners to focus on pronunciation, spelling, and grammatical form by making the target words acoustically more salient. This was not achieved by CS alone.

6. Both teaching methods boosted learners' confidence and comprehension, but AIMCS was widely preferred, especially by VI learners, for improving concentration, integrating auditory cues, and enhancing comprehension and retention.

CHAPTER SIX: DISCUSSION

6.1 Introduction

This chapter discusses the findings reported in Chapter Five in light of the existing literature in the field of vocabulary learning theories. The main aims of the present study were, firstly, to investigate the impact of two modes of vocabulary instruction using aural input on short and longer-term vocabulary learning of Saudi VI and SI upper-secondary school EFL learners. Second, this study also explored how listening proficiency moderated the effects of vocabulary learning through the aural modality. Third, as repetition plays an essential role in vocabulary retention, investigating the effects of repetition on vocabulary learning was also a point of interest. In addition to these aims, this study sought to investigate VI and SI learners' strategy use in response to the two different types of vocabulary explanation and their perceptions of the helpfulness of these different teaching approaches. The sections that follow address the implications of this study's findings on the four main research questions.

6.2 RQ1: What are the effects of two types of vocabulary instruction (CS and AIMCS – artificially increasing the volume followed by CS) during aural activities on a) VI and b) SI learners?

This study examined the effects of two modes of vocabulary instruction paired with aural input (CS and AIMCS) on VI and SI learners. The results revealed statistically significant short-term effects of instructional condition, and although both teaching approaches demonstrated pedagogical advantages, AIMCS was more beneficial for both groups of learners. However, on a longer-term basis, both conditions showed similar effects on vocabulary learning gains. Moreover, significant short-term effects of Group were found, indicating that VI learners benefited more from

the intervention (both CS and AIMCS) than SI learners. However, this advantage towards VI learners disappeared in the delayed post-test.

The outcomes of this study hence confirmed previous findings regarding the short-term pedagogical advantages of CS, although these studies have tended to focus exclusively on SI learners (Tian, 2011; Lee & Levine, 2020; Zhang & Graham, 2020a). The short-term effects of teacher CS seem to support Kroll and Stewart's (1994) Revised Hierarchical Model of bilingual language processing. Learners in this study acquired their L2 after early childhood; therefore, a robust connection is likely to have existed between their "L1 lexicon and conceptual memory" (Kroll & Stewart, 1994, p. 158). Indeed, during the initial phase of learning an L2, L2 vocabulary is connected to the existing L1 system through lexical links with L1 translation before developing a conceptual representation. Within the context of the present study, using CS seems to have provided VI and SI learners with access to the L2 word's concept by linking the target word with its L1 translation, which made learning the L2 meaning easier. This is supported by quantitative findings that demonstrate significant short-term benefits of CS, suggesting that linking L2 words to L1 translations facilitated effective vocabulary learning for both VI and SI learners. Additionally, qualitative data revealed that learners explicitly reported that the L1 translations provided in CS explanations helped them understand, visualise, and remember new vocabulary. This aligns with Jiang's (2000) model, which proposes that L2 words are initially mapped onto existing L1 concepts —a connection that was particularly crucial for VI learners in forming accurate mental representations, given their visual impairments.

Jiang's (2000) psycholinguistic model of vocabulary acquisition can also provide a plausible explanation for the short-term effects of CS since it postulates that L1 is strongly linked to its existing semantic system and that the L2 word is mapped onto the same system. In addition,

Zhang and Graham (2020a) have argued that CS facilitates the advancement to the second stage of Jiang's model (L1 lemma mediation stage) by linking the L2 word and its corresponding concept. Based on this argument, the present study's results suggest that employing CS seems to aid learners' progress towards the second stage of concept formation. Given the difficulties that VI learners tend to face in the second stage of concept formation because of their vision deficit, such assistance may have been especially important for VI learners. These learners needed to develop and appeared to gain a correct mental representation in the L1 before learning the L2 version; an essential milestone when teaching these learners (Jedynak, 2016). Moreover, CS may have alleviated the cognitive demands of noticing and recalling the L2 words for these learners by exploiting L1 to facilitate the linking process. This is supported by qualitative findings, in which learners reported that having the L1 translation reduced the mental effort required to comprehend and recall new vocabulary. This eased the cognitive load associated with processing unfamiliar L2 input (Section 6.5.5). Furthermore, the significant short-term gains observed under the CS condition provide quantitative evidence that presenting L2 words alongside their L1 equivalents likely allowed learners to devote more of their cognitive resources to memorising the words rather than struggling to infer their meanings during learning.

The present study differs from the studies mentioned above in two important ways: 1) focusing more specifically on how CS can be used as an approach for teaching vocabulary to VI learners, and 2) pairing CS with a different mode of vocabulary instruction, aural input manipulation (volume increase), to achieve AIMCS. While no previous studies have employed this exact combination (see Section 3.2.4.2 in Chapter Three), other research found that aural input manipulation in the form of adding pauses and volume increase had no short-term effect when investigated in relation to the learning of grammatical forms (Ito, 2021). Rather differently, the

present study's results revealed that volume increase paired with CS had a significant short-term effect, as CS on its own did, with AIMCS bringing larger vocabulary gains than CS alone for both groups of learners. This resembles the short-term pedagogical advantages that were found among SI learners in Mall-Amiri et al. (2017) and Jones and Waller's (2017) studies, which also investigated the impact of AIM on vocabulary learning. The former study examined the impact of visual and aural input on learning non-congruent phrasal verbs, whereas the latter study examined the impact of textual and aural enhancement on learning Turkish L2 restaurant vocabulary. They found that at the post-test stage, the group receiving enhanced input significantly outperformed the control group. However, neither study used AIM paired with CS to assess the impact of the aural enhancement on learning the target lexical items.

Despite the paucity of empirical evidence supporting the use of the AIMCS approach to provide L2 vocabulary instruction for VI and SI learners, the results of this study can be theoretically justified by considering Schmidt's (1990, 1994, 2012) Noticing Hypothesis. According to this hypothesis, attention is crucial for all L2 learning aspects and learners must attend to the target items to achieve noticing, a fundamental starting point of acquisition (Schmidt, 1990). Indeed, increasing the volume for participants in the present study seems to have directed VI and SI learners' attention to the target lexical items, paving the way for the "input" to "become intake for language learning" by noticing it (i.e., "consciously registered") (Schmidt, 2012, p. 27).

The findings of this study highlight the pedagogical advantages of AIMCS over CS for both groups of learners, further supporting the Input Processing Theory (VanPatten, 1993, 1996, 2004). While this theory is traditionally applied to grammar, it can also be argued to apply to vocabulary. It suggests that second language learners prioritise processing input for meaning before focusing on form, which in turn shifts their attention away from the linguistic features of

the language. In this context, the increased volume used in this study may have led VI and SI learners to attend to the form of the target items before their meaning because the items were made more salient (VanPatten, 1996), thus allowing learners to create better form and meaning connections. The effectiveness of AIMCS over CS in the short-term for both VI and SI learners indicates that pairing the salient target lexical items with CS helped both groups achieve noticing and facilitated their advancement to the second stage of Jiang's (2000) model (L1 lemma mediation stage). In addition, qualitative insights from this study into the learners' perceptions of the helpfulness of the two forms of vocabulary instruction revealed that most learners preferred AIMCS over the CS mode, as the former helped with their attention (increased volume) and comprehension (L1 translation).

Regarding any longer-term advantage, a two-week delayed post-test showed that the superiority of AIMCS over CS had disappeared. The diminished retention of the target lexical items over a two-week period was also found in Tian (2011) and Zhang and Graham's (2020a) studies in relation to the superiority of teacher CS over L2-only instruction. Although it is difficult to compare the current findings to those former studies due to the different modes of instruction, both sets seem to be supported by the Depth of Processing Hypothesis, which suggests that "manipulations that influence processing at a structural level should have transitory, but no long-term, effects" (Craik & Lockhart, 1972, p. 680). Increasing the volume may have captured VI and SI learners' attention towards the target lexical items momentarily. As argued earlier, pairing the increased volume with CS seems to have aided these learners' movement towards Jiang's second stage of vocabulary acquisition (L1 mediation stage), which would involve a deeper level of processing than focusing attention on the target lexical item. However, particularly in adults, this stage of lexical presentation exhibits a weak connection between L2 lexical items and their

conceptual presentation, probably due to lemma information being copied from the L1. Mapping the L2 word to the preexisting L1 semantic structure activates the L1 translation equivalent, resulting in semantic fossilization (Jiang, 2004). Consequently, VI and SI learners seem to have had difficulty moving toward the final "L2 integration stage" (Jiang, 2000, p. 52), whereby all specifications of L2 words are integrated into and established in the lexical entry (i.e., a deeper level of processing to improve retention) (Craik & Lockhart, 1972). The disappearance of longer-term effects indicates that the AMICS explanation did not "induce deeper or more elaborative processing", which is needed for longer-term retention (Craik & Lockhart, 1972, p.680). Repeated exposure to target items within contextualised L2 input (Jiang, 2000), combined with interactive and productive language use, was found by Jones and Weller (2017) to support more durable learning. Although repetition was not implemented in the current study up to the point of the delayed post-test, in line with Jones and Weller (2017), this may have induced deeper processing and, consequently, longer-term retention.

The results of this study also revealed short-term effects of Group. Overall, VI learners benefited more from the intervention than SI learners. These findings can be explained by taking into account the Sensory Compensation Hypothesis (Hershenson, 1962; Levy, 1872) from the field of neuropsychology, whereby the loss or impairment of one sense results in the enhancement of other senses due to neural plasticity of the brain (i.e., the brain reorganises itself and compensates for sensory impairment by strengthening other sensory modalities) (Neville, 2006; Neville & Bavelier, 2002; Pascual-Leone et al., 2005; Sabourin et al., 2022). VI individuals, who mainly depend on auditory and tactile perception, develop perceptual compensation resulting in superior auditory and tactile abilities (Röder et al., 2000). Taking into account the compensatory mechanisms of auditory processing in VI L1 speakers, researchers have found that VI individuals

have superior verbal memory performance, heightened phonological awareness for speech sound, and greater pitch discrimination (Amedi et al., 2003; Gougoux et al., 2004; Hugdahl et al., 2004; Röder et al., 2001; Sepúlveda-Palomo et al., 2024). In the present study, it seems that because of perceptual compensation, VI learners might have been more adept at processing the auditory input than SI learners; consequently, they were more responsive to the vocabulary instruction that exploited aural input, their L1, and auditory cues, such as volume increase. Gougoux et al.'s (2004) findings, which emphasised the greater pitch sensitivity of VI individuals compared with SI individuals, also provide further support for the pedagogical advantages of the AIMCS condition for VI learners over SI learners. Given that VI learners are highly sensitive to different pitch levels, it is possible that VI learners were more sensitive to volume increase in this study. Therefore, with less visual distraction and heightened audition, VI learners' attention to the auditory information may have been enhanced, potentially influencing the effectiveness of the intervention for them more than for SI learners. Another possible explanation with reference to perceptual compensation and verbal memory is related to phonological short-term memory. In their studies, Raz et al. (2007), Röder and Neville (2003) and Rokem and Ahissar (2009) found that VI individuals demonstrated superior auditory discrimination and recall when compared with SI learners. Therefore, while SI learners may have benefited more from instructional approaches based on visual information, VI learners appeared to respond better to teaching methods that leveraged their auditory strengths. However, it is worth noting that the present study did not assess VI learners' sensitivity to volume changes or phonological short-term memory. Thus, these explanations are speculative and should be interpreted with caution, even though they align with existing research.

The disappearance of Group effects at the delayed post-test can be explained with reference to Jiang's (2000) model. For both types of explanations, learners relied on L1 to mediate learning,

meaning knowledge was fossilised at the second stage of Jiang's model. Such knowledge, unlike that which has moved onto the third stage, is highly unlikely to be comprehensive and integrated into long-term memory, according to Jiang (2000). Therefore, for both groups of learners, their longer-term retention rates were similar. In addition, the diminished effects of Group at the delayed post-test can also be explained with reference to the Sensory Compensation Hypothesis and long-term memory (i.e., episodic memory). The advantages for VI learners under the CS and AIMCS condition, which disappeared at the delayed post-test, may correspond to what was found by Smeds (2015), whereby early blind individuals did not exhibit superior episodic memory performance compared to late blind and sighted individuals (no significant difference across groups with varied visual status). In this respect, it is possible that VI learners in the present study held the advantage concerning short-term memory performance compared to SI learners because of perceptual compensation. The superiority of phonological short-term memory in VI individuals correlates with the "ability to register characteristics of the speech signal or of the sound signal". In contrast, episodic memory involves the "recall of events" (Smeds, 2015, p. 182) and is associated with long-term memory, for which VI learners have been found to have no particular advantage (Smeds, 2015). As previously stated, this study did not directly investigate the cognitive mechanisms behind these patterns; thus, these interpretations should be regarded as tentative. The advantages experienced by VI individuals were primarily linked to the auditory processing of information (Smeds, 2015), which tends to have momentary or short-term impacts. Thus, it seems reasonable to suggest that in the present study, vision deficit might have provided an advantage for VI learners compared to SI learners in relation to short-term memory but not for longer-term memory performance, i.e., "recollection of events" (Smeds, 2015, p.182).

The above discussion focused on the findings related to RQ1, which examined the ways in which two types of vocabulary instruction impacted both VI and SI learners. The discussion now turns to the second research question, which looks more specifically at how instruction effect, in the context of vocabulary learning, was moderated by learners' listening proficiency and their existing vocabulary knowledge.

6.3 RQ2: How is the instruction effect on vocabulary learning moderated by learners' listening proficiency and their existing vocabulary size?

Learners' preexisting vocabulary knowledge and listening proficiency scores were used as continuous predictors to answer the second research question. The focus on listening proficiency was in line with Zhang and Graham (2020b), whose findings indicated that listening proficiency, especially for SI learners, was a more important predictor of learners' vocabulary gains compared to preexisting vocabulary knowledge when learning vocabulary through listening. In the present study, learners' preexisting vocabulary knowledge did not interact with listening proficiency or other predictors. There were also negative predictive effects of the LVLT, implying that learners with a smaller amount of preexisting vocabulary knowledge achieved larger learning gains independent of Group or Condition. In contrast, those with higher vocabulary knowledge benefited less from either intervention (i.e., CS and AIMCS). This may be because the intervention was designed for low-intermediate level learners. As indicated by the relatively high pre-test means, many of the target items seemed to be already known by learners with higher preexisting knowledge, leaving little room for improvement. The opposite would then have been true of learners with lower preexisting knowledge. Zhang and Graham's (2020b) findings also indicated that the higher the learners' preexisting vocabulary knowledge within the CS group, the smaller the short and longer-term vocabulary gains they made. Moreover, similar to the present study,

Zhang and Graham (2020b) also adopted an intentional vocabulary learning approach instead of incidental vocabulary learning, which is particularly useful for learners with lower levels of preexisting vocabulary knowledge. This implies that the nature of the intervention used in both studies could also be another possible explanation for the negative moderation effects of the LVLT.

Turning to listening proficiency, the findings of the present study again align with Zhang and Graham (2020b), who found that listening proficiency played an essential role in vocabulary learning when the instruction was delivered aurally, with greater benefits for those with higher levels of listening proficiency. In relation to short-term learning, this study found that larger moderation effects of listening proficiency were observed for AIMCS compared to CS across VI and SI learners. In other words, with every one *SD* increase of listening proficiency, learners benefited significantly more from AIMCS than from CS, in the short-term. Relating this back to RQ1, in Section 6.2, it was argued that all VI learners were better able to notice the increased volume modification of AIM that was used for target items they were presented within the context of the listening passages. The outcomes of RQ2 show that this was even more pronounced for higher listening proficiency VI learners and also higher listening proficiency SI learners. Thus, rather than listening with "global" attention, the attention of learners with higher listening proficiency exposed to AIMCS was "specifically focused" (Schmidt, 2012, p. 31). This initial encounter would then have been followed up with the teacher's CS explanations, providing learners with further encounters with target items, with more encounters likely to lead to better learning, as was found by Zhang (2022). In other words, higher proficiency listeners exposed to AIMCS instruction were likely to have had their attention drawn to the target items on one more occasion than their lower proficiency peers did, and more often than was the case for items in the CS condition.

In relation to longer-term learning, results from this study revealed that both AIMCS and CS approaches benefited learners with different listening proficiency levels equally. A potential reason for this may be that the L1, used in both conditions, had some sort of equalising effect, as was found by Lee and Levine (2020), who compared CS and L2 explanations rather than AIMCS. In order to appreciate why the effects of higher listening proficiency faded in the longer-term, it is necessary to understand the mechanisms by which learners with different proficiency levels interacted with the different instructional approaches. Whereas lower listening proficiency learners may have failed to understand the target items when first encountered in context, CS use in the teacher's explanation would have then brought their understanding of the items up to the level of higher proficiency learners, with the CS effects still present at the delayed post-test. Moreover, combining AIM with CS likely enhanced attention across the different listening proficiency levels, with both conditions also potentially reducing cognitive load and hence maximising learning opportunities. It is possible that for more proficient listeners, experiencing the additional AIM element might have allowed them to store some additional vocabulary knowledge into their phonological short-term memory system. Without further consolidation phonologically, however, it is less likely that such knowledge would have been successfully retained into longer-term memory. As discussed in relation to RQ1, for VI learners, this could be due to the correlation between auditory perceptual acuity and short-term memory, but not long-term memory. Again, as mentioned earlier, phonological short-term memory was not measured in the present study. The outcomes of RQ2 suggest that this association may also be applicable to high proficiency SI learners, to a certain extent. In this regard, while AIMCS may have enhanced the short-term memory of those with higher listening proficiency, this impact seemed to wane in relation to

longer-term memory, and as time passed, both approaches (CS and AIMCS) were equalised in how they benefited learners with different listening proficiency levels.

The findings related to RQ2 also confirmed that listening proficiency had a larger positive moderation effect for VI learners compared to SI learners, for both short-term and longer-term learning. This effect is consistent with existing literature, which emphasises that listening serves as the primary means through which VI learners acquire knowledge, rather than through visual input. This is due to more developed brain regions involved with auditory information processing in VI individuals compared to SI individuals (Bavelier & Neville, 2002; Gougoux et al., 2005). According to the Sensory Compensation Hypothesis (Neville, 2006; Neville & Bavelier, 2002; Pascual-Leone et al., 2005; Sabourin et al., 2024), which was discussed in relation to RQ1, the brain reorganises itself to compensate for vision impairment by strengthening other sensory modalities. As a result, VI learners may be more adept at processing and retaining information presented through listening. In contrast, SI learners typically rely on a combination of visual and auditory input rather than a single sensory input. In the present study, the primary input channel was auditory, although teacher explanations were also provided in written (visual) form for the SI learners. In this regard, since SI learners likely processed information using different sensory modalities, their listening proficiency was probably less crucial than it was for VI learners, for whom the moderation effects of listening were more pronounced.

Lastly, the overall effects of the intervention (including both CS and AIMCS) were significantly greater for more proficient VI learners than for their more proficient SI counterparts. As mentioned earlier, the two interventions offered more benefits for VI learners. Since both the CS and AIMCS methods primarily used the auditory channel for instruction, they aligned better

with the strengths of VI learners. These benefits were likely amplified for VI learners with higher listening proficiency.

While it is acknowledged that the study did not directly measure auditory skills, such as phonological working memory or pitch sensitivity, other explanations grounded in the study's data may account for the results (see Sections 6.2and 6.5.5). The qualitative findings suggest that VI learners benefited from teaching methods (CS/AIMCS) that leveraged auditory input, as these methods aligned with their primary learning modality and reduced their reliance on visual input. Notably, AIMCS was widely preferred by learners, especially VI learners, as a more effective teaching approach than CS because it combined auditory input enhancement with L1 explanations, which facilitated noticing, processing, and consolidating the new vocabulary more effectively. Additionally, both groups' reliance on L1 translation, as indicated by their responses in the qualitative interviews, may have initially supported vocabulary learning. However, it ultimately limited long-term retention due to knowledge remaining at Jiang's (2000) second stage of lexical development (i.e., L1 mediation did not induce deep processing). Thus, beyond the speculative cognitive advantages previously proposed, the data indicate that instructional alignment with sensory preferences contributed to the short-term benefits for VI learners, while the mediating role of L1 helps explain why these advantages did not persist over time. These findings, derived from both quantitative and qualitative data, also suggest that methods like AIMCS have potential value in inclusive classrooms, as they may accommodate the learning needs of both VI and SI learners, promoting equitable learning opportunities.

The previous discussion examined the findings relevant to RQ2, which explored whether learners' preexisting vocabulary knowledge and their listening proficiency level moderated learning gains across a group or instructional condition. The following section will discuss the

third research question, which looked into the effect of repetition on the retention of the target lexical items for VI and SI learners.

6.4 RQ3: To what extent does the number of repetitions affect the retention of vocabulary items for VI and SI learners?

To examine the effect of repetition on the retention of the target lexical items for VI and SI learners, this study conducted a review activity towards the end of each intervention session and two extra review sessions following the completion of the intervention sessions. In total, 36 words were reviewed: 24 received three repetitions, four received nine repetitions, four received seven repetitions, and four received five repetitions.

To address RQ3, Repetition was used as a continuous predictor. The five-week final delayed post-test results revealed no effect of repetition on the retention of vocabulary items for both VI and SI groups. This implies that a higher number of repetitions of the target lexical items did not result in longer-term retention. The absence of effects of repetition in the present context (i.e., intentional learning) bears a partial resemblance to the effects found by van Zeeland and Schmitt (2013) regarding incidental vocabulary learning through listening. Their immediate meaning recall post-test results indicated that knowledge of meaning was significantly higher when words received 11 repetitions instead of three and seven. Words that received 15 repetitions were not better learned than those that received 11 repetitions. However, this advantage was not sustained over a two-week period.

The results of this study do, however, contradict previous findings from the limited research that found positive effects of repetition on vocabulary learning through explicit Focus-on-Forms vocabulary instruction (i.e., students' attention is directed towards vocabulary in a non-communicative, decontextualised context) within the context of reading (Peters, 2014; Teng & Xu,

2022). Such different findings may result not only from the different modality investigated, but also from methodological differences. First, as was the case in van Zeeland and Schmitt (2013), the effects of repetition on retention were measured in these studies through two-week delayed post-tests, which means that longer-term retention was not considered as it was in the current study. Second, Peters (2014) and Teng and Xu's (2022) studies only investigated the effects of repetition on word form recall using decontextualised activities, unlike the current study, which employed communicative activities and examined meaning recognition. Third, although the statistical model used in this study accounted for by-item random effects to control for variability in item difficulty, the limited number of items within each repetition band may have resulted in the findings being largely influenced by a small subset of items that were either previously known to participants or their meanings were easy to guess. This was indicated by the relatively high pre-test means. Finally, in the present study, there was a longer gap between the last review session and the final delayed post-test (five weeks), possibly making repetition less effective and eventually resulting in the natural decay of memory over time.

The current study's findings do, however, also differ from those of Zhang (2022), whose study was based on listening and investigated the effects of repetition on vocabulary learning within the context of different types of explicit aural vocabulary instruction (L2 vs. CS vs. CFoF) (see Section 3.2.4.1). In that study, vocabulary learning gains were positively correlated with repetitions, irrespective of the form of explicit instruction. However, significant gains required a minimum of seven repetitions. Even though the present study used a similar methodological approach to Zhang's, the type of vocabulary instruction it provided might have induced a more limited involvement load which might explain why no repetition effects were found. Furthermore, repetitions might have been more important for the harder test of meaning recall used by Zhang

(2022), compared with the easier test of meaning recognition used in the present study. Lastly, as previously stated, the five-week gap between the last review session and the final delayed post-test may have eliminated any effect of repetition. Zhang (2022) by contrast administered the final delayed post-test only one week after the last review session and the previous delayed post-test.

Lastly, the results revealed a significant effect of Group independent of the effect of repetition at the final delayed post-test. In other words, regardless of repetition, VI learners seemed to benefit significantly more than SI learners at the final delayed post-test. The superior performance of VI learners at the final delayed post-test indicated that they may have processed and retained linguistic information more efficiently than SI learners through aural input. As discussed in relation to RQ1, this corresponds with the sensory compensation hypothesis, which posits that deficits in one sensory modality (vision) may result in improvements in another (audition).

The above discussion examined the findings related to RQ3, which explored whether the different number of repetitions affected the retention of vocabulary items for VI and sighted learners. The discussion now turns to the fourth research question, which examines the findings from a qualitative perspective. It explores how these learners responded to CS/AMCS vocabulary instruction, focusing on the strategies they used to comprehend the teacher's explanations and their perceptions of the helpfulness of the intervention.

6.5 RQ4: How do learners respond to each type of instruction, both in terms of the strategies it prompts and in terms of their perception of helpfulness?

To address the fourth research question, stimulated recall interviews were conducted with 16 learners from the experimental group (five CVI and three PVI) and the comparison group (eight

SI). The coded interview transcripts yielded 19 learning strategies (see Appendix G). The following sections will discuss the qualitative findings in detail.

6.5.1 The Number of Different Learning Strategies Used across All Interviewees

Learners in the present study reported a broader range of strategies in response to the teacher's vocabulary explanations compared to British learners of French in Macaro's (2017) study who largely reported strategies related to the cognate nature of the word being explained. The present study identified 19 learning strategies: nine metacognitive and ten cognitive. The potential reasons for the differences in strategy use between this study and Macaro's (2017) could be the different modes of teacher's explanations (e.g., using AIMCS explanation led to employing *selective attention on pronunciation*). Also, Macaro's learners were younger (13-14 years old) than those in the current study and were not visually impaired. In addition, Macaro's (2017) selection of the target lexical items included near and distant cognates, which might have encouraged students to rely heavily on strategies that pertain to L1 similarities to drive the L2 meaning. Arabic shares some cognates with English, but none of the lexical items taught in this study were near/distant cognates.

The number of different strategies employed by learners while listening to the teacher's input in the present study was quite similar to those found by Fung and Lo (2023) (16 strategies) and Graham and Zhang (2024) (25 strategies). Fung and Lo (2023) explored the listening strategies employed by secondary school learners in an English Medium Instruction Biology classroom (EMI) in Hong Kong to comprehend the teacher's explanations. They identified 16 learning strategies, including three metacognitive, eleven cognitive, and two strategic physical actions. Despite the similarity between some of the strategies employed by learners in both studies such as *directed attention*, *selective attention* and *visualisation,* some strategies were different. It is to be

expected that the learners in this study used some different strategies than those in Fung and Lo's (2023) study, given that EFL classrooms prioritise L2 language learning, unlike EMI classrooms, which focus on subject-specific content. Hence, learners have a different focus in these two types of learning environments, which seems to be reflected in their strategy use. Moreover, Graham and Zhang (2024) investigated the strategies employed by Chinese high school EFL learners in response to three types of vocabulary explanations (CS, L2 and CFoF). Their study might have identified more strategies (25 learning strategies) than the present study due to differences in the types of explanations used and the learners' proficiency levels. For example, the L2 and CFoF explanations seemed to prompt a complex combination of strategies, including *summarisation*, among high proficiency learners; a strategy not employed by learners in the current study.

6.5.2 The Types of Learning Strategies Used Across All Interviewees

The analysis revealed that learners in the present study frequently used three strategies to comprehend the aural input and figure out the meaning of unfamiliar vocabulary. This took place when learners initially encountered the target lexical item while listening to the passage, that is, before receiving any explanations. The strategies were *inferencing*, *making connections*, and *selective attention on AIM*. It is worth mentioning that the *selective attention on AIM* strategy was mostly combined with the *selective attention on pronunciation* and the *selective attention on spelling* strategies while the learners were listening to the passage. This suggests that increasing the volume played an essential role in drawing the learners' attention to the target lexical item and its phonological and orthographical aspects.

Imagining, which entailed creating a mental image with a sense of wondering to explore different possibilities in order to discover the new word's meaning, was only used by a few learners while listening to the passage. However, it is noteworthy since it was used without visual elements

by a CVI learner. The lack of visual elements in CVI learners' mental images will be discussed further in section 6.5.4.

In response to the vocabulary explanations, learners used almost the same listening comprehension strategies and strategies for discovering the meaning of a new word, regardless of whether the condition was AIMCS or CS. Across both conditions, learners used strategies such as *recall prior knowledge*, *repetition*, *inferencing, selective attention* and *directed attention*, which aligned with existing taxonomies (Fung & Lo, 2023; Schmitt,1992; Vandergrift & Goh, 2012). In other words, the two modes of vocabulary explanation did not prompt the use of a wide range of different strategies. Compared to the CS explanation, the AIMCS explanation prompted only two additional strategies that pertained to the form of the target lexical items*: selective attention on pronunciation* and *selective attention on spelling*. The likely reason is that the increased volume elevated learners' attention and maximised their focus on the unfamiliar vocabulary and its form, leading to the employment of these two particular strategies. In addition, three strategies were frequently used by higher and lower proficiency learners, including *visualisation*, *monitoring* and *selective attention on CS.*

Finally, learners frequently used *visualisation, repetition, and creating examples* strategies to consolidate the target lexical items. Another strategy that emerged from the analysis was the *follow-up* strategy*,* which entailed practising the learned vocabulary outside the classroom. The *follow-up* strategy will be explored further in Section 6.5.4.

6.5.3 Differences in Strategy Use between More Proficient and Less Proficient Learners

The qualitative analysis of learners' strategy use revealed noticeable differences between the range of strategies used by learners with higher and lower proficiency levels while listening to both the passage and to the teacher's explanations (see Appendix G). Despite the similarities in

how these learners employed certain strategies (e.g., *making connections* and *monitoring*), higher proficiency learners used them combined with a broader range of other strategies. Lower proficiency learners used the same strategies but combined them with a smaller number of other strategies. For example, while listening to the passage, all learners exploited the *selective attention on AIM* strategy; however, only more proficient learners combined it with *selective attention on the part of speech and selective attention on spelling.* Similarly, while listening to the teacher's explanations, both CVIH 12, a more proficient learner, and SIL18, a less proficient learner, used the *selective attention on CS* strategy. However, the former combined this strategy with ten additional strategies, whereas her less proficient peer combined it with only three. The difference in strategy use between these learners concurs with findings from other empirical studies, which suggest that higher proficiency learners use more strategies than lower proficiency learners (Graham & Zhang, 2024; Green & Oxford, 1995; Lai, 2009; Wu, 2008). Lai (2009) investigated the relationship between language learning strategies and language proficiency levels among 481 EFL learners in Taiwan. Findings revealed that more proficient learners employed more learning strategies than their less proficient counterparts, a trend consistent across all six categories of strategies (memory, cognitive, compensatory, metacognitive, affective, and social) examined in the study. Graham and Zhang's (2024) study also investigated the relationship between language learning strategies and learners' linguistic proficiency among 12 Chinese EFL high-school learners. Their qualitative analysis, which examined the effects of different types of vocabulary instruction on these learners' strategy use, indicated that strategic behaviour was positively related to these learners' vocabulary knowledge and listening proficiency.

6.5.4 Differences in Strategy Use between VI and SI Learners

Overall, the analysis revealed that both VI and SI learners employed similar strategies, such as *making connections, selective attention on pronunciation,* and *creating examples* to comprehend the teacher's explanations and consolidate the target lexical items. Additionally, there were no differences in how VI and SI employed these strategies. However, the degree of sight loss appeared to substantially influence how one strategy was used: *visualisation.* The way CVI learners used this strategy was actually different from that of their PVI and SI peers. Moreover, the *directed attention* strategy was mainly used by VI learners (CVI and PVI).

Visualisation, which involved creating a mental image after arriving at the meaning through the L1 translation (CS), was exploited by CVI, PVI and SI learners to comprehend the teacher's explanation and retain the target lexical items; however, CVI learners used this strategy differently. Compared to SI and PVI learners, CVI learners created simple mental images that lacked visual presentation. The images lacked vibrant pictures and seemed constrained and narrow, concentrating on a single scene associated with a situation rather than a broad panorama. The differences in *visualisation* use between CVI and SI learners aligns with Jedynak and Wesołowska's (2014) findings. They investigated the differences between intermediate-level 12 Polish learners of English (CVI, PVI, and SI) in using L2 vocabulary memory strategies (e.g*.,* *keywords* and *mental association*) to memorise different types of vocabulary in the L2. Results revealed that CVI learners exploited *using imagery* more frequently than PVI and SI individuals to create mental links or place words in familiar contexts (*mental association*). CVI learners' images and mental links were not tied to a visual experience (e.g., the colour red was associated with hot). Similarly, CVI learners in the present study also created mental images that were unrelated to visual experience; they pictured reality in their minds in their specific way in order to

cope with their vision deficit. For instance, the mental image of ***a stroll*** for CVI learners was associated with a trip to "*Albar*" [camping in the desert]. Although it was an erroneous association, they believed it to be the best way to learn the target item**.** They attempted to apply the target lexical item in a familiar setting to achieve comprehension and retention. This indicates that mental imagery is not only associated with visual experience; blind individuals can create "analogical mental images based on haptic or auditory input" (Renzi et al., 2013, p. 115). Thus, the mental images created by VI learners in the present study support the notion that CVI learners may exploit alternative sensory modalities or abstract representations rather than pictorial imagery to conceptualise information (Bavelier & Neville, 2002; Ilic et al., 2023). Hence, it could be concluded that *visualisation* is adaptive and does not rely merely on visual experience.

Turning to PVI learners, few conclusions can be drawn about how PVI learners used *visualisation*, given the low number of them who were interviewed and the fact that they also rarely reported using the strategy. There were three interviewed PVI learners, of whom only one used this strategy while listening to the teacher's explanations. She created a vibrant image with a scenario involving a dynamic setting and characters to ensure comprehension and retention. This supports Jedynak and Wesołowska's (2014) argument that PVI individuals possibly develop a natural reliance on hearing as their primary sense after losing their vision; however, "their fragmentary vision still is treated as a vital aid in world perception and therefore they still try to sense the world in the way the fully sighted people do" (p. 370).

Moving to the *directed attention* strategy, VI learners (both CVI and PVI) predominantly employed it, suggesting that vision deficits influenced their approach. As these learners relied on hearing, they used this strategy to maintain focus, minimise distractions, manage L2 cognitive demands, and stay engaged with the teacher's explanations. Fung and Lo (2023) found that sighted

learners also used *directed attention* when listening to the EMI teacher, likely due to the high cognitive demands in that context. In essence, while VI learners increased their focus to compensate for their disability and L2 complexity, sighted EMI learners faced challenges related to L2 and subject complexity. In both cases, *directed attention* appears to enhance comprehension and retention, helping learners overcome their respective challenges.

Lastly, the *follow-up* strategy, which entailed practising the learned vocabulary outside the classroom, was mostly used by VI learners. The learners seemed keen on practising the target lexical items outside their classroom, either with their classmates or at home, even though they were not requested to do so as part of the study. It is possible that they were highly motivated to attend the teaching sessions. They expressed their excitement during the pre-test session, stating that this was their first experience participating in research investigating teaching methods designed to accommodate their vision impairment and address their neglected educational needs (Araluce, 2002; Boltenkova et al., 2020; Jedynak, 2023; Susanto & Nanda, 2018).

6.5.5 Type of Instruction Perceived as the Most Helpful by VI and SI Learners

The analysis of comments by higher and lower proficiency VI and SI learners revealed that they believed that the intervention positively impacted their self-efficacy, comprehension and retention, and attention. In this context, the quantitative findings aligned with the qualitative findings, with both indicating that AIMCS was more beneficial than CS for both groups of learners. Furthermore, the interviews suggested an even stronger preference by VI learners for AIMCS, compared to SI learners. As mentioned in Section 6.2, the quantitative findings indicated that AIMCS offered particular benefits for VI learners compared to CS alone. In addition, the effects of approach differences further interacted with listening proficiency, meaning more proficient listeners benefited more than less proficient ones when the approach was AIMCS. Moreover, the

effects of the intervention were greater for more proficient VI learners. This last point was not reflected by the qualitative findings. This could be because there were only three VI interviewees in the more proficient group, and both more and less proficient VI learners perceived AIMCS as the most helpful approach. Importantly, however, the qualitative analysis provided further evidence that listening serves as a primary conduit by which VI learners acquire knowledge, and that it is a crucial component of their vocabulary learning. It also emphasised that AIMCS vocabulary instruction was well-aligned with VI learners' strengths.

Taking into consideration self-efficacy, the analysis revealed that CS and AIMCS vocabulary instruction was perceived to have positively impacted VI and SI learners' confidence in completing the task successfully. Regardless of their level of proficiency, learners asserted their beliefs by explaining how they could successfully and accurately use the target lexical items (*a stroll* and *absorbed*) in various contexts. Their improved self-efficacy reportedly stemmed from their understanding of the meanings of the target items in L1. Using CS hence seemed to empower these learners and give them a sense of agency. They demonstrated their success by using the target lexical items in real-life situations, such as responding to a classmate's messages or in a hospital while visiting a patient. These findings align with Bandura's (1997) view of self-efficacy, which Graham (2022, p. 187) describes as not merely the belief that one can succeed in a task; instead, "it is the belief" "in one's capabilities to organise and execute the courses of action required to produce given attainments" (Bandura 1997: 3). Overall, higher and lower proficiency VI and SI learners' responses to the researcher's question about whether, after the explanations, they felt confident enough to use *a stroll/ absorbed* in the future, reflected that they had the required knowledge to perform the task successfully.

Turning to the effectiveness of CS, learners believed that the CS explanations positively impacted their comprehension and retention of the target items. They reported that using L1 was vital in maximising their comprehension while listening to the teacher's explanations. The CS element allowed them to visualise the target item successfully and to create mental connections involving accurate images that aided retention. Knowing the exact Arabic meaning ruled out any confusion that could arise from using L2 synonyms only, as was mainly reported by the VI learners. Moreover, besides using L1, the CS explanations offered an example sentence that further aided the teacher's L2 input comprehension and allowed the student to picture the target lexical item in different contexts. In the view of the students, this further enhanced their retention. The benefits of the CS element on its own, as well as within AIMCS, was explained earlier in Section 5.2.2 with reference to Jiang's (2000) psycholinguistic model of vocabulary acquisition. The qualitative findings provide further support for the quantitative outcomes regarding why the L1 was particularly important for VI learners, given these learners' potential challenges with concept formation. VI learners' responses concerning the use of the CS element indicated that it helped them to have an accurate mental representation of the target lexical item, which was crucial for aiding their progress to the second stage of concept formation.

Considering the effectiveness of AIMCS, learners affirmed that the AIMCS explanations maximised their focus on the target lexical items, including other aspects of vocabulary learning like pronunciation and spelling. In Section 3.2.4.2, it was argued that the benefits of AIMCS could be potentially interpreted with reference to the Input Processing Theory (VanPatten, 1993, 1996, 2004) and Schmidt's (1990, 1994, 2012) Noticing Hypothesis. The qualitative findings provided evidence to support that argument because learners frequently reported that the increased volume (AIM) made the target lexical items salient; consequently, they concentrated more and attended to

the form while trying to figure out the meaning. Learners also confirmed that the benefits of AIM were further augmented when complemented by CS. After exploiting AIM to increase their concentration on the target lexical item, they exploited CS to create mental connections and images to maximise comprehension and retention. A comparison with Mall-Amiri et al. (2017) and Jones and Waller's (2017) studies, which employed different forms of AIM in vocabulary teaching, highlights the value of pairing AIM with another form of input enhancement. Mall-Amiri et al. (2017) found that AIM alone was not more effective than visual enhancement alone, whereas Jones and Waller (2017) found that combining AIM and visual enhancement improved vocabulary learning.

The perceived pedagogical benefit of AIMCS over CS for both groups of learners, with an even stronger preference by VI learners compared with SI learners, was another key finding that emerged from the qualitative analysis. This was discussed in Section 5.4.2.2 under learning preferences, referring to the mode of vocabulary instruction the learners found most engaging and perceived as aiding their comprehension. The overview of the quantitative findings (see Table 14) showed that VI learners made larger vocabulary gains at the post-test than SI learners. This aligns with another finding, which revealed that on a short-term basis VI learners benefited more from the intervention overall than SI learners due to superior auditory abilities (see Section 5.2.2). The qualitative findings highlighted these benefits further and provided evidence that not only did VI and SI learners prefer AIMCS explanations over CS explanations, but AIMCS was a better approach for teaching VI learners regardless of proficiency level.VI learners voiced the view that AIMCS was a better approach not merely because it increased attention through AIM but also because it was tailored to accommodate their vision deficit. VI learners were keen on emphasising the fact that they were auditory learners by using phrases such as "*I depend on hearing",* "I *depend*

on listening", and "*my hearing ability*" when they expressed their preference for AIMCS over CS (see Section 5.4.2.2.4). Favouring the AIMCS approach by these learners also aligned with the reviewed literature that highlights that listening is the primary channel by which VI learners acquire knowledge due to their highly developed brain regions for auditory information processing compared to SI individuals (e.g., Bavelier & Neville, 2002; Gougoux et al., 2005).

A final important finding concerning AIM that emerged from the qualitative analysis was that, regardless of their level of proficiency, VI learners said they immediately noticed the increase in volume and the target lexical items associated with it when listening to the passage for the first time. All but one learner (PVIL14) affirmed that the increase in volume was easily spotted and immediately captured their attention. This supports the empirical evidence from previous studies, reviewed in Chapter Two, which argues that VI individuals develop perceptual compensation resulting in greater pitch discrimination and heightened phonological awareness for speech sound (e.g., Hugdahl et al., 2004; Gougoux et al., 2004; Sabourin et al., 2022). PVIL14's failure to recognise AIM could be due to her lack of attention or the increased cognitive demands of the listening task, given her lower proficiency level. The two SI learners, SIH24 and SIH27, with the highest listening scores, also failed to recognise AIM potentially due to their lack of attention or being engaged in employing multiple strategies while listening.

The qualitative data enriched the findings of the present study by offering further insights into how and why the two pedagogical approaches (CS and AIMCS) influenced participants' vocabulary learning. While the quantitative results indicated that AIMCS was more effective than CS in terms of short-term vocabulary gains, the qualitative data illuminated the specific mechanisms underpinning these findings. For example, the stimulated recall interviews revealed that learners, particularly VI learners, perceived AIMCS as more engaging because it helped them

overcome challenges in concept formation through the use of L1. AIM also leveraged their auditory skills, thereby enhancing their attention, comprehension, and retention. Another notable finding from the qualitative analysis was that, regardless of proficiency level, almost all VI learners immediately noticed the increase in volume and the associated target lexical item when listening to the passage for the first time. This rapid detection may support the idea of perceptual compensation among VI individuals, who often demonstrate enhanced pitch discrimination and heightened phonological awareness, helping to explain why AIMCS effectively captured their attention. Furthermore, by exploring the learning strategies prompted by each instructional mode, the qualitative data provided insights into the nature of the gains observed under each condition. It also revealed nuanced differences in strategy use between VI and SI learners, as well as between learners of different proficiency levels, which quantitative methods alone could not capture. This included the unique ways in which VI learners employed mental imagery to compensate for their vision deficits. While quantitative findings offer an objective insight into the main patterns and numerical trends driving the data, qualitative findings provide a more subjective glimpse into the thought processes and opinions of learners. Thus, the qualitative analysis not only validated the quantitative results but also added to the study's value by highlighting practical implications for inclusive teaching practices and informing the development of tailored instructional methods to meet the diverse needs of both VI and SI learners.

This chapter summarised the findings of the study and discussed them in relation to theory and empirical research. In the next chapter, the implications of these findings will be considered, along with the limitations of the study and suggestions for future research.

CHAPTER SEVEN: CONCLUSION

7.1 Summary of the Study

This study investigated the effectiveness of teaching L2 vocabulary through aural input to VI learners within an EFL communicative language teaching classroom. It specifically examined the impact of two modes of vocabulary instruction paired with aural input, CS and AIMCS, on the L2 vocabulary learning of VI and SI upper-secondary school students within the Kingdom of Saudi Arabia (SA). It also explored whether and to what extent learners' preexisting vocabulary knowledge and listening proficiency moderated the effects of the two instructional methods, while also considering the effect of repetition on the retention of the target lexical items. Additionally, the present study explored the strategies VI and SI learners used when listening to the teacher's input, as well as their perceptions of the teaching interventions' helpfulness. An explanatory sequential mixed-methods design was employed. Initially, quantitative data were collected through a six-week intervention and then analysed, which was followed by qualitative data collection using stimulated recall interviews to triangulate and enrich the findings.

The participants for the intervention included 32 Saudi female upper-secondary school EFL learners, 16 VI and 16 SI, aged 16-20. They were all Arabic native speakers with approximately six years of English language schooling. The treatment (VI) and comparison (SI) groups listened to six English passages over six sessions. Sixty target vocabulary items were explained orally using two modes of input enhancement: CS or AIMCS. In the CS condition, codeswitching to L1 Arabic was used to explain the meaning of the target lexical items, whereas in the AIMCS condition, the target lexical items were manipulated artificially via volume increase followed by CS explanation. Counterbalancing was used wherein the initial session employed AIMCS for the initial five items, followed by CS for the subsequent five items. This pattern was reversed in the following session

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and so forth for the remaining sessions. To assess learning outcomes, all learners completed an aural vocabulary pre-, post-, and delayed post-test.

To explore the strategies used by these learners in response to the vocabulary instruction provided, eight VI learners and eight SI learners were selected to take part in stimulated recall interviews. These participants were divided into two groups based on proficiency level, which was determined via a general listening comprehension test, a general vocabulary knowledge test, a pre-test, a composite test score, and a vocabulary test gain score. The interviews also provided insight into the learners' perceptions of the two modes of vocabulary instruction in terms of helpfulness.

7.2 Summary of the Findings

7.2.1 Summary of the Quantitative Findings

For the first research question, the present study found significant short-term effects of instructional condition with AIMCS being more advantageous than CS alone for both learner groups. Nonetheless, in the longer-term, the effects of both conditions were equalised as they exhibited similar impacts on vocabulary learning gains. The short-term pedagogical advantages of AIMCS over CS for both VI and SI learners suggest that manipulating the target items through volume increase might aid noticing, a fundamental starting point of acquisition. This directs the learners' attention to the target lexical items, thus allowing the input to become intake for language learning (Schmidt, 2012).

The CS element alone or paired with AIM seems to have aided learners' progress to the second stage of vocabulary acquisition (Jiang, 2000) by providing a link between the L2 word and its concept. Regarding longer-term effects, the fading of the superiority of AIMCS over CS at the two-week delayed post-test suggests that AIM resulted in drawing learners' attention to the target item only temporarily and pairing it with CS supported the movement to the second stage of

vocabulary acquisition (Jiang, 2000); however, AIMCS explanations did not promote deeper processing, which is essential for longer-term retention.

In addition to the above, significant short-term effects of Group were found, indicating that VI learners benefited more from the intervention (i.e., both CS and AIMCS) than SI learners. This suggests that the perceptual compensation mechanism that VI individuals are believed to have due to their vision deficit may have led to them being more proficient in processing auditory input than SI learners (Amedi et al., 2003; Hugdahl et al., 2004; Gougoux et al., 2004; Röder et al., 2001; Sabourin et al., 2022). Thus, they responded more effectively to the vocabulary instruction that leveraged aural input, their L1, and auditory cues such as increased volume. However, this advantage for VI learners disappeared at the delayed post-test. Based on these findings, the present study suggests that visual impairment and the associated superiority of other cognitive and sensory aspects provide an advantage for VI learners over SI learners in terms of short-term memory but not longer-term memory performance (i.e., recalling events) (Smeds, 2015).

Moving onto the second research question, negative moderation effects of LVLT were found in the present study. This suggests that learners with limited preexisting vocabulary knowledge made larger gains regardless of Group or Condition. Conversely, those with higher preexisting knowledge derived less benefit from either intervention. Concerning listening proficiency, larger moderation effects of listening proficiency on short-term learning were found for AIMCS compared to CS across VI and SI learners. The larger moderation effects suggest that when the instruction is presented aurally, listening proficiency is crucial for vocabulary learning, with those with higher levels of listening proficiency experiencing greater advantages. For longer-term learning, individuals with different listening proficiency levels seemed to benefit equally from both AIMCS and CS. This suggests that auditory perceptual superiority correlates with short-

term memory but not longer-term memory. However, this association may also apply to high-proficiency SI learners to a certain extent.

In relation to both short and longer-term learning, larger moderation effects of listening proficiency were seen more in VI learners compared to SI learners. In other words, the effects of the intervention were significantly greater for more proficient VI listeners than for their more proficient SI counterparts, meaning that the greater benefits of CS and AIMCS found earlier in relation to VI learners were amplified for those with higher listening proficiency. These larger effects suggest that VI learners are better than SI learners at processing and retaining input conveyed through listening since they possess more enhanced brain regions for auditory information processing. In the present study, SI learners might have depended on auditory and visual input to process the information, unlike VI learners, who processed it mainly through auditory input. Therefore, the moderation effects of listening were more pronounced for VI learners, given that they depended exclusively on a single sensory modality.

For the third research question, the five-week delayed post-test results indicated no effect of repetitions on either VI or SI groups' vocabulary retention, suggesting that the different number of repetitions of the target lexical items did not lead to longer-term retention. These results contradicted findings from the limited literature that identified positive effects of repetition on vocabulary learning through explicit vocabulary instruction (Peters, 2014; Teng & Xu, 2022). This discrepancy may be due to differences in the modalities examined (reading vs. listening) and the methodological approaches used. Additionally, while the statistical model in this study used by-item random effects to account for variability in item difficulty, the small number of items within each repetition band may have led to results being largely affected by a limited subset—either items that participants already knew or those with meanings that were easy to infer. The absence

of the effect of repetition in the present study also implies that the two modes of vocabulary instruction might not have led to a deep level of cognitive involvement when processing the target lexical item. It could be concluded, therefore, that in order to achieve greater vocabulary retention, vocabulary instruction that induces higher involvement load should be promoted. In other words, it is not repetition that inherently affects longer-term vocabulary retention, but instead, the depth of processing. The data also revealed a significant effect of group independent of the effect of repetition. In other words, regardless of the repetitions, VI learners seemed to benefit significantly more than SI learners at the final delayed post-test. VI learners' superior performance at the final delayed post-test suggests that they may process and store linguistic information more efficiently than SI learners through aural input. Thus, teachers need to incorporate auditory and tactile modalities into language instruction to better leverage VI learners' learning strengths.

7.2.2 Summary of the Qualitative Findings

The results revealed the following concerning VI and SI learners' strategy use in response to the two modes of vocabulary instruction: First, learners used almost the same listening comprehension strategies and vocabulary learning strategies while listening to CS alone or AIMCS explanations. In other words, the two different modes of vocabulary explanations did not prompt the use of a broad range of strategies. The AIMCS explanations induced only two additional strategies that were related to the form of the target lexical items: *selective attention on spelling* and *selective attention on pronunciation*. This suggests that increasing the volume may have heightened learners' attention and maximised their focus on the target lexical item and its linguistic feature, ultimately leading to better vocabulary gains. Second, while both higher and lower proficiency learners used similar strategies—such as *selective attention on AIM, selective attention on CS* and *visualisation*—to comprehend the listening passage or the teacher's explanations, higher

proficiency learners used them with a broader range of additional strategies, whereas lower proficiency learners combined them with fewer other strategies. This suggests that higher proficiency learners' ability to combine various strategies results in deeper comprehension and retention. On the other hand, learners with lower proficiency may rely on a narrower range of strategies, perhaps limiting their ability to completely comprehend and retain new lexical items. Therefore, it is essential to develop instructional methods that encourage the use of diverse strategies to support learners at varying proficiency levels.

The qualitative analysis also indicated that vision deficit influenced learners' strategy use. Concerning differences in strategy use between VI and SI learners, CVI learners, like SI learners, employed *visualisation* to comprehend the teacher's explanation and consolidate the items. However, while SI learners created vibrant mental images that closely mirrored actual visual representations, CVI learners created simple mental images that did not depend on conventional visual imagery. This suggests that CVI learners may exploit alternative sensory modalities or abstract representations rather than pictorial imagery to conceptualise information (Bavelier & Neville, 2002; Ilic et al., 2023). It also suggests that visualisation is an adaptable cognitive process that does not simply rely on visual experience, emphasising the versatility of the learning process across multiple sensory abilities. Moving to *directed attention,* results showed that this strategy was used mainly by VI learners (CVI and PVI). This suggests that this listening strategy helped VI learners stay focused, minimised their distraction, and allowed them to manage L2 cognitive demands. This is particularly vital for VI learners as they depend on aural input rather than visual cues that SI learners naturally perceive.

Concerning VI and SI perceptions of CS and AIMCS helpfulness, the analysis revealed that the intervention impacted VI and SI learners' self-efficacy, comprehension and retention, and

attention. Moreover, it indicated that AIMCS was perceived as a more effective vocabulary-learning approach than CS alone. These findings suggest that the benefits of the CS elements paired with AIM may play a crucial role in teaching L2 vocabulary to VI learners. While CS helps mitigate potential difficulties in concept formation and support VI learners' advancement to the second stage, AIM leverages VI auditory skills to enhance their attention.

7.3 Contributions of the Study

7.3.1 Empirical Contribution

The present study marks the first rigorous evaluation of the effectiveness of two modes of L2 vocabulary instruction through listening for both VI and SI learners. It addresses key gaps in the limited literature on second language acquisition for VI learners by examining the effects of CS and AIMCS approaches on L2 vocabulary learning rather than focusing solely on vocabulary teaching methods. The outcomes of this study suggest that AIMCS offers particular advantages for VI learners while also proving to be beneficial for SI learners. The findings show that this approach is beneficial by using AIM to aid noticing, thus directing learners' attention to the target lexical items (Schmidt, 1990; Sharwood-Smith, 1993). This draws on VI learners' unique strengths; their superior auditory perceptual abilities (Gougoux et al., 2004; Hugdahl et al., 2004; Röder et al., 2000). Furthermore, it follows up with CS to mitigate against these learners' possible weaknesses, namely, their ability to form concepts (Jedynak, 2016). Additionally, the extended benefits to SI learners indicate that this approach suits both groups of learners.

Another significant contribution of this study relates to listening proficiency and how it plays a crucial role in L2 vocabulary learning, particularly when instruction is delivered aurally for VI learners. This aligns with Zhang and Graham's (2020b) findings, which also revealed greater benefits for SI learners with higher listening proficiency. The larger moderation effects of

listening proficiency for VI learners than for SI learners that were found in the present study emphasise that listening is the primary channel through which VI learners obtain knowledge (Barclay & Staples, 2012). This is due to their more advanced brain regions for auditory information processing in comparison to their SI peers (Bavelier & Neville, 2002; Gougoux et al., 2005). As such, the benefits of both CS and AIMCS approaches are greater for more proficient VI listeners than for their SI counterparts.

For VI and SI learners, this study showed that preexisting vocabulary knowledge was a less important predictor of vocabulary learning through aural input than listening proficiency. Similar results were reported but only in relation to SI learners (Zhang & Graham, 2020b). Also, the negative moderation effects of LVLT that were found by Zhang and Graham (2020b) were also true in the present study. This provides empirical evidence that both CS and AIMCS are beneficial in teaching vocabulary through listening to learners with low preexisting vocabulary knowledge.

The finding also expands theoretical models of L2 vocabulary development to an unexplored group, suggesting that the L1, as defined in Kroll and Stewart (1994) RHM and Jiang's (2000) model, performs comparable functions for VI learners as it does for SI learners. It may also be of even greater relevance due to the potential challenges that VI learners may face during the second stage of concept formation, which CS can mitigate.

By exploring VI learners' strategy use while listening to the teacher's input, this study has addressed a significant gap in the literature. Existing studies have investigated learners' strategy use mainly in relation to SI learners (Fung & Macaro, 2021; Graham & Zhang, 2024). The present study is the first to investigate VI learners' strategy use while listening to the teacher in an EFL classroom. More in-depth qualitative insights provided through stimulated recall interviews have

revealed that AIMCS is a better approach than CS alone since it draws the learners' attention to the target lexical item and its linguistic features. The qualitative analysis also highlights that vision deficit affects learners' strategy use.

The findings of this study underscore how CS and AIMCS support concept formation in VI learners within a classroom setting. The data show that CS helps learners form concepts by linking L2 words to their L1 equivalents, which aids VI learners in overcoming challenges during the second stage of concept formation and enables them to create accurate mental representations without relying on visual cues (Jedynak, 2016; Jiang, 2000). Additionally, the results reveal that AIMCS improves this process by drawing learners' attention to target words through increased auditory salience. This promotes noticing and allows VI learners to leverage their superior auditory perceptual abilities (Gougoux et al., 2004; Hugdahl et al., 2004; Röder et al., 2000). Such auditory enhancement helps learners focus on the phonological and morphological aspects of new words, thereby facilitating better encoding and recall. In this regard, while both methods directly support concept formation and vocabulary learning for VI learners, AIMCS is especially effective, as these learners rely more heavily on auditory input (Bavelier & Neville, 2002). Across the whole sample, learners in this study confirmed that the greatest benefit arises from combining both AIM and CS approaches, as it is at their intersection that they experience the most significant improvements in focus and understanding. Importantly, this study also highlights key strategies that practitioners can adopt in inclusive language classrooms. Educators must recognise that the motivation of VI learners increases notably when instruction addresses their sensory preferences and learning needs. They should therefore adapt their instructional approaches to explicitly emphasise new words using volume changes or other auditory cues, provide L1 translations, and include example sentences to reinforce meaning. By incorporating AIMCS into their teaching approaches, teachers

can help ensure that VI learners notice new words and fully grasp their meanings. Thus, there is a requirement for targeted listening strategies that leverage auditory strengths while supporting deeper processing, ensuring effective inclusive language education for VI learners.

In addition, the outcomes of this study contribute new knowledge about the distinctive learning profile of VI learners, highlighting their strong auditory processing skills and their use of alternative cognitive strategies such as non-visual imagery. These are important characteristics that differentiate them from SI learners in relation to vocabulary learning through listening (Gougoux et al., 2004; Jedynak, 2016; Neville & Bavelier, 2002). Despite their auditory strengths, this research shows how VI learners often require L1 support to develop accurate mental representations of new concepts due to limited visual experience, underscoring the importance of instructional methods that combine auditory salience with explicit conceptual support (Jedynak, 2016; Jiang, 2000). While VI learners demonstrate sharper auditory sensitivity and achieve greater short-term vocabulary gains than their SI peers, their advantages tend to diminish over time, suggesting the need for approaches that support both concept formation and deeper cognitive processing (Jedynak, 2016; Jiang, 2000; Smeds, 2015). Furthermore, the findings illuminate how listening proficiency plays a crucial role in vocabulary learning, exerting a stronger influence on VI learners because their learning profile relies heavily on auditory channels for processing information. This contrasts with SI learners, who are able to use both auditory and visual cues. For VI learners, this reliance on auditory input makes listening skills a crucial factor in how effectively they acquire and retain new vocabulary, though listening proficiency still significantly influences SI learners as well. Furthermore, the present study provides evidence that repetition did not enhance long-term retention of vocabulary items through aural instruction, contrasting with previous findings that emphasise the benefits of repetition in L2 vocabulary learning, particularly

in listening contexts (Zhang, 2022). This suggests that in an aural learning context, mere frequency of exposure may be insufficient and deeper cognitive engagement is essential for durable learning gains. Overall, these findings expand theoretical understanding of how VI sensory profiles and listening skills shape L2 vocabulary acquisition and provide practical guidance for developing inclusive teaching methods tailored to both VI and SI learners.

7.3.2 Methodological Contribution

This study offers a valuable methodological contribution to second language acquisition (SLA) research by introducing a classroom-based intervention tailored for VI learners, a topic that has received limited empirical attention. Using a mixed-methods approach, the research assessed the effectiveness of CS and AIMCS instructional methods in L2 vocabulary learning through listening. A major strength of this research is its innovative methodology, which combines both quantitative and qualitative data to offer a thorough understanding of the experiences of VI learners in SLA. While experimental research on SLA interventions is common, to the best of the researcher's knowledge, no studies have focused on learners with visual impairments, making this study one of the first to rigorously investigate instructional adaptations for this group. Using a quasi-experimental design, the research provided statistically significant evidence that AIMCS was more effective than CS for vocabulary acquisition. Additionally, stimulated recall interviews allowed for the capture of real-time cognitive processes, challenges, and learner perceptions, providing deeper insights into strategy use and engagement. This combined approach enhanced the validity of the findings and provided a comprehensive view of VI learners' language learning experiences.

To meet the unique learning needs of VI students, the intervention included AIMCS, which combined amplifying auditory input to enhance attention and CS to offer contextual support. These

adjustments were specifically designed to make linguistic input more salient and accessible, helping VI learners process and retain new vocabulary more effectively. The study also showcased a thoughtful integration of accommodations, such as modifying classroom interactions, providing clear auditory cues, and adjusting the pace of instruction to match the learners' needs.

By triangulating these data sources, this study not only enhances the validity of its findings but also establishes a methodological framework for future intervention research with VI learners in SLA. Future researchers should investigate improvements to AIMCS, such as adjusting volume levels to suit different learner needs, incorporating other types of auditory enhancement (e.g., tempo adjustments, speech synthesis tools), and evaluating longer-term vocabulary retention. This study sets the foundation for further research at the crossroads of visual impairment, adaptive instructional strategies, and second language learning.

7.3.3 Pedagogical Implications

The Findings of the present study revealed that both CS and AIMCS have pedagogical benefits when teaching vocabulary through listening to VI and SI learners. The results show that AIMCS had a more positive impact on these learners' vocabulary gains than CS. Moving towards inclusion in mainstream education, these findings suggest that AIMCS is a valuable approach for inclusive teaching and improving the learning outcomes of VI learners, whose needs are often overlooked. Moreover, findings show that VI learners benefited more from both approaches than SI learners. This suggests that CS alone or AIMCS aided VI learners' L2 vocabulary learning by exploiting these learners' auditory strengths. Therefore, teachers should use various pedagogical approaches that exploit aural input to maximise learning in an inclusive EFL classroom with VI learners.

The results of this study also indicate that listening proficiency is an important predictor for L2 vocabulary learning for both VI and SI learners, suggesting the necessity of developing good L2 listening proficiency. Teachers can support both VI and SI learners by using different strategies to help enhance listening proficiency and vocabulary, such as listening-focused tasks. Moreover, it has been discussed how more proficient VI listeners benefited more from the intervention than their SI counterparts. This implies that designing a curriculum that prioritises listening and speaking-focused activities works to the advantage of VI learners because they rely primarily on aural input (Jedynak, 2023). This information can greatly benefit policymakers and educational material creators as it brings to their attention the need to add audio-based teaching strategies like AIMCS into regular school programmes. They can do this by updating curricula to focus more on listening and speaking activities and investing in tools and technologies that help VI students. These approaches align with UNESCO's Inclusive Education Guidelines (UNESCO, 2005). At the same time, material creators should develop accessible resources that focus on audio, using strategies like mental associations and interactive listening exercises. These materials should be customisable (such as adjustable audio speed and clear sounds) to suit different learners with varying needs and abilities.

Concerning learning strategy use, the stimulated recall interviews suggested that vision deficit has a very noticeable impact on learners' use of strategies. Additionally, the differences in strategy use between VI and SI learners highlighted how teachers should use teaching approaches that accommodate these learners' diverse needs, such as mental association. Moreover, to support VI learners effectively, teachers need to help these learners adopt various learning strategies rather than only depending on strategies that pertain to teacher-material focused strategies. In this regard, there is a critical need to improve teacher training to ensure educators are equipped to meet the

diverse needs of both VI and SI students. By enhancing teacher education, we can create a more inclusive learning environment where all students, regardless of their visual abilities, can thrive. This will also help teachers better understand the unique challenges faced by VI learners and ensure they are providing equal opportunities for learning and participation in the classroom.

The findings from this study illustrate that, although VI and SI learners often employ similar vocabulary learning strategies while listening to the teacher's vocabulary instruction, they differ substantially in how they use these specific strategies. SI learners frequently depend on rich visual imagery, while VI learners tend to create simpler, abstract mental images and depend heavily on auditory cues and *directed attention*. This implies that VI learners compensate for their vision deficits through alternative cognitive representations and heightened auditory focus. Pedagogically, this underscores the importance of designing instructional approaches that explicitly support diverse cognitive strategies, such as auditory highlighting, verbal description, and scaffolded concept formation. In order to optimise vocabulary learning outcomes, teachers should be trained to recognise these differences and adopt flexible teaching approaches that accommodate the unique strategy profile of VI learners.

By working together, the above-mentioned efforts can create a more inclusive learning environment that uses auditory strengths to help learners improve their vocabulary and overall language skills. These recommendations also align with Vision 2030, which aims to ensure the integration of all sectors of Saudi society, including individuals with disabilities, allowing them to actively contribute to the workforce and the Kingdom's overall productivity.

7.4 Limitations and Recommendations for Future Research

The present study provides valuable insights into teaching L2 vocabulary through listening to VI learners; however, like all research, there are some limitations worth mentioning. Initially,

the small sample size and individual differences within the VI group (i.e., the onset of vision deficit) make it challenging to generalise the findings across all VI learners. To overcome the limitations of a small sample size and individual differences, the study adopted a within- and between-subjects design. The within-subjects design allowed each participant to serve as their own control, decreasing the impact of variability, such as differences in the onset of vision loss. The between-subjects approach strengthened the study by allowing for direct comparisons between VI and SI learners (Creswell & Plano Clark, 2011; Lander, 1998; Wickens & Keppel, 2004).

Secondly, this study was conducted solely with female participants since co-education is prohibited in Saudi Arabia. This once again limits the generalisability of this study as the male perspective is missing. Additionally, as the present study adopted a quasi-experimental design, it employed convenience sampling and used intact classes (i.e., participants were not randomly assigned). While this may have impacted the validity of the results (Mackey & Gass, 2015), this type of sampling was necessary due to the nature of the participants. Indeed, VI learners represent a relatively small population, and thus taking into consideration the difficulties in accessing this sensitive group, convenience sampling allowed the researcher to include VI learners who were available in schools or institutions for the blind. Moreover, as the researcher herself was an educator who worked with VI individuals, it was necessary to use convenience sampling to leverage her own personal networks and contacts to be able to recruit these participants. As such, the randomisation of VI learners was not viable in the educational setting in which this study was conducted. However, using intact classes likely has improved the ecological validity of the present study, meaning the results may be more applicable to real-world classroom environments, where students typically learn in preexisting groups.

Another limitation of this study is that the pre-, post-, and delayed-post vocabulary tests only assessed meaning recognition and used the same format for all tests. Therefore, participants may have guessed the meanings, leading to overestimating their vocabulary knowledge in the pre-test and their vocabulary gains in the post and delayed tests. To mitigate this limitation as much as possible, specific measures were implemented: 1) intermingling pre-test items with LVLT items. As such, the same testing procedure was used as the LVLT to avoid pre-test sensitisation, where exposure to a pre-test affects participants' subsequent responses in later assessments (Salkind, 2010); 2) counterbalancing the vocabulary post-tests by using sets of sentences different from the pre-test to eliminate practice effect, where participants accomplish a task better in later settings because they have had the opportunity to practice it (Jhangian, 2017, p. 124); and 3) combining sentences from pre and post-tests to generate the delayed and final delayed post-tests. Details concerning the timescale and administration of the tests have been outlined in the data collection discussion in Section 4.4 of the Methodology Chapter.

To better explore the effects of repetition, future studies could involve a more systematic modification of repetition frequency across a larger number of target items, as well as ensuring balanced item distribution across and within repetition bands. Additionally, incorporating activities that demand higher cognitive processing, such as recall or sentence production tasks, rather than merely meaning recognition, could help clarify whether repetition effects emerge when learners actively engage with vocabulary. These adjustments to the study design could potentially yield clearer insights into the role of repetition in long-term vocabulary retention for both VI and SI learners

It is also important to note that the listening comprehension test that was adopted and adapted for this study only used the first two sections of an IELTS listening comprehension test.

This meant that the test may not have completely captured participants' overall listening proficiency because it only included the first two sections of an IELTS test, which are normally easier and focus on everyday circumstances. Consequently, the findings may not extend to more advanced listening proficiency levels, limiting the study from evaluating participants' overall listening comprehension proficiency.

A fourth limitation of this study relates to the nature of the participants who took part in the stimulated recall interviews. These interviewees did not represent a wide range of proficiency levels due to several challenges while selecting them (see Chapter Four, Section 5.4.1). Thus, it is possible that this study might not have captured some strategies employed by learners of different proficiency levels while listening to the teacher's explanations. Furthermore, it is imperative to acknowledge that this type of interview has potential drawbacks, including "issues of memory and retrieval, timing, and instructions" (Mackey & Gass, 2015, p. 88). Mackey and Gass (2015) recommend that data collection should occur immediately after the intervention. In the current study, however, the interviews took place after the last delayed post-test. This was a necessary step because if the interviews had been conducted before the delayed test, they could have potentially informed participants' test responses, which would be influenced by the anticipation of the test rather than by a genuine recollection of their learning strategies. Furthermore, this timing might have unintentionally acted as a form of retrieval practice, boosting test performance and distorting the results. Consequently, participants could have justified their strategies based on what they expected from the test, rather than reflecting their true cognitive processes (Mackey & Gass, 2015). In addition to the issue of interview timing, scheduling constraints and strict instructions from the administration office of the designated school and institute for the blind meant it was not possible to interview all the participants in one day without disrupting their learning process. As a result,

the interviews were conducted within five days after the last delayed post-test, which might have affected the ability of participants to recall the teaching experience.

Another important limitation concerns the intervention. The present study compared the vocabulary gains from CS against AIMCS, while excluding AIM as an independent teaching approach. This was because the objective was to highlight the added value that AIM brings to the CS method. However, it could be the case that AIM alone has some potential benefits to offer. Moreover, the study did not compare these two modes of instruction with conventional teaching methods. In this regard, future research may aim to explore different learning outcomes by comparing AIMCS with AIM alone, as well as learning from conventional L2 instruction that VI learners typically encounter in inclusive classrooms. Learning in these conventional spaces tends to emphasise visual input and neglects enhancing the aural input. Furthermore, the present study did not directly measure VI learners' sensitivity to volume increase or their phonological short-term memory. This decision was made because evaluating phonological memory was inconsistent with the primary aim of the study, which focused on determining which vocabulary instruction approaches (CS/AIMCS) are most beneficial for VI and SI learners, among other considerations outlined in Section 2.4.2. Therefore, findings related to these factors, which were explained based on the existing literature, remain speculative. Therefore, future research could explore these aspects empirically to gain a more comprehensive understanding of their impact on the learning outcomes of VI learners. Lastly, the present study did not test how well both groups of learners understood the listening passages through which instruction was delivered, which could have offered further support for the findings.

In conclusion, it is hoped that this study will encourage researchers and teachers to place greater emphasis on teaching L2 vocabulary through aural input and implement the AIMCS

approach in EFL classrooms. This approach serves as an important pedagogical tool for equalising

learning opportunities for VI learners, especially when they are taught alongside SI learners.

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Appendix A: Nation's (2013) Model

Form	spoken	R	What does the word sound like?
		P	How is the word pronounced?
	written	R	What does the word look like?
		P	How is the word written and spelled?
	word parts	R	What parts are recognisable in this word?
		P	What word parts are needed to express the meaning?
Meaning	form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	concept and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	associations	R	What other words does this make us think of?
		P	What other words could we use instead of this one?
Use	grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	collocations	R	What words or types of words occur with this one?
		P	What words or types of words must we use with this one?
	constraints on use	R	Where, when, and how often would we expect to meet this word?
	(register, frequency ...)	P	Where, when, and how often can we use this word?

What is involved in knowing a word (Nation, 2013, p. 49)
Note. R=receptive knowledge, P=productive knowledge.

Kinds of knowledge		Kinds of learning	Activities
Form		implicit learning involving noticing	repeated meetings as in repeated reading
Meaning		strong explicit learning	depth of processing through the use of images, elaboration, deliberate inferencing
Use	grammar collocation	implicit learning	repetition
	constraints on use	explicit learning	explicit guidance and feedback

What is involved in knowing a word and the most effective kinds of learning (Nation, 2013, p.58)

Listening Comprehension Test

Complete the notes below.

Write ONE WORD OR A NUMBER for each answer

Question 1-5

Example question

Celebrating?

Answer

20 years!

1. Budget for meal ($): _____

2. Meal C:

- cost: $50/head

- consists of prawns and a seafood platter with _____ crab and oysters.

3-5. Meal D:

- cost ($): _____ /head

- consists of _____with _____ soup, dessert, and coffee.

Question 6-10

Choose the correct letter, **A, B,** *or* **C.**

6. The function will take place on the:

A 14th.

B 18th.

C 20th.

7. It will start at:

A 7 pm

B 7.30 pm

C 8 pm

8. The dress code will be:

A smart casual.

B formal.

C casual.

9. Guests can:

A smoke freely.

B not smoke.

C smoke in specific places.

10. Guests should bring a:

A card.

B gift.

C large box.

Question 11-13

Complete the notes below.

Write ONE WORD for each answer

11. The Taj Mahal is a symbol of _____.

12. The emperor is buried in the tomb of the Taj Mahal with his _____.

13. The white marble came from_____.

Question 14-17

Listen and list what comes first in the garden

Write the correct letter, A, B, C, or D next to each question

14. The Mosque _____

15. The raised pond _____

16. The Main Gateway _____

17. The flower beds _____

Question 18-20

Choose the correct letter, **A, B,** *or* **C.**

18. What is the purpose of the Rest House?

A a place for the poor to stay

B a meeting place for pilgrims

C an architecture feature

19. How was the water drawn from the river when the Taj Mahal was built?

A manually

B pipes

C rope

20. Copper pot was placed under each fountain to ensure _____ .

A equal water pressure all over the garden

B less water pressure all over the garden

C different water pressure all over the garden

Vocabulary Tests

General vocabulary knowledge test (adapted from the Listening Vocabulary Levels Test, McLean et al., 2015).

This is a vocabulary test.

Please listen to the teacher reading out the words. For each English word, you will also hear a sentence including the word. Please select the Arabic word from the option a, b, c, or d which has the closest meaning to the English word being read.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

PART 1

1. time: They have a lot of **time**.
   a. money
   b. food
   c. hours
   d. friends
2. stone: She sat on a **stone**.
   a. hard thing
   b. kind of chair
   c. soft thing of the floor
   d. part of a tree
3. poor: We are **poor.**
   a. have no money
   b. happy
   c. very interested
   d. tall

4. drive: She **drives** fast.
   a. swims
   b. learns
   c. throws balls
   d. uses a car

5. advice: The teacher gave us some **advice**.
   a. suggestion
   b. wisdom
   c. support
   d. story

6. energy: She does not have the **energy** to complete this.
   a. fatigue
   b. dullness
   c. weakness
   d. strength
7. jump: She tried to **jump**.
   a. lie on top of the water
   b. get up off the ground
   c. stop the car on the road
   d. move very fast
8. shoe: Where is your other **shoe**?
   a. the person who looks after you
   b. the thing you keep your money in
   c. the thing you use for writing
   d. the thing you wear on your foot

9. tempted: They got **tempted** by the good news.
   a. reluctant to doing something
   b. attracted to doing something
   c. hesitant to do something
   d. desperate to do something
10. Plenty: There are **plenty** of apples in the fridge.
    a. a lot
    b. little
    c. low
    d. some
11. test: We have a **test** in the morning.
    a. Meeting
    b. travelling somewhere
    c. a set of questions
    d. an idea to do something

12. nothing: He said **nothing** to me.
    a. very bad things
    b. zero
    c. very good things
    d. something

13. cross: Don't **cross**.
    a. go to the other side
    b. push something
    c. eat too fast
    d. wait for something

14. anxious: Sally is **anxious**
    a. relaxed
    b. worried
    c. happy
    d. angry

15. stroll: How about we take a **stroll**.
    a. trip
    b. break
    c. walk
    d. race
16. actual: The **actual** one is larger.
    a. real
    b. old
    c. round
    d. other

17. any: Does she have **any** friends?
    a. some
    b. no
    c. good
    d. old
18. far: You have walked far!
    a. for a long time
    b. very fast
    c. a long way
    d. to your house

19. review: He **reviewed** the exam.
    a. forgot
    b. ignored
    c. Inspected
    d. revised
20. game: I like this **game**.
    a. Food
    b. Story
    c. group of people
    d. way of playing

21. cause: He **caused** the problem.
    a. made
    b. Fixed
    c. Explained
    d. understood

22. repetition: **repetition** helps in learning languages.
    a. retelling
    b. recalling
    c. recording
    d. leaving
23. stretch: Try not to **stretch** it.
    a. pull
    b. bend
    c. shorten
    d. extend
24. hydrated: Don't forget to stay **hydrated**.
    a. wet
    b. dry
    c. hard
    d. soft

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25. many: I have **many**.
a. none
b. enough
c. a few
d. a lot

26. where: **Where** did you go?
a. at what time
b. for what reason
c. to what place
d. in what way

27. school: This is a big **school**.
a. where money is kept
b. sea animal
c. place for learning
d. where people live

28. grow: All the children **grew**.
a. drew pictures
b. spoke
c. became bigger
d. cried a lot

29. flower: He gave me a **flower**.
a. night clothes
b. small clock
c. beautiful plant
d. type of food

30. domesticated: She loves **domesticated** animals.
a. wild
b. huge
c. pet
d. delicate

31. sociable: He's not **sociable**.
a. outgoing
b. funny
c. quiet
d. rude

32. handle: I can't **handle** it.
a. open
b. remember
c. deal with
d. believe

33. camp: He is in the **camp.**
a. sea
b. place outside where people enjoy nature
c. hospital
d. building where people sleep

34. lake: People like the **lake**.
a. area of water
b. very young child
c. leader
d. quiet place

35. past: It happened in the **past**.
a. before now
b. big surprise
c. night
d. summer

36. mistreat: She **mistreats** her friends.
a. assist
b. protect
c. abuse
d. judge

37. content: What're the **contents** of the package?
a. surface
b. aspect
c. cover
d. substance

38. round: It is **round**.
a. friendly
b. very big
c. very quick
d. with no corners

39. respond: She didn't **respond** to it.
a. refuse
b. react
c. listen
d. ask

40. gentle: He's very **gentle**.
a. person who is kind
b. person who is cruel
c. person who is shy
d. person who is lazy

1. maintain: Can they **maintain** it?
a. keep it like it is
b. make it larger
c. get a better one than it
d. get it

2. period: It was a difficult **period**.
a. small set of questions
b. time
c. thing to do
d. book

3. standard: Her **standards** are very high.
a. the back under her shoes
b. test scores
c. cost of something
d. level of how good she wants things to be

4. basis: This was used as the **basis.**
a. answer
b. resting place
c. next step
d. main part

5. upset: I am **upset.**
a. strong
b. famous
c. rich
d. angry

6. curious: He seemed **curious.**
a. interested
b. indifferent
c. bored
d. confused

7. wool: It's covered in **wool**.
a. piece of colorful cloth
b. soft, curly hair forming coat of a sheep
c. thin thread for sewing
d. fabric from silkworm

8. drawer: The **drawer** was empty.
a. box that goes in and out for clothes
b. place to keep cars
c. place used to keep things cold
d. animal house

9. pub: They went to the **pub**.
a. place where people drink and talk
b. place that keeps money
c. large building with many shops
d. building for swimming

10. demand: There's no **demand** for it.
a. pressing requirement
b. unnecessary requirement
c. unwanted requirement
d. optional requirement

11. circle: Make a **circle**.
a. rough picture
b. space with nothing in it
c. round shape
d. large hole

12. pro: He's a pro.
a. person who has the job to find important secrets
b. stupid person
c. person who writes articles
d. someone who is very good at doing something and is paid to do it.

13. soldier: He is a **soldier**.
a. person who works in business
b. person who studies at school
c. person who works with wood
d. person who fights in a war

14. result: They were waiting for the **results.**
a. right time
b. questions
c. money
d. effects of something

15. resist: They **resisted** it.
a. made it work again
b. looked at it twice
c. thought hard about
d. acted against

16. pet: She has four **pets.**
a. boxes that carry jewels
b. people who are kind
c. classic cars
d. animal kept as a companion

17. lend: She often **lends** her books.
a. lets people use them
b. draws inside them
c. cleans them
d. writes her name on them

18. refuse: She **refused.**
a. went back
b. thought about something
c. said no
d. stayed late

19. lecture: No one joined the **lecture**.
a. football match
b. musical event
c. educational talk
d. car race

20. speech: I enjoyed the **speech**.
a. type of presentation
b. very fast run
c. short piece of music
d. type of hot food

21. associate: People **associate** pink with happiness.
a. relate
b. separate
c. leave
d. avoid

22. pressure: They used too much **pressure**.
a. money
b. time
c. hard pushing
d. bad words

23. psychology: She likes **psychology.**
a. comedy show
b. short story
c. Arabic poetry
d. study of personality

24. absorbed: She was absorbed in her exams.
a. immersed
b. absent
c. distracted
d. worried

25. refer: She **referred** to him.
a. supported him
b. let him go first
c. talked about him
d. answered him

26. theory: She developed her own **theory**.
a. collection of art
b. a personal statement
c. academic achievement
d. a set of ideas that explains facts

27. exterior: They checked the **exterior** of the building.
a. unknown
b. outside
c. real
d. recent

28. army: They saw the **army**.
a. black and white animal
b. place where books are kept
c. person who lives nearby
d. people who protect a country

29. knee: Take care of your **knee**.
a. small child
b. part of your leg
c. plan for spending money
d. something that is yours

30. condition: She adjusted herself to the new **conditions**.
a. circumstances
b. place to eat food
c. group of people
d. type of movie

31. state: What is your **state** of your employment now?
a. condition
b. balance
c. order
d. plan

32. involved: She's **involved** in her studies.
a. free of
b. concerned about
c. keen on
d. busy with

33. inspiration: My mother's a huge **inspiration** to us.
a. incentive
b. burden
c. goal
d. reason

34. rope: He found a **rope**.
a. thick and strong string
b. something used to make holes
c. strong box for keeping money
d. metal tool used to climb up high

35. brand: This is a good **brand**.
a. dance party
b. first try
c. place to wait for others
d. name of a company

36. seal: They **sealed** it.
a. fixed it
b. closed it tightly
c. looked at it carefully
d. opened it quickly

37. warn: They were **warned**.
a. pushed away
b. welcomed inside
c. told about bad things
d. led into war

38. technique: He discovered a different **technique**.
a. method
b. idea
c. plan
d. result

39. reserve: They have large **reserves.**
a. things kept to use later
b. machine for making bread
c. money from other people
d. group that runs a company

40. invent: He (invented) the computer.
a. made
b. painted
c. placed
d. bought

1. It has been **restored**.
   a. said again
   b. given to a different person
   c. given a lower price
   d. made like new again

2. compound: They made anew **compound**.
   a. agreement between two people
   b. thing made of two or more parts
   c. group that works together
   d. guess based on past experience

3. latter: I agree with the **latter**.
   a. man from the church
   b. reason given before
   c. second one of two things
   d. answer to the spoken question

4. timer: Please set the **timer** before you start.
   a. box for tools
   b. type of sofa
   c. part of a car
   d. type of watch

5. A-grade: He became an **(A-grade)** student.
   a. student who's not afraid of exams
   b. student who knows English
   c. student who gets the best marks
   d. student who is always busy

6. pave: It was **paved**.
   a. stopped quickly
   b. divided into many parts
   c. given gold edges
   d. covered with a hard surface

7. remedy: We found a good **remedy**.
   a. way to fix a problem
   b. place to eat in public
   c. way to prepare food
   d. rule about numbers

9. intensive: Your **intensive** training is over.
   a. involves great effort
   b. easy to handle
   c. requires help
   d. needs less time

10. bacterium: They didn't find a single **bacterium**.
    a. small living thing causing sickness
    b. plant with red or orange flowers
    c. animal that carries water on its back
    d. thing that has been stolen and sold to a shop

11. sensible: This doesn't sound **sensible**.
    a. showing good judgment
    b. having good time
    c. demanding courage
    d. presenting good ideas

12. to-do-list: He made a short **to-do-list**.
    a. a long essay
    b. personal diary
    c. audio-recording
    d. worklist

13. behavior: Look at her **behavior!**
    a. people who have come to listen
    b. the way she acts
    c. large amount of money
    d. small land with water around it

14. fuel: Do you have any **fuel**?
    a. material used to make energy
    b. a drug that stops pain
    c. clothing used to keep you warm
    d. a material put in walls to keep heat inside

15. deserve: Well done. You (deserve) a holiday.
    a. to be worthy of
    b. to fail
    c. to cope
    d. to be aware

17. Who **conceived** the idea?
    a. told it to others
    b. explained it
    c. thought of it first
    d. said it was bad

18. legend: It is now a **legend**.
    a. building for keeping old things
    b. thing that is always done
    c. story from the past
    d. event that happens regularly

19. impose: This was **imposed**.
    a. completely changed
    b. in the middle of other things
    c. made to look like something else
    d. forced to happen by someone in power

20. satisfaction: Her work gave her a sense of joy and **satisfaction**.
    a. feeling of contentment
    b. feeling of disappointment
    c. feeling of discomfort
    d. feeling of loneliness

21. observe: The school **observed** its first anniversary.
    a. had a party
    b. met at a restaurant
    c. visited friends
    d. went shopping

22. solution: There is no **solution.**
    a. time
    b. support
    c. problem
    d. answer

23. admire: I (admire) my parents.
    a. dislike
    b. respect
    c. support
    d. listen

8. productivity: Exercise increases your **productivity**.
a. small amount of money
b. how much is being done
c. people who care about you
d. amount of money you saved

25. independence: He has too much **independence.**
a. freedom from outside control
b. time by himself
c. physical strength
d. feeling of being better than others

26. tunnel: We need a **tunnel** here.
a. way through or under something
b. long piece of wood or metal to hold
c. mark on paper to show a short space
d. piece of material to cover a window

27. reward: He got a good **reward**.
a. things said about him by others
b. someone to help him in the house
c. money or gift for the things he did
d. large group of people to listen to him

28. The committee **reviewed** the plan
a. examined it carefully for a decision
b. agreed to allow
c. made more just like it
d. threw it away

29. complicated: This book is **complicated.**
a. easy to do
b. fun to watch
c. boring to listen to
d. difficult to understand

30. filling: What's your favourite **filling?**
a. food that is put inside things
b. thing made of sand
c. soft cloth
d. type of flower

16. silk: It's made of **silk**.
a. smooth and soft cloth
b. hard black wood
c. animal fur
d. very light metal

33. personnel: I don't like the **personnel** there.
a. type of chair that folds
b. machine that controls the heat
c. people who work there
d. person who owns a company

34. competent: She was very **competen**t.
a. very fast
b. made angry easily
c. able to do things
d. easily hurt

35. layer: It has many **layers**.
a. small round metal
b. thick black wood
c. type of bread
d. flat, thin piece of something which covers something else

36. devastate: The city was **devastated**.
a. made beautiful for a special occasion
b. separated from the rest of the world
c. suffered great damage
d. made dirty by small animals

37. pastry: I dislike flaky **pastry**.
a. type of spice
b. baked food made from flour
c. large round pan
d. type of beans

38. constituent: This is an important constituent.
a. building
b. agreement
c. idea
d. part

24. celebrate: We have **celebrated** a lot recently.
a. found something for the first time
b. seen many new places
c. worked very hard
d. had a lot of parties

31. mode: The **mode** of production has changed.
a. type
b. speed
c. attitude
d. amount

32. paste: Do you have any **paste**?
a. type of soft food
b. type of wall decoration
c. type of medicine
d. type of stone

39. weave: She knows how to **weave**.
a. make cloth
b. join pieces of metal together
c. make people think something
d. trick people

40. mould: He used a star shape **mould**.
a. object used to make something in a particular shape
b. large container to store food
c. type of spicy food
d. small stones

1. concept: This is a difficult **concept**.
   a. legal agreement
   b. idea about what something is
   c. way of doing things
   d. a written explanation of a law
2. similar: These articles are **similar**.
   a. about a certain thing
   b. of great quality
   c. easy to understand
   d. close to the same
3. item: The next **item** is very important.
   a. thing on a list
   b. question sheet
   c. meeting of people
   d. way something looks
4. component: Each **component** is very important.
   a. set of ideas which support something
   b. flat part that sits on top of another
   c. small part of something bigger
   d. the person you work with
5. decoration: She used clourful **decorations** for her dress.
   a. type of plant
   b. metal tool for fixing cars
   c. object put on something else to make it look nice
   d. type of seafood
6. compensate: The government should **compensate** the farmers.
   a. give something good to balance something bad
   b. stop them from joining a group
   c. find where they are
   d. bring them together
7. professional: She wants to be a **professional** musician.
   a. someone who stays at home
   b. someone who gets paid to play
   c. someone on a list
   d. someone known by many people

9. external: They worried about the **external** damage.
   a. not known
   b. outside
   c. based on facts
   d. following
10. prove: This book **proves** my point.
    a. to show something is true
    b. to argue about something
    c. to disagree with someone
    d. to return something
11. clause: Please fix that **clause**.
    a. part of a sentence
    b. something you are trying to do
    c. large picture
    d. small object
12. migrate: The animals began to **migrate.**
    a. work together
    b. move together to a different place
    c. come together as a group
    d. change together
13. priority: That is our **priority.**
    a. deal between two people
    b. most important thing
    c. something that has been printed
    d. person who comes next
14. genes: **Genes** are interesting for scientists.
    a. type of fruit
    b. basic unit of heredity
    c. hair product
    d. animal that has fur
15. reverse: Try it in **reverse**.
    a. the other direction
    b. the way things are arranged
    c. with the correct sound
    d. at the correct time

17. reaction: Their **reaction** to the story was unexpected.
    a. response
    b. letter
    c. presentation
    d. essay
18. mutual: The feeling was **mutual**.
    a. easy to understand
    b. fully developed
    c. the same between two people
    d. kept under control
19. alternative: Is there an **alternative**?
    a. another choice
    b. thing to do
    c. something to say
    d. activity with many people
20. colleague: That is my **colleague**.
    a. something that people talk about
    b. plan of things to do
    c. person you work with
    d. piece of writing
21. legal: Is this meeting place **legal?**
    a. based on the law
    b. free to be used
    c. easy to see
    d. important to someone
22. site: He looked for a better **site**.
    a. basic part of something
    b. opinion about the price
    c. place where something is
    d. something brought from another country
23. ridiculous: This is a **ridiculous** idea.
    a. difficult
    b. funny
    c. serious
    d. silly

8. refreshing: The weather today is **refreshing**.
a. Making you sleep
b. helping pain
c. Making you relax
d. serving to revive

16. arbitrary: Her decision was **arbitrary**.
a. not chosen for a reason
b. necessary for success
c. not able to be changed
d. good enough for a purpose

24. habit: They have a **habit** of eating junk food.
a. something you do regularly
b. food you eat for breakfast
c. something you use to clean windows
d. medicine you use for headache

25. institute: We must **institute** new changes.
a. get with effort
b. control with laws
c. begin or create
d. search for

26. risk: He takes a **risk** every time he makes a decision.
a. standpoint
b. danger
c. problem
d. safety

27. retain: How will the club **retain** its members?
a. mix them together
b. help them develop
c. help them work together
d. keep them

28. unhealthy: She always eats **unhealthy** food.
a. not good for your well-being.
b. good for your backache
c. recommended by doctors
d. easy to follow

29. phase: This is one **phase** of the new system.
a. list of things in a special order
b. short part of a process
c. range of levels
d. rule that controls what something is

30. pursue: This year she will **pursue** the group's goals.
a. try to get
b. change
c. check over time
d. make easier

33. hierarchy: This **hierarchy** is very common.
a. set of ideas a group has
b. group with people at different levels
c. dangerous material
d. popular way of dressing

34. distort: The image is **distorted.**
a. having more than one meaning
b. exactly the same as something else
c. has a badly changed shape
d. from recent times

35. accumulate: He **accumulated** many friends.
a. understood the value
b. got more and more
c. said good things about
d. became the same as

36. abandon: He **abandoned** the project.
a. used it for his own gain
b. controlled in a clever way
c. stopped working on it
d. made it as small as possible

37. doubt: He has great **doubts** about his new job.
a. clarity
b. uncertainty
c. happiness
d. trust

38. increase: Please don't **increase** the volume
a. to make stronger
b. to follow rules
c. to make larger in size or degree
d. to listen to music

41. perspective: You have a good **perspective**.
a. events that happen again and again
b. way of seeing things
c. group of people you know
d. how other people see you

42. illness: Smoking causes **illness**.
a. disease of the body or mind
b. type of flower
c. type of vegetables
d. type of drugs

31. recover: The men **recovered** their strength.
a. showed other people
b. used for a reason
c. said that they know
d. got back
32. diverse: Having **diverse** information is important.
a. with no mistakes
b. very small amount
c. able to be changed
d. having different types

39. rigid: These rules are **rigid.**
a. how good something is
b. happening at the same time
c. continuing for a limited time
d. not able to be changed

40. notwithstanding : **Notwithstanding** John's feelings, Allison went to France.
a. without knowing
b. giving back in the same way
c. because of
d. not being stopped by

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اختبار تحديد مستوى المفردات

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة إنجليزية ستستمعين إلى مثال يحتوي على الكلمة .

يرجى اختيار الكلمة العربية من الخيارات (أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة الإنجليزية التي تم قراءتها.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

9. time: They have a lot of **time**. أ. مال ب. طعام ج. وقت د. أصدقاء	43. tempted: They got **tempted** by the good news. أ. مُمانع ب. مُنجذب ج. مُتردد د.مُستميت	41. any: Does she have **any** friends? أ. أيٍ من ب. لا يوجد ج. جيد د. قديم
10. stone: She sat on a **stone**. أ. حجر ب. مقعد ج. سجادة د. غُصن	44. Plenty: There are **plenty** of apples in the fridge. أ. كثير ب. قليل ج. منخفض د. بعض	42. far: You have walked far! أ. فترة طويلة ب. بسرعة كبيرة ج. بعيداً د. إلى منزلك
11. poor: We are **poor.** أ. فقير ب. سعيد ج. مُهتم د. طويل	45. test: We have a **test** in the morning. أ. اجتماع ب. رحلة ج. اختبار د. خطة	43. review: He **reviewed** the exam. أ. نسى ب. تجاهل ج. فحصَ د. راجع
12. drive: She **drives** fast. أ. تسبح ب. تتعلم ج. ترمي د. تقود	46. nothing: He said **nothing** to me. أ. أشياء سيئة ب. لاشيْ ج. أشياء جيدة د. شيء ما	44. game: I like this **game**. أ. طعام ب. قصة ج. مجموعة د. لُعبة
13. advice: The teacher gave us some **advice**. أ. نصيحة ب. حكمة ج. دعم د. قصة	47. cross: Don't **cross**. أ. تعبُر ب. تدفع ج. تلتهم د. تنتظر	45. cause: He **caused** the problem. أ.تَسببَ ب.أصلحَ ج. شرحَ د.فَهِمَ
14. energy: She does not have the **energy** to complete this. أ.تعب ب. ملل ج. ضعف د. طاقة	48. anxious: Sally is **anxious** أ. مسترخي ب. قلق ج. سعيد د. غاضب	46. repetition: **repetition** helps in learning languages. أ. تكرار ب. تذكُر ج. تسجيل د. تَرك
15. jump: She tried to **jump**. أ. تطفو ب. تَقفز ج. تُوقف د. تُجْري	49. stroll: How about we take a **stroll**. أ. رحلة ب. راحة ج. نزهة د. سباق	47. stretch: Try not to **stretch** it. أ. تسحب ب. تطوي ج. تُقصر د. تُمدد
16. shoe: Where is your other **shoe**? أ. والد ب. محفظة ج. قلم د. حذاء	50. actual: The **actual** one is larger. أ. حقيقي ب. قديم ج. دائري د. آخر	48. hydrated: Don't forget to stay **hydrated**. أ. رطب ب. جاف ج. صلب د. طري

49. many: I have **many**. أ. لاشيء ب. كافي ج. قليل د. كثير	41. camp: He is in the **camp.** أ. بحر ب. مُخيم ج. مَشفىَ د. فندق	
50. where: **Where** did you go? أ. متى ب. لماذا ج. أين د. كيف	42. lake: People like the **lake**. أ. بحيرة ب. رضيع ج. قائد د. مكان هادئ	
51. school: This is a big **school**. أ. بنك ب.حيوان بحري ج. مدرسة د. منزل	43. past: It happened in the **past**. أ. ماضي ب. حادث ج. مساء د. صيف	
52. grow: All the children **grew**. أ. رسمَوا ب. تحدثوا ج. كبُروا د.بَكوا	44. mistreat: She **mistreats** her friends. أ. تُساعد ب. تَحمى ج. تُسيء د. تحكُم	
53. flower: He gave me a **flower**. أ. قميص نوم ب. ساعة يد ج. وردة د.خبز	45. content: What're the **contents** of the package? أ. سطح ب. مظهر ج. غطاء د. محتوى	
54. domesticated: She loves **domesticated** animals. أ. مفترس ب. ضخم ج. أليف د. ناعم	46. round: It is **round**. أ. ودود ب. ضخم ج. سريع د. دائري	
55. sociable: He's not **sociable**. أ. اجتماعي ب. مضحك ج. هادئ د. فظ	47. respond: She didn't **respond** to it. أ. رفضت ب. أجابت ج. سمعت د. سألت	
56. handle: I can't **handle** it. أ. أفتح ب.اَتذكر ج. أتعامل د .أُصَدِق	48. gentle: He's very **gentle**. أ. لطيف ب. قاسي ج. خجول د. كسول	

33. maintain: Can they **maintain** it?	41. pub: They went to the **pub**.	51. lend: She often **lends** her books.
أ. يحافظون ب. يُكبّرون ج. يُحَسنون د. يحصلون	أ. حانة ب. بنك ج. مركز تجاري د. حمام سباحة	أ. تُعير ب. تُخَرْبش ج. تُنظف د. تُعنون
34. period: It was a difficult **period**.	42. demand: There's no **demand** for it.	52. refuse: She **refused.**
أ. أسئلة ب. فترة ج. مهام د. كتاب	أ. احتياج ب. غير ضروري ج. غير مطلوب د. اختياري	أ. عادت ب. فكرت ج. رفضت د. تأخرت
35. standard: Her **standards** are very high.	43. circle: Make a **circle**.	53. lecture: No one joined the **lecture**.
أ. كعب عالي ب. درجات ج. أسعار د. معايير	أ. مسودة ب. فراغ ج. دائرة د. حفرة	أ. مبارة كرة قدم ب. حفلة موسقية ج. محاضرة تعليمية د. سباق سيارات
36. basis: This was used as the **basis.**	44. pro: He's a pro.	54. speech: I enjoyed the **speech**.
أ. إجابة ب. استراحة ج. الخطوة التالية د. الأساس	أ. جاسوس ب. أحمق ج. كاتب د. خبير	أ. خِطاب ب. سباق ج. موسيقى د. طعام
37. upset: I am **upset.**	45. soldier: He is a **soldier**.	55. associate: People **associate** pink with happiness.
أ. قوي ب. مشهور ج. غني د. مستاء	أ. رجل أعمال ب. طالب ج. نجار د. جندي	أ. يربطون ب. يفصلون ج. يتركون د. يتجنبون
38. curious: He seemed **curious.**	46. result: They were waiting for the **results.**	56. pressure: They used too much **pressure**.
أ. مهتم ب. غيرمكترث ج. متضجر د. حائر	أ. وقت مناسب ب. أسئلة ج. مال د. نتائج	أ. مال ب. وقت ج. ضغط د. كلمات بذيئة
39. wool: It's covered in **wool**.	47. resist: They **resisted** it.	57. psychology: She likes **psychology.**
أ. قماش ملون ب. صوف ج. خيط د. حرير	أ. أصلحوا ب. حدقوا ج. فكروا د. قاوموا	أ. برنامج كوميدي ب. قصة قصيرة ج. شعر عربي د. علم النفس
40. drawer: The **drawer** was empty.	48. pet: She has four **pets.**	58. absorbed: She was **absorbed** in her exams.
أ. دُرج ب. موقف سيارات ج. ثلاجة د. قَفص	أ. صندوق مجوهرات ب. اشخاص لطفاء ج. سيارات عتيقة د. حيوانات أليفة	أ. منغمسة ب. غائبة ج. مشتتة د. قلقة

57. inspiration: My mother's a huge **inspiration** to us. أ. إلهام ب. عبء ج. هدف د. سبب	59. refer: She **referred** to him. أ. دَعمت ب. قَدمت ج. أشارت د. جاوبَت
58. rope: He found a **rope**. أ. حَبل ب. أدوات حفر ج. خزنة د. سُلَّم	60. theory: She developed her own **theory**. أ. مجموعة فنية ب. بيان شخصي ج. انجاز علمي د. نظرية
59. brand: This is a good **brand**. أ. حفلة راقصة ب. محاولة أولى ج. غرفة انتظار د. علامة تجارية	61. exterior: They checked the **exterior** of the building. أ. غير معروف ب. خارجي ج. حقيقي د. حالي
60. seal: They **sealed** it. أ. أَصلحَوه ب. أغلَقوه ج. فَحصوه د. فَتحَوه	62. army: They saw the **army**. أ. حمار وحشي ب. رف ج. جار د. جيش
61. warn: They were **warned**. أ. دُفِعوا ب. أستَضافوا ج. حُذِّروا د. أستُدرجوا	63. knee: Take care of your **knee**. أ. طفل ب. ركبة ج. ادخار د. ممتلكات
62. technique: He discovered a different **technique**. أ. طريقة ب. فكرة ج. خطة د. نتيجة	64. condition: She adjusted herself to the new **conditions**. أ. أحوال ب. مطعم ج. مجموعة د. فيلم
63. reserve: They have large **reserves.** أ. احتياطي ب. فرن ج. دَين د. شركاء	65. state: What is your **state** of your employment now? أ. وضع ب. توازن ج. ترتيب د. خطة
64. invent: He **invented** the computer. أ. إختَرعَ ب. رَسَمَ ج. وضع د. اشترى	66. involved: She's **involved** in her studies. أ. خالية من ب. قلقة على ج. حريصة على د. منشغلة ب

17. It has been **restored**. أ. كُرِرَت ب. حُوِّلَت ج. خُفِّضَت د. رُمِّمَت	41. intensive: Your **intensive** training is over. أ. مُكثف ب. سهل ج. يتطلب مساعدة د. يتطلب وقت أقل	49. Who **conceived** the idea? أ. بَلَغَ ب. شرحَ ج. ابتكَرَ د. إنتقدَ
18. compound: They made anew **compound**. أ. عقد ب. مُجمع ج. شركةً د. نبوءة	42. bacterium: They didn't find a single **bacterium**. أ. بكتريا ب. دوار الشمس ج. جمل د. مسروقات	50. legend: It is now a **legend**. أ. متحف ب. عادة ج. أسطورة د. فعليات
19. latter: I agree with the **latter**. أ. قِس ب. سبب ج.الثاني د. إجابة	43. sensible: This doesn't sound **sensible**. أ. منطقي ب .مُمتع ج. مُتطلب د. مُبدع	51. impose: This was **imposed**. أ. مُتغير ب. مُتوسط ج. مُقلد د. مَفرُوض
20. timer: Please set the **timer** before you start. أ. صندوق عدة ب. اريكة ج. باب سيارة د. ساعة توقيت	44. to-do-list: He made a short **to-do-list**. أ. مقال طويل ب. مذكرات ج. تسجيل صوتي د. قائمة مهام	52. satisfaction: Her work gave her a sense of joy and **satisfaction**. أ. الرضا ب. الخيبة ج. الانزعاج د. الوحدة
21. A-grade: He became an (**A-grade**) student. أ. لا يخاف من الامتحان ب. يعرف الانجليزية ج. متفوق د. منشغل دائماً	45. behavior: Look at her **behavior!** أ. جمهور ب. سلوك ج. ثروة د. جزيرة	53. observe: The school **observed** its first anniversary. أ. إحتفلت ب. قابلت ج. زارت د. تسوقت
22. pave: It was **paved**. أ. محظور ب. مُقَسَّمٌ ج. مَطلِيٌّ د.مُعَبَّدَ	46. fuel: Do you have any **fuel**? أ. وقود ب. مُسكّن ج. معطف د. عازل	54. solution: There is no **solution.** أ. وقت ب. رياضة ج. مشكلة د. حل
23. remedy: We found a good **remedy**. أ. علاج ب.مطعم ج. وصفة د.معادلة	47. deserve: Well done. You **deserve** a holiday. أ. تستحق ب. تخفق ج. تتعايش د. تعي	55. admire: I **admire** my parents. أ. اكره ب. اقدر ج . ادعم د .اسمع
24. productivity: Exercise increases your **productivity**. أ. أموال قليلة ب. إنتاجية ج. أسُرة د. مُدخرات	48. silk: It's made of **silk**. أ. حرير ب. عود ج. فراء د. ذهب	56. celebrate: We have **celebrated** a lot recently. أ. اكتشف ب. شاهد ج. اجتهدَ د. احتفل

57. independence: He has too much **independence.** أ. استقلال ب. خلوة ج. قوة د. غرور	67. personnel: I don't like the **personnel** there. أ. كرسي ب. جهاز تدفئة ج. موظفين د. مالك
58. tunnel: We need a **tunnel** here. أ. نَفَق ب. عصا ج. إشارة د. ستارة	68. competent: She was very **competen**t. أ. سريعة ب. غاضبة ج. مُتمكنه د. حساسه
59. reward: He got a good **reward**. أ. مديح ب. عامله منزلية ج. مكافأة د. جمهور	69. layer: It has many **layers**. أ. مسمار ب. خشب ج. خبز د. طبقات
60. The committee **reviewed** the plan أ. دَقَقت ب. سمحت ج. كررت د. رمت	70. devastate: The city was **devastated**. أ. مزينة ب. معزولة ج. مدمرة د. ملوثة
61. complicated: This book is **complicated.** أ. سهل ب. مُمتع ج. مُمل د. مُعقد	71. pastry: I dislike flaky **pastry**. أ. بهارات ب. عجينة ج. طبق د. عدس
62. filling: What's your favourite **filling?** أ. حشوة ب. فخار ج. حرير د. قرنفل	72. constituent: This is an important **constituent**. أ. مباني ب. اتفاق ج. فكرة د. مكون
63. mode: The **mode** of production has changed. أ. أسلوب ب. سرعة ج. تصرف د. كمية	73. weave: She knows how to **weave**. أ. تَنسُج ب. تُركب ج. تُحفز د. تَخدع
64. paste: Do you have any **paste**? أ. معجون ب. زخرفة ج. دواء د. حصى	74. mould: He used a star shape **mould**. أ. قالب ب. وعاء ج. طعام هندي د. حصى

9. concept: This is a difficult **concept**. أ. معاهدة ب. مفهوم ج. طريقة د. قانون	25. external: They worried about the **external** damage. أ. مجهول ب. خارجي ج. حقيقي د. تابع	49. reaction: Their **reaction** to the story was unexpected. أ. ردة فعل ب. رسالة ج. عرض د. مقالة
10. similar: These articles are **similar**. أ. محدده ب. ممتازه ج. بسيطه د. متشابهه	26. prove: This book **proves** my point. أ. يُثبت ب. يُجادل ج. يُعارض د. يُرجع	50. mutual: The feeling was **mutual**. أ. واضح ب. ناضج ج. مُتبادل د. مسيطر
11. item: The next **item** is very important. أ. فقرة ب. استبيان ج. اجتماع د. مظهر	27. clause: Please fix that **clause**. أ. شبه جملة ب. هدف ج. صورة د. قرط	51. alternative: Is there an **alternative**? أ. بديل ب. مَهَام ج. تعليق د. فعالية
12. component: Each **component** is very important. أ. إطار ب. طبقات ج. عناصر د. شريك	28. migrate: The animals began to **migrate.** أ. يتعاون ب. يهاجر ج. يجتمع د. يتطور	52. colleague: That is my **colleague**. أ. موضوع ب. جدول ج. زميل د. مقال
13. decoration: She used clourful **decorations** for her dress. أ. صبار ب. مفك ج. زينة د. سمك	29. priority: That is our **priority.** أ. تسوية ب. اولوية ج. منشور د. خليفة	53. legal: Is this meeting place **legal?** أ. قانوني ب. مجاني ج. واضح د. رئيسي
14. compensate: The government should **compensate** the farmers. أ. تعويض ب. تستبعد ج. يتحدد د. تجمع	30. genes: **Genes** are interesting for scientists. أ. تفاح ب. جينات ج. مرطب للشعر د. خروف	54. site: He looked for a better **site**. أ. مكونات ب. تقيم ج. موقع د. صادرات
15. professional: She wants to be a **professional** musician. أ. مُتَقَاعِد ب. مُحترف ج. مُسَجِّل د. مشهور	31. reverse: Try it in **reverse**. أ. اتجاه معاكس ب. تنظيم ج. لحن د. موعد	55. ridiculous: This is a **ridiculous** idea. أ. صعب ب. مضحك ج. جاد د. سخيف
16. refreshing: The weather today is **refreshing**. أ. مُنوّم ب. مُسكّن ج. مُهدئ د. مُنعش	32. arbitrary: Her decision was **arbitrary**. أ. عشوائي ب. حاسم ج. صارم د. كافي	56. habit: They have a **habit** of eating junk food. أ. عادة ب. عسل ج. مُنظف د. مُسكّن

57. institute: We must **institute** new changes. أ. نحصد ب. ننظم ج. نؤسس د. نبحث	65. hierarchy: This **hierarchy** is very common. أ. افكار ب. تدرج ج. مواد كميائية د. أزياء	75. perspective: You have a good **perspective**. أ. دورة ب. وجهة نظر ج. اصدقاء د. انطباع
58. risk: He takes a **risk** every time he makes a decision. أ. قرار ب. مخاطرة ج. مشكلة د. أَمان	66. distort: The image is **distorted.** أ. غامض ب. متشابه ج. مشوه د. حديث	76. illness: Smoking causes **illness**. أ. مرض ب. ياسمين ج. خيار د. اسبرين
59. retain: How will the club **retain** its members? أ. يدمج ب. يُرَقّي ج. يُنَسق د. يُحافظ	67. accumulate: He **accumulated** many friends. أ. قَدرَ ب. جمع ج. مدح د. وافق	
60. unhealthy: She always eats **unhealthy** food. أ. غير صحي ب. جيد للألَم ج. موصى به د. سهل الاتباع	68. abandon: He **abandoned** the project. أ. استغلَ ب. تلاعب ج. تَخَلىَ د. قَلصَ	
61. phase: This is one **phase** of the new system. أ. قائمة ب. مرحلة ج. أبعاد د. لائح	69. doubt: He has great **doubts** about his new job. أ. وضوح ب. شك ج. سعادة د. ثقة	
62. pursue: This year she will **pursue** the group's goals. أ. سنُحقق ب. سنُغير ج. سنُراقب د. سنُسَهّل	70. increase: Please don't **increase** the volume أ. يقوي ب. يتبع ج. يزيد د. يسمع	
63. recover: The men **recovered** their strength. أ. كشفوا ب. استخدموا ج. اعترفوا د. استعادوا	71. rigid: These rules are **rigid.** أ. نوعي ب. متزامن ج. مؤقت د. صارم	
64. diverse: Having **diverse** information is important. أ. دقيق ب. قليل ج. مرن د. متنوع	72. notwithstanding : **Notwithstanding** John's feelings, Allison went to France. أ. دون علم ب. المعاملة بالمثل ج. بسبب د. بالرغم من	

Vocabulary post-test (Task 1- Advice for Exams)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each English word, you will also hear a sentence including the word. Please select the Arabic word from the option a, b, c, or d which has the closest meaning to the English word being read.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة إنجليزية ستستمعين إلى مثال يحتوي على الكلمة .

يرجى اختيار الكلمة العربية من الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة الإنجليزية التي تم قرائتها.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

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إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. Advice: The teacher gave us some (**advice**).
a. suggestion
b. wisdom
c. support
d. story

أ. نصيحة
ب. حكمة
ج. دعم
د. قصة

2. Energy: She does not have the (**energy**) to complete this.
a. fatigue
b. dullness
c. weakness
d. strength

أ. تعب
ب. ملل
ج. ضعف
د. طاقة

3.Tempted: They got (**tempted**) by the good news.
a. reluctant to doing something
b. attracted to doing something
c. hesitant to do something
d. desperate to do something

أ. مُمانع
ب. مُنجذب
ج. مُتردد
د.مُستميت

4. Plenty: There are (**plenty**) of apples in the fridge.
a. a lot
b. little
c. low
d. some

<div dir="rtl">

أ. كثير
ب. قليل
ج. منخفض
د. بعض

</div>

5. Anxious: Sally is (**anxious**)
a. relaxed
b. worried
c. happy
d. angry

<div dir="rtl">

أ. مسترخي
ب. قلق
ج. سعيد
د. غاضب

</div>

6. Stroll: How about we take a (**stroll**).
a. trip
b. break
c. walk
d. race

<div dir="rtl">

أ. رحلة
ب. راحة
ج. نزهة
د. سباق

</div>

7. Review: He (**reviewed**) the exam.
a. forgot
b. ignored
c. inspected
d. revised

أ. نسى
ب. تجاهل
ج. فحصَ
د. راجع

8. Repetition: (**Repetition**) helps in learning languages.
a. retelling
b. recalling
c. recording
d. leaving

أ. تكرار
ب. تذكُر
ج. تسجيل
د. تَرك

9. Stretch: Try not to (**stretch**) it.
a. pull
b. bend
c. shorten
d. extend

أ. تسحب
ب. تطوي
ج. تُقصر
د. تُمدد

10. Hydrated: Don't forget to stay (**hydrated**).
a. wet
b. dry
c. hard
d. soft

أ. رطب
ب. جاف
ج. صلب
د. طري

Delayed vocabulary post- test (Task 1- Advice for Exams)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each English word, you will also hear a sentence including the word. Please select the Arabic word from the option a, b, c, or d which has the closest meaning to the English word being read.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة إنجليزية ستستمعين إلى مثال يحتوي على الكلمة .

يرجى اختيار الكلمة العربية من الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة الإنجليزية التي تم قرائتها.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

. Energy: She does not have the **(energy)** to complete this.
a. fatigue
b. weakness
c. strength
d. dullness

أ. تعب

ب. ضعف

ج. طاقة

د. ملل

2. Repetition: (**Repetition**) helps in learning languages.
a. recording
b. recalling
c. retelling
d. leaving

أ. تسجيل

ب. تذكُر

ج. تكرار

د. ترك

3. Plenty: There are (**plenty**) of apples in the fridge.
a. some
b. low
c. little
d. a lot

4. Anxious: Sally is (**anxious**)
a. worried
b. relaxed
c. happy
d. angry

أ. قلق

ب. مسترخي

ج. سعيد

د. غاضب

5. Stroll: How about we take a (**stroll**).
a. walk
b. break
c. trip
d. race

أ. نزهة

ب. راحة

ج. رحلة

د. سباق

6. Advice: The teacher gave us some (**advice**).
a. wisdom
b. story
c. support
d. suggestion

7. Hydrated: Don't forget to stay (**hydrated).**
a. hard
b. dry
c. wet
d. soft

أ. صلب

ب. جاف

ج. رطب

د. طري

8. Review: He (**reviewed)** the exam.
a. forgot
b. ignored
c. inspected
d. revised

أ. نسى

ب. تجاهل

ج. فحصَ

د. راجع

9.Tempted: They got (**tempted)** by the good news.
a. reluctant to doing something
b. attracted to doing something
c. hesitant to do something
d. desperate to do something

أ. مُمانع

ب. مُنجذب

ج. مُتردد

د. مُستميت

10. Stretch: Try not to (**stretch**) it.
a. pull
b. bend
c. shorten
d. extend

أ. تسحب

ب. تطوي

ج. تُقصر

د. تُمدد

Vocabulary post- test (Task 2- Llamas)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at　　　The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the next question. However, if you think that you know the word, please try to answer.

Let's begin

<div dir="rtl">

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر　　　الإجابة الصحيحة هي ج

د. بدأت

</div>

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. domesticated: She loves **(domesticated)** animals.
 a. wild
 b. huge
 c. pet
 d. delicate

أ. مفترس

ب. ضخم

ج. أليف

د. ناعم

2. sociable: He's not **(sociable).**
 a. outgoing
 b. funny
 c. quiet
 d. rude

أ. اجتماعي

ب. مضحك

ج. هادئ

د. فظ

3. mistreat: She **(mistreats)** her friends.
 e. assist
 f. protect
 g. abuse
 h. judge

أ. تُساعد

ب. تَحمى

ج. تُسيء

د. تحكُم

4. content: What're the (**contents**) of the package?
a. surface
b. aspect
c. cover
d. substance

أ. سطح

ب. مظهر

ج. غطاء

د. محتوى

5. respond: She didn't (**respond**) to it.
a. refuse
b. react
c. listen
d. ask

أ. رفضت

ب. أجابت

ج. سمعت

د. سألت

6. gentle: He's very (**gentle**).
a. person who is kind
b. person who is cruel
c. person who is shy
d. person who is lazy

7. curious: He seemed (**curious**).
 a. interested
 b. indifferent
 c. bored
 d. confused

أ. مهتم

ب. غيرمكترث

ج. متضجر

د. حائر

8. wool: It's covered in (**wool**).
 a. piece of colorful cloth
 b. soft, curly hair forming coat of a sheep
 c. thin thread for sewing
 d. fabric from silkworm

أ. قماش ملون

ب. صوف

ج. خيط

د. حرير

9. demand: There's no **demand** for it.
 a. pressing requirement
 b. unnecessary requirement
 c. unwanted requirement
 d. optional requirement

أ. احتياج

ب. غير ضروري

ج. غير مطلوب

د. اختياري

10. pet: She has four **(pets)**.
   a.   boxes that carry jewels
   b.   people who are kind
   c.   classic cars
   d.   animal kept as a companion

أ. صندوق مجوهرات

ب. اشخاص لطفاء

ج . سيارات عتيقة

د. حيوانات أليفة

Delayed vocabulary post- test (Task 2- Llamas)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. mistreat: She (mistreats) her friends.
a. abuse
b. assist
c. protect
d. judge

أ. تُسيء
ب. تُساعد
ج. تَحمى
د. تحكُم

2. gentle: He's very (gentle).
a. person who is cruel
b. person who is shy
c. person who is lazy
d. person who is kind

أ. قاسي
ب. خجول
ج. كسول
د. لطيف

3. content: What're the (contents) of the package?
a. surface
b. aspect
c. substance
d. cover

4. domesticated: She loves (domesticated) animals.
a. huge
b. wild
c. delicate
d. pet

أ. ضخم
ب. مفترس
ج. ناعم
د. أليف

5. curious: He seemed (curious).
a. indifferent
b. interested
c. confused
d. bored

أ. غير مكترث
ب. مهتم
ج. حائر
د. متضجر

6. wool: It's covered in (wool).
a. soft, curly hair forming coat of a sheep
b. thin thread for sewing
c. fabric from silkworm
d. piece of colorful cloth

أ. صوف
ب. خيط
ج. حرير
د. قماش ملون

7. sociable: He's not (sociable).
a. quiet
b. funny
c. outgoing
d. rude

أ. هادئ
ب. مضحك
ج. اجتماعي
د. فظ

8. demand: There's no demand for it.
a. optional requirement
b. pressing requirement
c. unwanted requirement
d. unnecessary requirement

أ. اختياري
ب. احتياج
ج. غير مطلوب
د. غير ضروري

9. pet: She has four (pets).
a. boxes that carry jewels
b. animal kept as a companion
c. people who are kind
d. classic cars

أ. صندوق مجوهرات
ب. حيوانات أليفة
ج. اشخاص لطفاء
د. سيارات عتيقة

10. respond: She didn't (respond) to it.
a. refuse
b. listen
c. react
d. ask

<div dir="rtl">

أ. رفضت
ب. سمعت
ج. أجابت
د. سألت

</div>

Vocabulary post- test (Task 3- An introduction to a lecture)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the next question. However, if you think that you know the word, please try to answer.

Let's begin

<div dir="rtl">

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

</div>

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي . ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. lecture: No one joined the (**lecture**).
   a. football match
   b. musical event
   c. educational talk
   d. car race

أ. مبارة كرة قدم

ب. حفلة موسقية

ج. محاضرة تعليمية

د. سباق سيارات

2. associate: People (**associate**) pink with happiness.
   a. relate
   b. separate
   c. leave
   d. avoid

أ. يربطون

ب. يفصلون

ج. يتركون

د. يتجنبون

3. psychology: She likes (**psychology**).
   a. comedy show
   b. short story
   c. Arabic poetry
   d. study of personality

أ. برنامج كوميدي

ب. قصة قصيرة

343

4. absorbed: She was (**absorbed)** in her exams.
   a. immersed
   b. absent
   c. distracted
   d. worried

أ. منغمسة

ب. غائبة

ج. مشتتة

د. قلقة

5. theory: She developed her own (**theory)**.
   a. collection of art
   b. a personal statement
   c. academic achievement
   d. a set of ideas that explains facts

أ. مجموعة فنية

ب. بيان شخصي

ج. انجاز علمي

د. نظرية

6. exterior: They checked the (**exterior)** of the building**.**
   a. unknown
   b. outside
   c. real
   d. recent

أ. غير معروف

ب. خارجي

ج. حقيقي

د. حالي

7. condition: She adjusted herself to the new (**conditions**).
    a. circumstances
    b. place to eat food
    c. group of people
    d. type of movie

أ. أحوال

ب. مطعم

ج. مجموعة

د. فيلم

8. state: What is your **state** of your employment now?
    a. condition
    b. balance
    c. order
    d. plan

أ. وضع

ب. توازن

ج. ترتيب

د. خطة

9. involved: She's (**involved**) in her studies.
    a. free of
    b. concerned about
    c. keen on
    d. busy with

أ. خالية من

ب. قلقة على

ج. حريصة على

د. منشغلة بـ

10. inspiration: My mother's a huge (**inspiration**) to us.
    a. incentive
    b. burden
    c. goal
    d. reason

<div dir="rtl">

أ. إلهام

ب. عبء

ج. هدف

د. سبب

</div>

Delayed vocabulary post- test (Task 3- An introduction to a lecture)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

<div dir="rtl">

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

</div>

347

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. condition: She adjusted herself to the new (**conditions**).
   a. place to eat food
   b. group of people
   c. circumstances
   d. type of movie

أ. مطعم

ب. مجموعة

ج. أحوال

د. فيلم

2. absorbed: She was (**absorbed**) in her exams.
   a. distracted
   b. immersed
   c. worried
   d. absent

أ. مشتتة

ب. منغمسة

ج. قلقة

د. غائبة

3. psychology: She likes (**psychology**).
   a. short story
   b. Arabic poetry
   c. study of personality
   d. comedy show

أ. قصة قصيرة

ب. شعر عربي

ج. علم النفس

د. برنامج كوميدي

348

4. involved: She's (**involved**) in her studies.
   a. busy with
   b. free of
   c. concerned about
   d. keen on

أ. منشغلة ب

ب. قلقة على

ج. حريصة على

د. خالية من

5. theory: She developed her own (**theory**).
   a. academic achievement
   b. collection of art
   c. a set of ideas that explains fact
   d. a personal statement

أ. انجاز علمي

ب. مجموعة فنية

ج. نظرية

د. بيان شخصي

6. lecture: No one joined the (**lecture**).
   a. football match
   b. musical event
   c. educational talk
   d. car race

أ. مبارة كرة قدم

ب. حفلة موسقية

ج. محاضرة تعليمية

د. سباق سيارات

7. state: What is your **state** of your employment now?
   a. condition
   b. balance
   c. order
   d. plan

349

أ. وضع

ب. توازن

ج. ترتيب

د. خطة

8. exterior: They checked the (**exterior**) of the building**.**
   a. unknown
   b. recent
   c. real
   d. outside

أ. غير معروف

ب. حالي

ج. حقيقي

د. خارجي

9. inspiration: My mother's a huge (**inspiration**) to us.
   a. burden
   b. goal
   c. incentive
   d. reason

أ. عبء

ب. هدف

ج. إلهام

د. سبب

10. associate: People (**associate**) pink with happiness.
    a. separate
    b. leave
    c. avoid
    d. relate/ set side by side

أ. يفصلون

ب. يتركون

ج. يتجنبون

د. يربطون

Vocabulary post-test (Task 4- Organising your time)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. technique: He discovered a different (**technique).**
a. method
b. idea
c. plan
d. result

أ. طريقة

ب. فكرة

ج. خطة

د. نتيجة

2. invent: He (**invented)** the computer.
 a. made
 b. painted
 c. placed
 d. bought

أ. اِختَرعَ

ب. رَسَمَ

ج. وضع

د. اشترى

3. timer: Please set the (**timer**) before you start.
 a. box for tools
 b. type of sofa
 c. part of a car
 d. type of watch

أ. صندوق عدة

ب. اريكة

ج. باب سيارة

د. ساعة توقيت

4. A-grade: He became an (**A- grade**) student.
 a. student who's not afraid of exams
 b. student who knows English
 c. student who gets the best marks
 d. student who is always busy

أ. لا يخاف من الامتحان

ب. يعرف الانجليزية

ج. متفوق

د. منشغل دائماً

5. productivity: Exercise increases your (**productivity**).
 a. small amount of money
 b. how much is being done
 c. people who care about you
 d. amount of money you saved

أ. أموال قليلة

ب. إنتاجية

ج. أسُرة

د. مُدخرات

6. intensive: Your (**intensive**) training is over.
 a. involves great effort
 b. easy to handle
 c. requires help
 d. needs less time

أ. مُكثف

ب. سهل

ج. يتطلب مساعدة

د. يتطلب وقت أقل

7. sensible: This doesn't sound **(sensible)**.
 a. showing good judgment
 b. having good time
 c. demanding courage
 d. presenting good ideas

أ. منطقي

ب. مُمتع

ج. مُتطلب

د. مُبدع

8. to-do-list: He made a short **(to-do-list)**.
 a. a long essay
 b. personal diary
 c. audio-recording
 d. worklist

أ. مقال طويل

ب. مذكرات

ج. تسجيل صوتي

د. قائمة مهام

9. deserve: Well done. You **(deserve)** a holiday.
 a. to be worthy of
 b. to fail
 c. to copeto be aware

أ. تستحق

ب. تخفق

ج. تتعايش

د. تعي

10. satisfaction: Her work gave her a sense of joy and **(satisfaction)**.
 a. feeling of contentment
 b. feeling of disappointment
 c. feeling of discomfort
 d. feeling of loneliness

أ. الرضا

ب. الخيبة

ج. الانزعاج

د. الوحدة

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. productivity: Exercise increases your (**productivity**).
 a. how much is being done
 b. people who care about you
 c. amount of money you saved
 d. small amount of money

أ. إنتاجية

ب. أُسُرة

ج. مُدخرات

د. أموال قليلة

2. satisfaction: Her work gave her a sense of joy and (**satisfaction**).
 a. feeling of disappointment
 b. feeling of discomfort
 c. feeling of contentment
 d. feeling of loneliness

أ. الخيبة

ب. الانزعاج

ج. الرضا

د. الوحدة

3. timer: Please set the (**timer**) before you start.
 a. type of watch
 b. part of a car
 c. box for tools
 d. type of sofa

أ. ساعة توقيت

ب. باب سيارة

ج. صندوق عدة

د. اريكة

4. A-grade: He became an (**A- grade**) student.
 a. student who's not afraid of exams
 b. student who gets the best marks
 c. student who knows English
 d. student who is always busy

أ. لا يخاف من الامتحان

ب. متفوق

ج. يعرف الانجليزية

د. منشغل دائماً

5. technique: He discovered a different (**technique).**
 a. result
 b. plan
 c. idea
 d. method

أ. نتيجة

ب. خطة

ج. فكرة

د. طريقة

6. intensive: Your (**intensive**) training is over.
 a. easy to handle
 b. involves great effort
 c. requires help
 d. needs less time

أ. سهل

ب. مُكثف

ج. يتطلب مساعدة

د. يتطلب وقت أقل

7. to-do-list: He made a short (**to-do-list**).
 a. worklist
 b. a long essay
 c. personal diary
 d. audio-recording

8. invent: He (**invented**) the computer.
  a. placed
  b. painted
  c. made
  d. bought

أ. وضع

ب. رَسَمَ

ج. إخترَعَ

د. اشترى

9. sensible: This doesn't sound (**sensible**).
  a. having good time
  b. demanding courage
  c. presenting good ideas
  d. showing good judgment

أ. مُمتع

ب . مُتطلب

ج. مُبدع

د. منطقي

10. deserve: Well done. You (**deserve**) a holiday.
  a. to fail to
  b. to be worthy of
  c. to cope
  d. to be aware

أ. تخفق

ب. تستحق

ج. تتعايش

د. تعي

Vocabulary post- test (Task 5- Customs and tradition-Chinese moon cakes)

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

<div dir="rtl">

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

</div>

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين

إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. observe: The school (**observed)** its first anniversary.
   a. had a party
   b. met at a restaurant
   c. visited friends
   d. went shopping

أ. احتفلت

ب. قابلت

ج. زارت

د. تسوقت

2. admire: I (**admire)** my parents.
   a. dislike
   b. respect
   c. support
   d. listen

أ. اكره

ب. مُعجب

ج . ادعم

د .اسمع

3. complicated: This book is (**complicated).**
   a. easy to do
   b. fun to watch
   c. boring to listen to
   d. difficult to understand

أ. سهل

ب. مُمتع

ج. مُمل

د. مُعقد

4. filling: What's your favourite (**filling**)?
   a. food that is put inside things
   b. thing made of sand
   c. soft cloth
   d. type of flower

أ. حشوة

ب. فخار

ج. حرير

د. قرنفل

5. paste: Do you have any (**paste**)?
   a. type of soft food
   b. type of wall decoration
   c. type of medicine
   d. type of stone

أ. معجون

ب. زخرفة

ج. دواء

د. حصى

6. layer: It has many (**layers**).
   a. small round metal
   b. thick black wood
   c. type of bread
   d. flat, thin piece of something which covers something else

أ. معدن

ب. خشب

ج. خبز

د. طبقات

7. pastry: I dislike flaky (**pastry**).
   a. type of spice
   b. baked food made from flour
   c. large round pan
   d. type of beans

أ. بهارات

ب. عجينة

ج. طبق

د.عدس

8. mould: He used a star shape (**mould).**
   a. object used to make something in a particular shape
   b. large container to store food
   c. type of spicy food
   d. small stones

أ. قالب

ب. وعاء

ج. طعام هندي

د. حصى

9. decoration: She used clourful (**decorations)** for her dress.
   a. type of plant
   b. metal tool for fixing cars
   c. object put on something else to make it look nice
   d. type of seafood

أ. صبار

ب. مفك

ج. زينة

د. سمك

10. refreshing: The weather today is (**refreshing).**
 a. Making you sleep
 b. helping pain
 c. Making you relax
 d. serving to revive

أ. مُنوّم

ب. مُسكّن

ج. مُهدئ

د. مُنعش

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين

إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. complicated: This book is (**complicated**).
 a. fun to watch
 b. boring to listen to
 c. easy to do
 d. difficult to understand

أ. مُمتع

ب. مُمل

ج. سهل

د. مُعقد

2. admire: I (**admire**) my parents.
 a. respect / like
 b. dislike
 c. support
 d. listen

أ. مُعجب

ب. اكره

ج . ادعم

د .اسمع

3. observe: The school (**observed**) its first anniversary.
 a. met at a restaurant
 b. visited friends
 c. had a party
 d. went shopping

4. pastry: I dislike flaky (**pastry**).
   a. large round pan
   b. type of spice
   c. baked food made from flour
   d. type of beans

أ. طبق

ب. بهارات

ج. عجينة

د.عدس

5. paste: Do you have any (**paste**)?
   a. type of wall decoration
   b. type of medicine
   c. type of stone
   d. type of soft food

أ. زخرفة

ب. دواء

ج. حصى

د. معجون

6. layer: It has many (**layers**).
   a. flat, thin piece of something which covers something else

b. thick black wood
c. type of bread
d. small round metal

أ. طبقات

ب. خشب

ج. خبز

د. معدن

7. filling: What's your favourite (**filling**)?
a. food that is put inside things
b. thing made of sand
c. soft cloth
d. type of flower

أ. حشوة

ب. فخار

ج. حرير

د. قرنفل

8. decoration: She used clourful (**decorations**) for her dress.

a. object put on something else to make it look nice
b. type of plant
c. type of seafood
d. metal tool for fixing cars

أ. زينة

ب. صبار

ج. سمك

د. مفك

9. refreshing: The weather today is (**refreshing**).
a. helping pain
b. Making you relax

c. serving to revive
d. Making you sleep

<div dir="rtl">

أ. مُسكِّن

ب. مُهدِئ

ج. مُنعش

د. مُنوِّم

</div>

10. mould: He used a star shape (**mould).**
    a. large container to store food
    b. type of spicy food
    c. object used to make something in a particular shape
    d. small stones

<div dir="rtl">

أ. وعاء

ب. طعام هندي

ج. قالب

د. حصى

</div>

<u>Vocabulary post- test (Task 6- Health and fitness)</u>

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

<u>Example question</u>

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. prove: This book **proves** my point.
   a. to show something is true
   b. to argue about something
   c. to disagree with someone
   d. to return something

أ. يُثبت

ب. يُجادل

ج. يُعارض

د. يُرجع

2. genes: **(Genes)** are interesting for scientists.
   a. type of fruit
   b. basic unit of heredity
   c. hair product
   d. animal that has fur

أ. تفاح

ب. جينات

ج. مرطب للشعر

د. خروف

3. reaction: Their **(reaction)** to the story was unexpected.
   a. response
   b. letter
   c. presentation
   d. essay

أ. ردة فعل

ب. رسالة

ج. عرض

د. مقالة

4. ridiculous: This is a (**ridiculous**) idea.
a. difficult
b. funny
c. serious
d. silly

<div dir="rtl">

أ. صعب

ب. مضحك

ج. جاد

د. سخيف

</div>

5. habit: They have a **habit** of eating junk food.
 a. something you do regularly
 b. food you eat for breakfast
 c. something you use to clean windows
 d. medicine you use for headache

<div dir="rtl">

أ. عادة

ب. عسل

ج. مُنظف

د. مُسكّن

</div>

6. risk: He takes a (**risk**) every time he makes a decision.
 a. standpoint
 b. danger
 c. problem
 d. safety

<div dir="rtl">

أ. قرار

ب. مخاطرة

ج. مشكلة

د. أَمَان

</div>

7. unhealthy: She always eats **unhealthy** food.
 a. not good for your well-being.
 b. good for your backache
 c. recommended by doctors
 d. easy to follow

أ. غير صحي

ب. جيد للألم

ج. موصى به

د. سهل الاتباع

8. doubt: He has great **doubts** about his new job.
 a. clarity
 b. uncertainty
 c. happiness
 d. trust

أ. وضوح

ب. شك

ج. سعادة

د. ثقة

9. increase: Please don't (**increase**) the volume
 a. to make stronger
 b. to follow rules
 c. to make larger in size or degree
 d. to listen to music

أ. يقوي

ب. يتبع

ج. يزيد

د. يسمع

10. illness: Smoking causes **illness.**
 a. disease of the body or mind
 b. type of flower
 c. type of vegetables
 d. type of drugs

أ. مرض

ب. ياسمين

ج. خيار

د. اسبرين

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

<div dir="rtl">

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

</div>

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1. unhealthy: She always eats **unhealthy** food.
a. good for your backache
b. recommended by doctors
c. not good for your well-being.
d. easy to follow

أ. جيد للألم

ب. موصى به

ج. غير صحي

د. سهل الاتباع

2. illness: Smoking causes **illness.**
   a. type of flower
   b. disease of the body or mind
   c. type of vegetables
   d. type of drugs

أ. ياسمين

ب. مرض

ج. خيار

د. اسبرين

3. reaction: Their (**reaction)** to the story was unexpected.
   a. essay
   b. letter
   c. presentation
   d. response

أ. مقالة

ب. رسالة

ج. عرض

د. ردة فعل

4. risk: He takes a **(risk)** every time he makes a decision.
 a. danger
 b. standpoint
 c. problem
 d. safety

أ. مخاطرة

ب. قرار

ج. مشكلة

د. أَمَان

5. ridiculous: This is a **(ridiculous)** idea.
 a. funny
 b. difficult
 c. silly
 d. serious

أ. مضحك

ب. صعب

ج. سخيف

د. جاد

6. habit: They have a **habit** of eating junk food.
    a. medicine you use for headache
    b. food you eat for breakfast
    c. something you use to clean windows
    d. something you do regularly

أ. مُسكّن

ب. عسل

ج. مُنظف

د. عادة

7. genes: **(Genes)** are interesting for scientists.
 a. hair product
 b. type of fruit
 c. basic unit of heredity
 d. animal that has fur

أ. مرطب للشعر

ب. تفاح

ج. جينات

د. خروف

8. doubt: He has great **doubts** about his new job.
 a. happiness
 b. clarity
 c. uncertainty
 d. trust

أ. سعادة

ب. وضوح

ج. شك

د. ثقة

9. increase: Please don't (**increase**) the volume
 a. make larger in size or degree
 b. to follow rules
 c. to listen to music
 d. to make stronger to

أ. يزيد

ب. يتبع

ج. يسمع

د. يقوي

10. prove: This book **proves** my point.
 a. to argue about something
 b. to show something is true
 c. to disagree with someone
 d. to return something

أ. يُجادل

ب . يُثبت

ج. يُعارض

د. يُرجع

Final delayed post test

This is a vocabulary test.

Please listen to the teacher reading out the words. For each word, you will also hear a sentence including the word. Please select the option a, b, c, or d which has the closest meaning to the word.

Example question

Examinees hear: **See:** They **(saw)** it.

a. cut

b. waited for

c. looked at   The correct answer is **c.**

d. started

If you do not know the word at all, please do not answer the question and continue to the

next question. However, if you think that you know the word, please try to answer.

Let's begin

<div dir="rtl">

هذا هو اختبار المفردات

فضلاً استمعي للمعلمة وهي تقرأ الكلمات. لكل كلمة ستستمعين إلى مثال يحتوي على الكلمة .

يرجى تحديد الخيار(أ) أو (ب) أو (ج) أو (د) الأقرب لمعنى الكلمة.

مثال على السؤال

سوف تستمعين إلى

See: They **(saw)** it.

أ. قطع

ب. انتظر

ج. نظر   الإجابة الصحيحة هي ج

د. بدأت

</div>

إذا كنت لا تعرفين الكلمة على الإطلاق ، فيرجى عدم الإجابة على السؤال والمتابعة إلى السؤال التالي. ، أما إذا كنت تعتقدين إنك تعرفين الكلمة ، فيرجى محاولة الإجابة.

لنبدأ

1.Stretch: Try not to (**stretch**) it.

أ. تسحب

ب. تطوي

ج. تُقصر

د. تُمدد

2. curious: He seemed (**curious**).

أ. غير مكترث

ب. مهتم

ج. حائر

د. متضجر

3. state: What is your **state** of your employment now?

أ. وضع

ب. توازن

ج. ترتيب

د. خطة

4. intensive: Your (**intensive**) training is over.

أ. سهل

ب. مُكثف

ج. يتطلب مساعدة

د. يتطلب وقت أقل

5. layer: It has many (**layers**).

أ. طبقات

ب. خَشَب

ج. خبز

د. معدن

6. habit: They have a **habit** of eating junk food.

أ. مُسكّن

ب. عسل

ج. مُنظف

د. عادة

7. prove: This book **proves** my point.

أ. يُجادل

ب . يُثْبت

ج. يُعارض

د. يُرجع

8. pastry: I dislike flaky (**pastry**).

أ. طبق

ب. بهارات

ج. عجينة

د.عدس

9. timer: Please set the (**timer**) before you start.

أ. ساعة توقيت

ب. باب سيارة

ج. صندوق عدة

د. اريكة

10. involved: She's (**involved**) in her studies.

أ. منشغلة ب

ب. قلقة على

ج. حريصة على

د. خالية من

11. gentle: He's very (**gentle**).

أ. قاسي

ب. خجول

ج. كسول

د. لطيف

12. Advice: The teacher gave us some (**advice**).

أ. حكمة

ب. قصة

ج. دعم

د. نصيحة

13. Repetition: (**Repetition**) helps in learning languages.

أ. تسجيل

ب. تذكُر

ج. تكرار

د. ترك

14. productivity: Exercise increases your (**productivity**).

أ. إنتاجية

ب. أسُرة

ج. مُدخرات

د. أموال قليلة

15. complicated: This book is (**complicated).**

أ. مُمتع

ب. مُمل

ج. سهل

د. مُعقد

16. mould: He used a star shape (**mould).**

أ. وعاء

ب. طعام هندي

ج. قالب

د. حصى

17. increase: Please don't (**increase)** the volume.

أ. يزيد

ب. يتبع

ج. يسمع

د. يقوي

18. technique: He discovered a different (**technique).**

أ. نتيجة

ب. خطة

ج. فكرة

د. طريقة

19. respond: She didn't (**respond)** to it.

أ. رفضت

ب. سمعت

ج. أجابت

د. سألت

20. content: What're the (**contents)** of the package?

أ. سطح

ب. مظهر

ج. محتوى

د. غطاء

21. Hydrated: Don't forget to stay (**hydrated).**

أ. صلب

ب. جاف

ج. رطب

د. طري

22. Plenty: There are (**plenty)** of apples in the fridge.

أ. بعض

ب. منخفض

ج. قليل

د. كثير

23. domesticated: She loves (**domesticated)** animals.

أ. ضخم

ب. مفترس

ج. ناعم

د. أليف

24. absorbed: She was (**absorbed)** in her exams.

أ. مشتتة

ب. منغمسة

ج. قلقة

د. غائبة

25. exterior: They checked the (**exterior)** of the building**.**

أ. غير معروف

ب. حالي

ج. حقيقي

د. خارجي

26. A-grade: He became an (**A- grade**) student.

أ. لا يخاف من الامتحان

ب. متفوق

ج. يعرف الانجليزية

د. منشغل دائماً

27. admire: I (**admire**) my parents.

أ. مُعجب

ب. اكره

ج. ادعم

د. اسمع

28. illness: Smoking causes **illness.**

أ. ياسمين

ب. مرض

ج. خيار

د. اسبرين

29. doubt: He has great **doubts** about his new job.

أ. سعادة

ب. وضوح

ج. شك

د. ثقة

30. lecture: No one joined the (**lecture**).

أ. مبارة كرة قدم

ب. حفلة موسقية

ج. محاضرة تعليمية

د. سباق سيارات

31. mistreat: She (**mistreats**) her friends.

أ. تُسيء

ب. تُساعد

ج. تَحمى

د. تحكُم

32. Energy: She does not have the (**energy**) to complete this.

أ. تعب

ب. ضعف

ج. طاقة

د. ملل

33. sociable: He's not (**sociable**).

أ. هادئ

ب. مضحك

ج. اجتماعي

د. فظ

34. psychology: She likes (**psychology**).

أ. قصة قصيرة

ب. شعر عربي

ج. علم النفس

د. برنامج كوميدي

35. inspiration: My mother's a huge (**inspiration**) to us.

أ. عبء

ب. هدف

ج. إلهام

د. سبب

36. to-do-list: He made a short (**to-do-list**).

أ. قائمة مهام

ب. مقال طويل

ج. مذكرات

د. تسجيل صوتي

37. observe: The school (**observed**) its first anniversary.

أ. قابلت

ب. زارت

ج. احتفلت

د. تسوقت

38. unhealthy: She always eats **unhealthy** food.

أ. جيد للألم

ب. موصى به

ج. غير صحي

د. سهل الاتباع

39. genes: (**Genes**) are interesting for scientists.

أ. مرطب للشعر

ب. تفاح

ج. جينات

د. خروف

40. theory: She developed her own (**theory**).

أ. انجاز علمي

ب. مجموعة فنية

ج. نظرية

د. بيان شخصي

41. demand: There's no **demand** for it.

أ. اختياري

ب. احتياج

ج. غير مطلوب

د. غير ضروري

42. Review: He (**reviewed**) the exam.

أ. نسى

ب. تجاهل

ج. فحصَ

د. راجع

43. Anxious: Sally is (**anxious**)

أ. قلق

ب. مسترخي

ج. سعيد

د. غاضب

44. condition: She adjusted herself to the new (**conditions**).

أ. مطعم

ب. مجموعة

ج. أحوال

د. فيلم

45. associate: People (**associate**) pink with happiness.

أ. يفصلون

ب. يتركون

ج. يتجنبون

د. يربطون

46. invent: He (**invented**) the computer.

أ.   وضع

ب. رَسَمَ

ج. اِختَرعَ

د. اشترى

47. paste: Do you have any (**paste**)?

أ. زخرفة

ب. دواء

ج. حصى

د. معجون

48. risk: He takes a (**risk**) every time he makes a decision.

أ. مخاطرة

ب. قرار

ج. مشكلة

د. أَمَان

49. filling: What's your favourite (**filling**)?

أ. حشوة

ب. فخار

ج. حرير

د. قرنفل

50. satisfaction: Her work gave her a sense of joy and **(satisfaction)**.

أ. الخيبة

ب. الانزعاج

ج. الرضا

د. الوحدة

51.pet: She has four **(pets)**.

أ. صندوق مجوهرات

ب. حيوانات أليفة

ج . اشخاص لطفاء

د. سيارات عتيقة

52.Tempted: They got **(tempted)** by the good news.

أ. مُمانع

ب. مُنجذب

ج. مُتردد

د. مُستميت

53. Stroll: How about we take a **(stroll)**.

أ. نزهة

ب. راحة

ج. رحلة

د. سباق

54. wool: It's covered in **(wool)**.

أ. صوف

ب. خيط

ج. حرير

د. قماش ملون

55.sensible: This doesn't sound (**sensible**).

أ. مُمتع

ب . مُتطلب

ج. مُبدع

د. منطقي

56. decoration: She used clourful (**decorations**) for her dress.

أ. زينة

ب. صبار

ج. سمك

د. مفك

57. reaction: Their (**reaction**) to the story was unexpected.

أ. مقالة

ب. رسالة

ج. عرض

د. ردة فعل

58. deserve: Well done. You (**deserve**) a holiday.

أ. تخفق

ب. تستحق

ج. تتعايش

د. تعي

59. refreshing: The weather today is (**refreshing).**

أ. مُسكّن

ب. مُهدئ

ج. مُنعش

د. مُنوّم

60. ridiculous: This is a (**ridiculous**) idea.

أ. مضحك

ب. صعب

ج. سخيف

د. جاد

Appendix C: Listening Comprehension Tasks and Target Lexical Items
<u>**Listening comprehension task (1) and target lexical items**</u>

Advice for Exams

Morning, everyone. Quiet, please. Right, OK. So, today I'm going to give you some **advice** to help you prepare for the exams next week. So, make some notes as I'm talking, please. Everybody ready?

Now, while you're studying, eat food that gives you **energy**. Don't be **tempted** to eat sweets or drink cola. Sugar won't help you study but fruit and cereals will. Apples, actually, are especially good.

Find a comfortable place with **plenty** of light when you study. But not 'too' comfortable or you'll fall asleep!

Try and keep a positive mind. It is easier to study when you are positive and relaxed. Now, if you start feeling **anxious**, have a little break. Go out for **a stroll** outside.

Don't try to learn everything. There isn't time. Just choose the 'important' things, the things that'll get you the most points in an exam. And if you aren't sure about this, ask me.

First, learn the main ideas and don't worry too much about the details. If you have time, you can **review** later and read the details.

Make notes of these key points and read them, then cover them up and try to remember all the points. Now, it might be boring, but **repetition** helps you to remember.

Use past exam papers to study. They will help you understand what kind of questions come up. There are plenty of past exam papers in the library. You can photocopy them and take them home.

Take regular breaks while you're studying. A five-minute break every half hour is usually enough. Get some fresh air and **stretch** your arms and legs. Drink a glass of water too. It's important to stay **hydrated.**

And, last but not least, good luck! I'm sure you'll all do your best.

Vocabulary

1- Advice
2- Energy
3- Tempted
4-Plenty
5-Anxious
6-Stroll
7- review
8-Repetition
9-Stretch
10-Hydrated

Listening Comprehension Questions

1- According to the speaker, the students were given advice about ….

A. losing weight

B. preparing for exams

C. eating healthy

2. Which of the following was NOT suggested by the teacher?

A. Eating sugary snacks

B. Finding a study places with good light

C. Having short breaks

3. Where can students find past exam papers?

A. in the library

B. Online

C. at the bookstore

Listening comprehension task (2) and target lexical items

Llamas

Teacher: OK, are we all together? Right, next we're going to talk about the llamas, but actually here we have four different animals which are all from South America and all related to camels. Llamas, alpacas, vicuñas and guanacos. In this zoo we have both, llama, and alpacas.

Llamas and alpacas are both **domesticated** animals. Llamas are the biggest animal in the camelid family – they can grow up to 1.8 meters tall and in the past they were used to carry things.

Llamas are very **sociable** animals and live together in groups.

student 1: Don't they spit at people, though?

Teacher: Well, yes, they can. All members of the camelid family sometimes spit. You don't want to **mistreat** a llama; it might even spit some of the **contents** of its stomach at you.

Group of students: Uuuugggh!

Teacher: But if you treat them properly they are not likely to. They **respond** well to being trained and they are usually **gentle** and **curious**.

OK, now let's talk about the alpacas. As you can see, they are smaller than the llamas. They've got smaller faces and they always look as though they are smiling. Look at this one's face.

Group of students: Aaaah!

Teacher: The alpaca is famous for its **wool**, which is softer and warmer than sheep's wool. There's a big **demand** for alpaca wool from the fashion industry.

Student 2: Can llamas and alpacas live in the UK?

Teacher: Yes, there are quite a lot of llamas and alpaca in the UK. They make good **pets** and sometimes they're used for hiking. You go on a picnic and use a llama to carry your food.

Group of students: Cool!

Vocabulary

1-Domesticated

2-Sociable

3-Contents

4-Mistreat

5-Respond

6-Curious

7-Gentle

8-Wool

9-Demand

10-Pets

Listening Comprehension Questions

1- According to the teacher, what are the students going to learn about?

A. Animals related to camels

B. Llamas only

C. South America

2- How do llamas live?

A. alone

B. in groups

C. with their parents

3- Which of the following is TRUE?

A. Alpacas are smaller than the llamas.

B. Alpacas are bigger than the llamas.

C. Alpacas are taller llamas.

Listening comprehension task (3) and target lexical items

An introduction to a lecture

Good afternoon, everyone. Welcome to the first **lecture** of our new course in Positive Psychology. While some people may **associate psychology** with looking at what's wrong with us, and at what problems we have, there is much more to psychology than that. Positive psychology, for example, looks at how to help people become happier.

This lecture begins with a question: what makes a happy life?

Now, I'm going to give you one possible answer. A happy life is a life in which you are completely **absorbed** in what you do.

This answer comes from the work of Mihaly Csikszentmihalyi and the **theory** of flow. Csikszentmihalyi is a psychologist who has spent much of his professional life on the study of what makes people happy and how we can find happiness.

Csikszentmihalyi suggests the theory that happiness is not caused by **exterior conditions** or things that happen to us. Our understanding of these things and how we see these events either

makes us happy or sad. In other words, if we want happiness, we have to actively look for it. However, this does not mean that we should always look for happiness! Csikszentmihalyi believed that our happiest moments happen when we are in a **state** of flow.

The theory of flow can be summarised like this: when we are totally **involved** in, or focused on, what we are doing, we are in a state of flow.

Csikszentmihalyi got the **inspiration** for this theory when he noticed how artists worked in a studio. They completely lost track of time, they didn't notice they were hungry or tired, and they could work for hours, even days, without stopping, it is like being in a river and the flow of the water carries you away.

Vocabulary

1- lecture

2- associate

3-psychology

4-absorbed

5-theory

6- exterior

7- condition

8- state

9-involved

10- inspiration

Listening Comprehension Questions

1- According to the speaker, what does positive psychology look at?

A. How to become healthier

B. How to become richer

C. How to become happier

2- Which of the following is NOT TRUE?

A- Csikszentmihalyi is a psychologist

B- We always have to look for happiness

C- happiness is not caused by things that happen to us

3- Who inspired Csikszentmihalyi to come up with his theory?

A-Students

B- Artists

C- Colleagues

Listening comprehension task (4) and target lexical items

Organising your time

Host: On 'Star Students' today we're speaking to Peter, who is going to tell us about the Pomodoro **Technique**, a system to help manage your time. It was **invented** by an Italian man called Francesco Cirillo in the 1980s. Now, he called it the Pomodoro Technique after a tomato-shaped **timer** that his mother used to use when she was cooking. Pomodoro is Italian for tomato. And this tomato has helped Peter become an **A-grade** student. So, Peter, welcome to the studio.

Peteranks.

Host: Tell us about the Pomodoro Technique. What's it about?

Peter: It's about getting maximum **productivity** from your available time. I use it for studying, but professionals use it at work.

Host: Is it difficult to follow?

Peter: No. It's very simple. It's about breaking down your work into separate jobs and then using a timer to separate your time into periods of **intensive** work and short breaks.

Host: OK, well, that sounds **sensible.** So, how do you start?

Peter: First of all, you should think about the task you need to complete. For example, writing an essay for homework. You need to think about all the stages of the task and write a clear **to-do list** on a piece of paper. When you are ready to start you set the timer to 25 minutes and you start working on the first item on the list.

Host: OK … but what happens when the timer goes off?

Peter: When the timer goes off you must take a short break of between 3 to 5 minutes. One 25-minute session is one 'pomodoro' so when you have completed this, you **deserve** a short break. Don't forget to move a bit during the break.

Then, set the timer for another 25 minutes and keep working. As you complete the items on the 'to-do list you should tick them off, to give you a feeling of **satisfaction** that you're getting the job done.

Host: Thanks for coming in peter
Peter: You're welcome

Vocabulary
1-Technique
2-invented
3-timer
4-A-grade student
5-productivity
6-intensive
7-sensible
8-to-do list
9-deserve
10-satisfaction

Listening Comprehension Questions

1- According to Peter, why do people use the Pomodoro Technique?

A. Manage time

B. Write an essay

C. Cook tomatoes

2. Which of the following is NOT TRUE?

A. Student and workers can use the technique

B. The technique is difficult to use

C. The technique is simple to use

3. How long is one pomodoro session?

A. 3 minutes

B. 1 hours

C. 25 minutes

Listening comprehension task (5) and target lexical items

Chinese moon cakes

 The Mid-Autumn festival is **observed** by Chinese people across the world. It is traditionally a harvest festival, to celebrate the rice and wheat that has been grown that year, and it takes place on the full moon. People get together with family and friends to watch the moon, **admire** the lights and eat the traditional sweet of this festival- moon cakes. Moon cakes are rarely made at home because the recipe is quite **complicated**. Most people prefer to buy their moon cakes from a shop or a hotel.

At the famous Peninsula Hotel in Hong Kong, chef Yip Wing makes the cakes himself. He mixes the butter with the sugar to make the **filling**. Then he adds other ingredients to make a thick, sweet **paste**. Then he takes a yellow ball of filling and wraps it in a thin **layer** of **pastry**. Moon cakes can have a number of different fillings. For example, in more traditional recipes, the filling is made from sweet red beans, and you will find half of a salty duck egg inside that. Next, the chef takes a special wooden **mould** and shapes each moon cake, one at a time. Each moon cake has a decoration on top of it. Many different patterns are used on moon cakes, including flower patterns or Chinese letters. The **decoration** on top is brushed with egg yolk. When baked in the oven this will turn a lovely golden brown. Then, the moon cakes must be left for a day or two. The butter from the filling will go into the pastry layer and make it soft and delicious. Finally, the sweet treat is ready to eat with a cup of **refreshing** tea, on the night of the full moon.

Vocabulary

1-observed

2- admire

3-complicated

4-filling

399

5-paste

6-layer

7-pastry

8-mould

9-decoration

10- refreshing

Listening Comprehension Questions

According to the speaker, the Mid-Autumn Festival is celebrated by _____?

A. People all over the world

B. American people all over the world

C. Chinese people all over the world

2- What is the traditional food of the festival?

A. Dumplings

B. Moon cakes

C. Pies

3- How long do we need to leave the moon cakes after they are made?

A- Two days

B- A week

C- Four days

Listening comprehension task (6) and target lexical items

Long and Happy Life

Host: Today we're talking about the key to a long and happy life.

Many of the people who **celebrate** their hundredth birthday have neither eaten a healthy diet nor have they exercised regularly. New research **proves** that what's most important is that we have good **genes.**

If you have good genes, you will live longer.

Host: Let's ask this young man for his **reaction** to this news.

Excuse me Sir, did you know that research has proven that having a healthy lifestyle is not most important if you want to live a long life? What's your reaction to this?

Speaker A: It's **ridiculous** to get too worried about healthy eating and exercise! My grandfather lived until he was 95, and never exercised. He never ate vegetables, loved sugar, and never went to the gym. He had different **habits**. Of course, I'm not going to give up exercising or start eating fast food every day, but I won't allow fitness to take over my whole life!

Host: Thank you sir, bye bye!

Speaker A: You are most welcome.

Host: Let's see what this young lady thinks.

Excuse me ma'am, do you agree that having a healthy lifestyle is not the secret to a long life rather it is your genes that make the difference?

Speaker B: I prefer to exercise and eat well. What's wrong with being healthy?

You won't know whether or not you have the right genes until you get sick. So why take the **risk** and be **unhealthy**? Also, don't forget that you might get the flu or a cold much more easily when you don't eat healthy food or exercise. I'd say that it's always better to have a healthy lifestyle. There's no **doubt** that bad health habits **increase** the chances of getting a serious **illness**.

Host: Thank you ma'am, bye bye!

Vocabulary

1-proves

2-genes

3-reaction

4-ridiculous

5-habits

6-risk

7-unhealthy

8-doubt

9-increase

10-illness

Listening Comprehension Questions

1- What is needed for a long and healthy life?

A. Healthy diet

B. Daily exercise

C. Good genes

2- According to the second speaker, how long did his grandfather live?

A- 95 years

B- 60 years

C- 100 years

3- According to the second speaker, what might happen if you do not eat healthy and exercise?

A- get flu or cold easily

B- get a stomachache

C- get a headache

Taking into consideration the proficiency level of the learners (A2-B1), the interview was in Arabic.

CS Explanation

Listen to the audio-recording of teaching the target vocabulary 'advice'

1. When you heard the sentence that has the word 'stroll' for the first time, how did you react?

١.عندما سمعت الجملة التي تحتوي على كلمة "نزهة" لأول مرة، كيف كانت ردة فعلك/ شعورك؟

2. What did you do after that?

٢. ماذا فعلت بعد ذلك؟

3. What went through your mind when the instructor was explaining the meaning of the word 'stroll'?

٣. ما الذي يدور في ذهنك عندما كنت أشرح معنى " نزهة"

4- How did you feel about the CS explanations the instructor gave for the word 'stroll'?

٤. كيف كان شعورك تجاه الشرح المقدم بإستخدام التناوب اللغوي (التبديل اللفظي) لكلمة " نزهة "؟

5- As you were forbidden from writing down the word and its meaning, how did you handle the English explanation offered by the instructor?

٥. بما أنك كنت ممنوعة من كتابة الكلمة ومعناها، كيف تعاملتي مع الشرح الذي قدمته المعلمة باللغة الإنجليزية ؟

6. After you have received the CS instruction, did you feel confident you could use the word ' stroll ' in the future?

٦. بعد أن تلقيت الشرح بإستخدام التناوب اللغوي (التبديل اللفظي) هل شعرت بالثقة في إمكانية استخدام كلمة " نزهة" في المستقبل؟

7. Do you think that the CS instruction you received concerning the word ' stroll ' helped you understand the relevant listening materials?

٧. هل تعتقدين أن الشرح الذي تلقيته بشأن كلمة " نزهة " ساعدك على فهم المقطع السماعي المرتبط به؟

8. In general how did you feel about the way the touter explained the word to you?

8. بشكل عام كيف شعرت اتجاه طريقة شرح المعلمة للكلمة؟

AIMCS Explanation

Listen to the audio-recording of teaching the target vocabulary 'absorbed'

1. When you heard the sentence that has the word ' absorbed ' for the first time, how did you react?

1.عندما سمعت الجملة التي تحتوي على كلمة " منغمس " لأول مرة، كيف كانت ردة فعلك/ شعورك؟

2. What did you do after that?

2. ماذا فعلت بعد ذلك؟

3. What went through your mind when the instructor was explaining the meaning of the word 'absorbed'?

3. ما الذي يدور في ذهنك عندما كنت أشرح معنى " منغمس "

4- How did you feel about the AIM+CS explanations the instructor gave for the word 'absorbed'?

4. كيف كان شعورك تجاه الشرح المقدم بإستخدام تحسين الإدخال السمعي لكلمة " منغمس "؟

5- As you were forbidden from writing down the word and its meaning, how did you handle the English explanation offered by the instructor?

5. بما أنك كنت ممنوعة من كتابة الكلمة ومعناها، كيف تعاملتي مع الشرح الذي قدمته المعلمة باللغة الإنجليزية ؟

6. After you have received the AIMCS, did you feel confident you could use the word ' absorbed' in the future?

6. بعد أن تلقيت الشرح بإستخدام تحسين الإدخال السمعي هل شعرت بالثقة في إمكانية استخدام كلمة " منغمس " في المستقبل؟

7. Do you think that the AIMCS instruction you received concerning the word 'absorbed' helped you understand the relevant listening materials?

7. هل تعتقدين أن الشرح الذي تلقيته بشأن كلمة " منغمس " ساعدك على فهم المقطع السماعي المرتبط به؟

8. In general how did you feel about the way the touter explained the word to you?

<div dir="rtl">

8. بشكل عام كيف شعرت اتجاه طريقة شرح المعلمة للكلمة؟

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Appendix E: Taxonomies for Students' Learning Strategies

10 strategy factors and 3 OSB factors while listening to the teacher's input (Fung, 2016, pp. 118-126)

Strategy group
Factor 1: *Contextualisation for the present lesson*
Factor 2: *Selective attention particularly on difficult words or segments*
Factor 3: *Recall of prior knowledge*
Factor 4: *Relational – understanding through recalling teacher's approach*
Factor 5: *Summarisation / Appropriation*
Factor 6: *Translation*
Factor 7: *Selective attention on simple words or segments*
Factor 8: *Auditory representation and imagery*
Factor 9: *Evaluation*
Factor 10: *Repetition*

Opportunities for strategic behaviour
Factor 1: *Utilisation of personal physical resources*
Factor 2: *Hide and seek*
Factor 3: *Direct help seeking from the teacher*

A taxonomy of vocabulary learning strategies (Schmitt, 1997, p. 207-208)

Strategy Group	Strategy	Use %	Helpful %
Strategies for the Discovery of a New Word's Meaning			
DET	Analyse part of speech	32	75
DET	Analyse affixes and roots	15	69
DET	Check for L1 cognate	11	40
DET	Analyse any available pictures and gestures	47	84
DET	Guess from textual context	74	73
DET	Bilingual dictionary	85	95
DET	Monolingual dictionary	35	77
DET	Word lists	--	--
DET	Flash cards	--	--
SOC	Ask teacher for an L1 translation	45	61
SOC	Ask teacher for paraphrase or synonym of new word	42	86
SOC	Ask teacher for a sentence including the new word	24	78
SOC	Ask classmates for meaning	73	65
SOC	Discover new meaning through group activity	35	65

Strategies for Consolidating a Word Once it has been Encountered

SOC	Study and practice meaning in a group	30	51
SOC	Teacher checks students' flash cards or word lists for accuracy	3	39
SOC	Interact with native speakers	--	--
MEM	Study word with a pictorial representation of its meaning	--	--
MEM	Image word's meaning	50	38
MEM	Connect word to a personal experience	37	62
MEM	Associate the word with its coordinates	13	54
MEM	Connect the word to its synonyms and antonyms	41	88
MEM	Use semantic maps	9	47
MEM	Use 'scales' for gradable adjectives	16	62
MEM	Peg Method	--	--
MEM	Loci Method	--	--
MEM	Group words together to study them	--	--
MEM	Group words together spatially on a page	--	--
MEM	Use new word in sentences	18	82
MEM	Group words together within a storyline	--	--
MEM	Study the spelling of a word	74	87

MEM	Study the sound of a word	60	81
MEM	Say new word aloud when studying	69	91
MEM	Image word form	32	22
MEM	Underline initial letter of the word	--	--
MEM	Configuration	--	--
MEM	Use Keyword Method	13	31
MEM	Affixes and Roots (remembering)	14	61
MEM	Part of Speech (remembering)	30	73
MEM	Paraphrase the words meaning	40	77
MEM	Use cognates in study	10	34
MEM	Learn the words of an idiom together	48	77
MEM	Use Physical action when learning a word	13	49
MEM	Use semantic feature grids	--	--
COG	Verbal repetition	76	84
COG	Written repetition	76	91
COG	Word lists	54	67
COG	Flash cards	25	65
COG	Take notes in class	64	84
COG	Use the vocabulary section in your textbook	48	76
COG	Listen to tape of word lists	--	--
COG	Put English labels on physical objects	--	--
COG	Keep a vocabulary notebook	--	--
MET	Use English language media (songs, movies, newscasts, etc.)	--	--
MET	Testing oneself with word tests	--	--
MET	Use spaced word practice	--	--
MET	Skip or pass new word	41	16
MET	Continue to study word over time	45	87

-- Strategy was not included on the initial list used in the survey

I Keyword

It is a combination of the visual and auditory impressions of a learner. A familiar word or expression (from his/her native or another foreign language) is recalled, then a connection is made to remember the new meaning. Two situations were considered:

1. A familiar English word is recalled;
2. A familiar Polish word is recalled.

II Using imagery

3. Creating an image of a concrete object;
4. Creating an image of a whole scene and using a new item in the context.

III Representing sounds in memory

5. A word/phrase has a sound, which is similar to another familiar word that often has a different meaning;
6. Remembering a word and its meaning simply because of its sound and/or rhythm;
7. Other strategies based on the sound of the word, often implying a combination of the sound of syllables with other syllables from one or more familiar words and the combination of their meanings.

IV Employing action in the process of memorisation or imagining an action (indicated by the meaning of a new word).

Since in this group there is just one strategy, in the data analysis it is referred to as 'employing action' – the strategy numbered 8.

V Mental association

9. Creating a mental link that helps to memorise the new word (e.g. hot – red);
10. Linking a new item and its meaning to the situation/context in which it already was or still can be heard or seen by the subject.

The responses obtained from each of the three groups of the subjects varied. Firstly, we will analyse the responses provided by individual groups.

Appendix F: Pilot study

Piloting Procedure

The original plan for the present study was to conduct the piloting in two phases. The first phase was carried out successfully. However, the second phase of this plan was not fulfilled due to time constraints, lack of practical accessibility to the participants, and technical issues. In the first phase, the researcher would provide the experimental group (three participants) with the information sheet and consent form (in Arabic), and then she would explain to the participants what would be required and illustrate the risks and benefits of participating. After obtaining the participants' consent, the pre-testing session will then take place. The pre-testing session would involve administering the general listening comprehension test to evaluate the students' English proficiency level. Furthermore, the Listening Vocabulary Level Test (LVLT) would be employed to assess the learners' general vocabulary knowledge including prior knowledge of the 60 target lexical items that will be administered in the intervention sessions. The tests would be provided in two formats based on recommendations from the three participants, namely Microsoft Teams Forms and a paper-based format so that the human assistant could follow up with participants while conducting the exam.

In the second phase, two teaching sessions would take place. In each intervention session, the expermintal group would receive a listening comprehension task followed by three multiple choice comprehension questions (one for the general idea and two for specific ideas) to ensure learners' general understanding of the listening passage. Additional vocabulary instruction through CS or AIE would be administered in the same session in which a counterbalancing procedure (i.e., altering the order of the conditions in which participants receive the intervention) for the two types of vocabulary instruction (CS and AIE) would be employed.

At the end of each teaching session, a vocabulary post-test would be employed. After two weeks of initiating each intervention session, a delayed post-test would be administered. All classes would be audio-recorded with consent from the participants. After the second teaching session, the three participants would be invited to take part in a stimulated recall interview. They would listen to an audio file of the researcher teaching a certain item of the target vocabulary and would be asked a series of recall questions to shed light on their thoughts of the vocabulary explanation during the class

Data Analysis and Results for the Pilot Study

To analyse the quantitative data the Statistical Package for Social Sciences (SPSS) was used.

<u>**Listening Comprehension Test**</u>

Descriptive statistics on the listening comprehension test scores for all four participants are provided in Table (1). The maximum score for the test is 20. The mean is (M=16.50). Since there are only three participants, non-parametric test was used to explore the participant's proficiency level prior to the intervention. Using One-Sample Shapiro-Wilk test, results indicated that the scores are normally distributed since P-value > 0.05, which indicates no significant difference between the participants' proficiency level as shown in Table (2):

Table 1 Descriptive Statistics of Listening Comprehension Test

Listening pre-test	N	Minimum	Maximum	Mean	SD
Total scores	4	13.00	20.00	16.50	3.11

Table 2 One-Sample Shapiro-Wilk Test

Listening pre-test	Statist N	ic	df	P-value
Scores	4	.972	4	.855(NS)
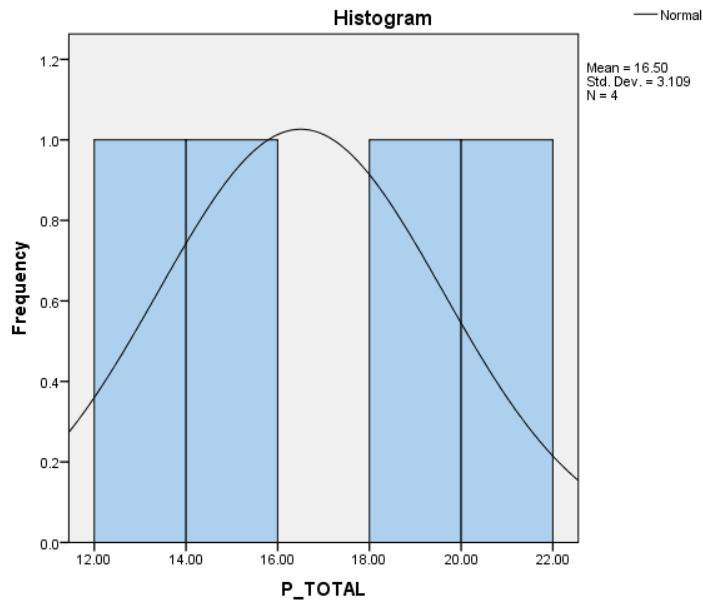
Figure 1 Histogram of Listening Comprehension Test Scores distribution

To ensure reliability of the listening comprehension test, Cronbach's Alpha was calculated and its value 0.780. This value indicates that the test is of acceptable reliability.

Vocabulary Knowledge Test

Descriptive statistics on the vocabulary knowledge test scores for all three participants are provided in Table (1). The maximum score for the test is 162. The mean test score is (M=101.33). Since there are only three participants, non-parametric test was used to explore the participants' vocabulary knowledge. One-Sample Shapiro-Wilk test, results indicated scores are normally distributed since P-value > 0.05, which indicates no significant difference between the participants' vocabulary knowledge as shown in Table (2).

Table 1 Descriptive Statistics for Vocabulary Pre-test

Vocabulary pre-test parts	N	Minimum	Maximum	Mean	SD
Total scores of vocabulary pre-test	3	89.00	108.00	101.33	10.69

Table 2 One-Sample Shapiro-Wilk Test

| Vocabulary pre-test parts	N	Statist ic	df	P-value
Total scores of vocabulary pre-test	3	.789	3	.09 (NS)
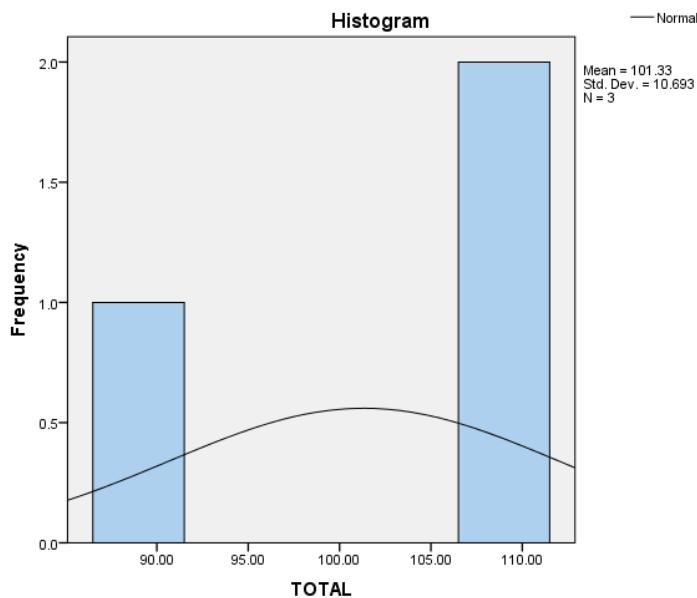
Figure 5 Histogram of Vocabulary Pre-test Total scores distribution

To ensure reliability of the listening comprehension test, Cronbach's Alpha was calculated and its value 0.794. This value indicates that the test is of acceptable reliability.

3.8.3.2 Vocabulary Pre-test (60 Target Lexical Items)

Descriptive statistics on the 60 lexical items scores for all three participants are provided in Table (1). The maximum score for the test is 60. The mean test score is (M=42.33), which represents 70.55% of the vocabulary total score. The variability of scores was known by the standard deviation (SD=4.73). The range of these scores was between 37-46 which represents 61.67%-76.67% of the total score Since there are only three participants, non-parametric test was used to explore the participants' knowledge of the 60 items. One-Sample Shapiro-Wilk test, results indicated scores are normally distributed since P-value > 0.05, which indicates no significant difference between the participants' vocabulary knowledge as shown in Table (2).

Table 1 Descriptive Statistics of Vocabulary Scores

Vocabulary pre-test parts	N	Minimum	Maximum	Mean	SD
Total scores	3	37.00	46.00	42.33	4.73

Table 2 One-Sample Shapiro-Wilk Test

Vocabulary pre-test parts	N	Statistic	df	P-value
Scores of Part 1	3	0.907	3	0.407 (NS)
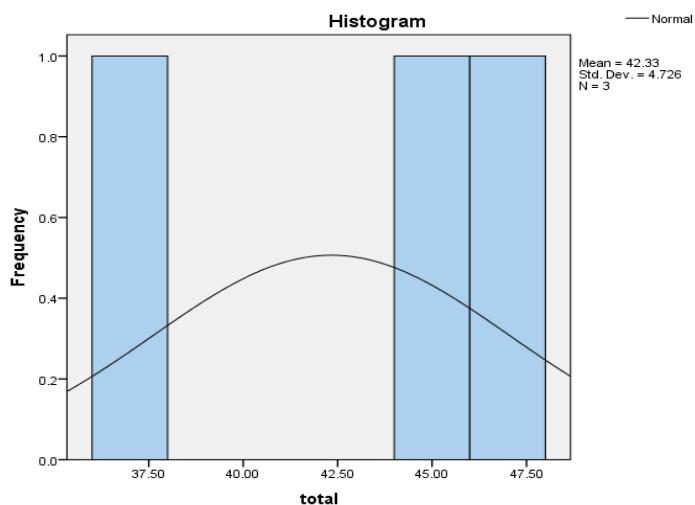
Figure 1 Histogram of Vocabulary Scores distribution

Appendix G: Students' Learning Strategies and Differences in Strategy Use

The Final Codebook: Strategies used while listening to the passage and teacher's explanations

Codebook (Based on Fung & Lo, 2023, p. 6; Fung & Macaro, 2021, p. 548; Schmitt, 1997; Vandergrift & Goh, 2012, p. 277-284; Zhang, 2018, p. 284-288)

| No.	Strategies	Definition
	Section 1	**L2 listening comprehension strategies**
1	***Contextualisation**	"Placing what is heard into a specific context in order to prepare for listening or assist comprehension."
2	***Linguistic contextualisation**	Relating a word or a phrase heard to an environment where the word has appeared before.
3	**Selective attention on AIM**	Attending to the loudest words in the language input (i.e., aural input enhancement) to assist in understanding and/ or task completion.
4	***Inferencing**	"Using information within the text or conversational context to guess the meaning of unfamiliar language items associated with a listening task to predict content and outcomes all to fill in missing information."
5	*** Linguistic inferencing**	"Using known words in an utterance to guess the meaning of unknown words."
6	*** Between parts inferencing**	"Using information from different parts of the text to guess the meaning."
7	***Repetition**	"Repeating a chunk off language (a word or a phrase) in the course of performing a listening task."
8	***Monitoring**	"Checking, verifying, or correcting one's comprehension or performance in the course of a task."
9	**‡Recall of prior knowledge**	"Using prior knowledge from outside the teacher talk or context with an aim to facilitate understanding and add to one's interpretation off the content."
10	***Searching**	"Search for other familiar words which have similar meanings."
11	***Directed attention**	"Attending in general to the listening task and ignoring distraction; maintaining attention while listening."
12	***Translation**	"Rendering ideas from one language to L1 in a relatively verbatim manner."

13	*Self-management	"Understanding the conditions that help one successfully accomplished listening tasks, and at ranging for the presence of those conditions.
14	‡Evaluation	"Checking the outcome of one's understanding or performance."
	Section 2	**Vocabulary learning strategies**
15	**Selective attention on CS**	Attending to the translated word in the language input to assist in understanding and/ or task completion.
16	**Selective attention on pronunciation**	Attending to the sounds of word in the language input to assist in understanding and/ or task completion.
17	**Selective attention on spelling**	Attending to the spelling of a word in the language input to assist in understanding and/ or task completion.
18	**Selective attention on part of speech**	Attending to the grammatical category of a word in the language input to assist in understanding and/ or task completion.
19	**Guessing**	Predicting the meaning of unfamiliar words.
20	**Ignoring**	Disregarding familiar words.
21	**Imagining**	Creating a mental image with a sense of wondering and exploring that encompasses a wide range of possibilities to figure out the meaning.
22	**Visualisation**	Creating a mental image after arriving at the meaning.
23	**Making connections**	Connecting to a familiar word, similar starting sounds, concept, feelings, etc, to achieve comprehension and retention.
24	**Making efforts**	Making several attempts to arrive at the meaning.
25	**Seeking help**	Ask the teacher/classmate about the meaning of unfamiliar word.
26	**^Waiting**	"Waiting for explanation, verification, rephrasing, or examples about the language and/ or task."
27	**Wondering**	Questioning the meaning of unfamiliar words.
28	**Rely on examples**	Use the teacher example to comprehend the English explanations.
29	**Creating examples**	Creating an example sentence including the new lexical item
30	**Reviewing**	Revising previously taught materials in class (i.e., the teacher's revision)
31	**^Making judgment**	"Making judgment on the vocabulary explanation provided."
32	**Repetition**	Repeating the vocabulary item and its meaning verbally or silently several times

33	**^Give up**	Think of nothing, blank in mind
34	**Follow up**	Practising the learned vocabulary outside the classroom
35	**Mind mapping**	Organising the class event by creating a mental image that involves a table-like form to remember.
36	**Repeated listening**	Attending to the repeated listening task to remember.

Note. ‡- listening comprehension strategies based on Fung & Lo (2023), p. 6. *-listening comprehension strategies based on Vandergrift and Goh, 2012, p. 277-284. ^-vocabulary learning strategies based on Zhang (2018), p. 284-288.

Differences in Strategy use (*Higher proficiency learners vs. lower proficiency learners)*

Higher and lower proficiency learners (VI and SI) strategy use while listening to the passage.

No. of strategies	Higher proficiency learners			Lower proficiency learners		
	CVI12	SIH20	PVIH2	PVIL13	PVIL114	SIL23
1	*Imagining*	*imagining*	*Imagining*	*guessing*	*inferencing*	*inferencing*
2	*inferencing*	*inferencing*	*making connections*	*making effort*	*making effort*	*linguistic contextualisation*
3	*making effort*	*making connections*	*making effort*	*selective attention on pronunciation*	*making connections*	*making effort*
4	*seeking help*	*making effort*	*selective attention on pronunciation*	*selective attention on AIMCS*	*seeking help*	
5	*selective attention on parts of speech*	*selective attention on pronunciation*	*Selective attention on spelling*	*Giving up*		
6	*selective attention on pronunciation*	*selective attention on AIMCS*	*selective attention on AIMCS*			
7	*selective attention on spelling*	*wondering*				
8	*selective attention on AIMCS*					
9	*Wondering*					
10	*Waiting*					

Differences in Strategy use (*Higher proficiency learners vs. lower proficiency learners)*

Higher and lower proficiency learners (VI and SI) strategy use while listening to teacher's explanation.

No. of strategies	Higher proficiency learners			Lower proficiency learners		
	CVI12	PVIH2	SIH24	CVIL5	PVIL13	SIL18
1	*selective attention on CS*	*visualisation*	*rely on examples*	*visualisation*	*monitoring*	*visualisation*
2	*rely on examples*	*making connections*	*translation*	*making connections*	*seek help*	*making connections*
3	*visualisation*	*selective attention on CS*	*visualisation*	*selective attention on CS*	*selective attention on CS*	*selective attention on CS*
4	*directed attention*	*directed attention*	*monitoring*	*directed attention*	*directed attention*	*repetition*
5	*monitoring*	*selective attention on pronunciation*	*creating examples*	*repetition*	*repetition*	
6	*making connections*	*Selective attention on spelling*	*selective attention on CS*	*follow-up*	*follow-up*	
7	*creating examples*	*recall prior knowledge*	*follow-up*			
8	*selective attention on pronunciation*					
9	*selective attention on spelling*					
10	*follow-up*					

Appendix H: Factor Analysis (Post-Test and Delayed-Test)

Post-Test

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.197	53.283	53.283	3.197	53.283	53.283	2.844
2	1.085	18.082	71.365	1.085	18.082	71.365	2.126
3	.785	13.080	84.445				
4	.453	7.555	92.000				
5	.327	5.442	97.442				
6	.153	2.558	100.000				

Extraction Method: Principal Component Analysis.

[a.] When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Scree Plot
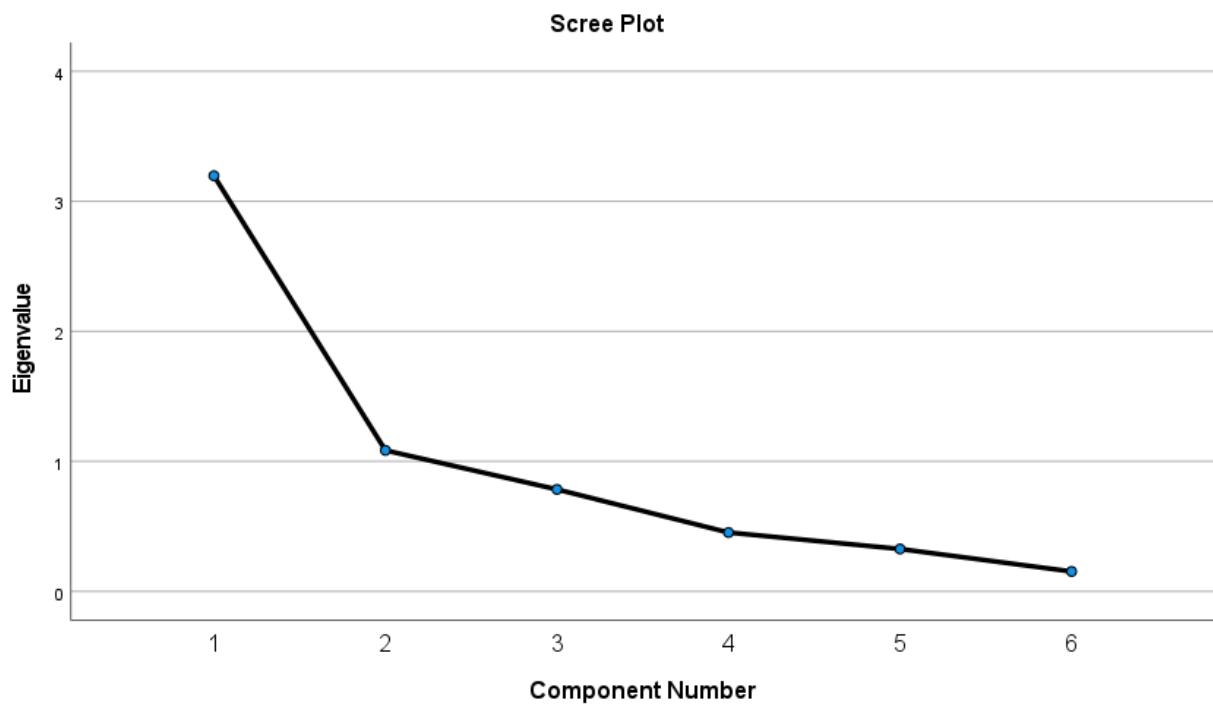
Delayed-Test

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.798	63.305	63.305	3.798	63.305	63.305	3.783
2	1.089	18.151	81.456	1.089	18.151	81.456	1.192
3	.497	8.282	89.738				
4	.286	4.760	94.497				
5	.185	3.082	97.579				
6	.145	2.421	100.000				

Extraction Method: Principal Component Analysis.

[a] When components are correlated, sums of squared loadings cannot be added to obtain a total variance.
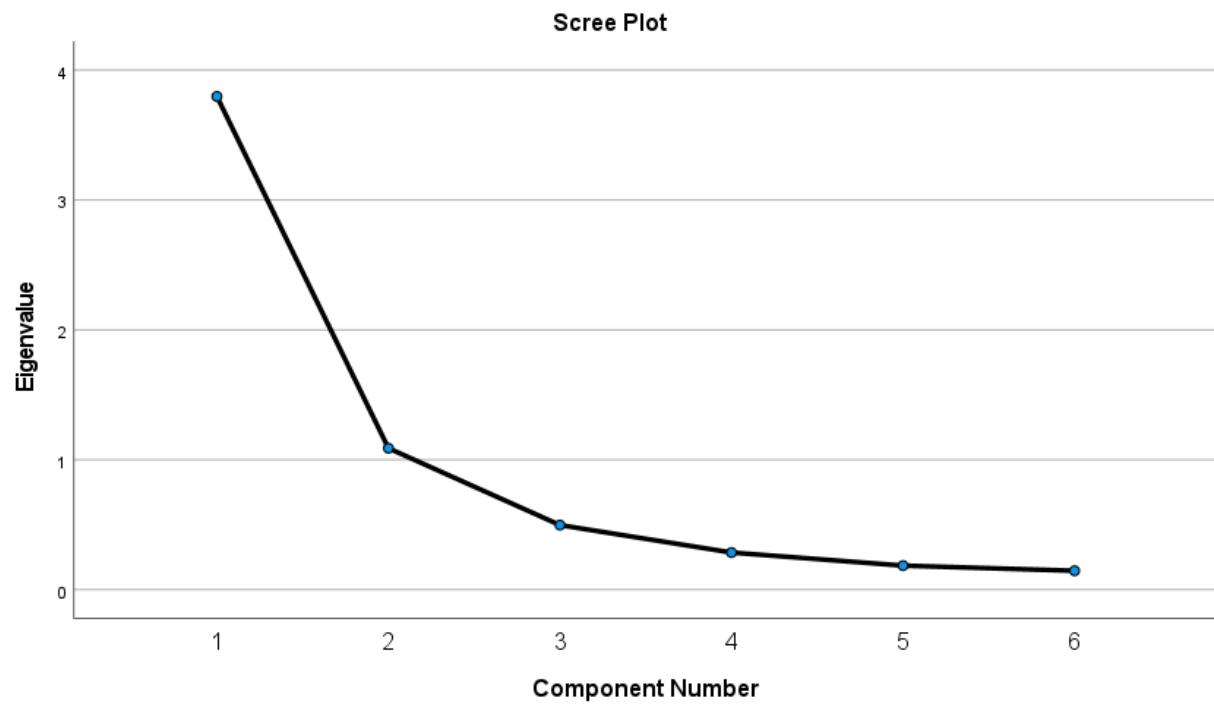
Appendix I: Ethical Approval Documents

Ethical Approval Form A (version November 2021)

Please tick one:

Staff: ☐   PhD: ☒   EdD: ☐

Name of applicant(s): **Areen Badri**

Title of project: **Teaching vocabulary through listening to Saudi EFL Learners with visual impairments**

Name of supervisor (s) (for student projects): **Professor Suzanne Graham and Dr Pengchong Anthony Zhang**

Please complete the form below.

Have you prepared an Information Sheet for participants and/or their parents/carers that	YES	NO	N.A.
a) explains the purpose(s) of the project	√		
b) explains how they have been selected as potential participants	√		
c) gives a full, fair, and clear account of what will be asked of them and how the information that they provide will be used	√		
d) makes clear that participation in the project is voluntary	√		
e) explains the arrangements to allow participants to withdraw at any stage if they wish	√		
f) explains the arrangements to ensure the confidentiality of any material collected during the project, including secure arrangements for its storage, retention, and disposal	√		
g) explains the arrangements for publishing the research results and, if confidentiality might be affected, for obtaining written consent for this	√		
h) explains the arrangements for providing participants with the research results if they wish to have them	√		

	YES	NO	N.A.
i) gives the name and designation of the member of staff with responsibility for the project together with contact details, including email. If any of the project investigators are students at the IoE, then this information must be included, and their name provided	√		
j) explains, where applicable, the arrangements for expenses and other payments to be made to the participants	√		
k) includes a standard statement indicating the process of ethical review at the University undergone by the project, as follows: "This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct."	√		
l) includes a standard statement regarding insurance: "The University has the appropriate insurances in place. Full details are available on request."	√		
Please answer the following questions:	YES	NO	N.A.
1) Will you provide participants involved in your research with all the information necessary to ensure that they are fully informed and not in any way deceived or misled as to the purpose(s) and nature of the research? (Please use the subheadings used in the example information sheets on blackboard to ensure this).	√		
2) Will you seek written or other formal consent from all participants, if they are able to provide it, in addition to 1)?	√		
3) Is there any risk that participants may experience physical or psychological distress in taking part in your research?		√	
4) Staff Only – Have you taken the online training modules in data protection and information security (which can be found here: http://www.reading.ac.uk/internal/humanresources/PeopleDevelopment/newstaff/humres-MandatoryOnlineCourses.aspx For all student projects, please tick N.A. and complete the Data Protection Declaration form (which is included in this document) and submit it with this application to the ethics committee.			√
5) Have you read the Health and Safety booklet (available on Blackboard) and completed a Risk Assessment Form (included below with this ethics application)?	√		
6) Does your research comply with the University's Code of Good Practice in Research?	√		
7) If your research is taking place in a school, have you prepared an information sheet and consent form to gain the permission in writing of the head teacher or other relevant supervisory professional?	√		

8) Has the data collector obtained satisfactory DBS clearance?			√
9) If your research involves working with children under the age of 16 (or those whose special educational needs mean they are unable to give informed consent), have you prepared an information sheet and consent form for parents/carers to seek permission in writing, or to give parents/carers the opportunity to decline consent?	√		
10) If your research involves processing sensitive personal data[1], or if it involves audio/video recordings, have you obtained the explicit consent of participants/parents?	√		
11) If you are using a data processor to subcontract any part of your research, have you got a written contract with that contractor which (a) specifies that the contractor is required to act only on your instructions, and (b) provides for appropriate technical and organisational security measures to protect the data?			√
12a) Does your research involve data collection outside the UK?	√		
12b) If the answer to question 12a is "yes", does your research comply with the legal and ethical requirements for doing research in that country?	√		
13a) Does your research involve collecting data in a language other than English?	√		
13b) If the answer to question 13a is "yes", please confirm that information sheets, consent forms, and research instruments, where appropriate, have been directly translated from the English versions submitted with this application.	√		
14a. Does the proposed research involve children under the age of 5?		√	
14b. If the answer to question 14a is "yes": My Head of School (or authorised Head of Department) has given details of the proposed research to the University's insurance officer, and the research will not proceed until I have confirmation that insurance cover is in place.			√
If you have answered YES to Question 3, please complete Section B below			

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[1] Sensitive personal data consists of information relating to the racial or ethnic origin of a data subject, their political opinions, religious beliefs, trade union membership, sexual life, physical or mental health or condition, or criminal offences or record.

- Complete either **Section A** or **Section B** below with details of your research project.

- Complete a **Risk Assessment**.

- Sign the form in **Section C**.

- For all student projects, complete a **Data Protection Declaration form**.

- Append at the end of this form all relevant documents: information sheets, consent forms, and ALL research instruments which may include tests, questionnaires, and interview schedules, and for staff, evidence that you have completed information security training (e.g., screen shot/copy of certificate).

- Email the completed form, as a **SINGLE** document, to the Institute's Ethics Committee for consideration.

Any missing information will result in the form being returned to you.

Section A: My research goes beyond the "accepted custom and practice of teaching" but I consider that this project has **no** significant ethical implications. (Please tick the box.)	☒

Please state the total number of participants that will be involved in the project and give a breakdown of how many there are in each category e.g., teachers, parents, pupils etc.

For the pilot study: 4 or 5 students with visual impairments

For the main study: 20 students with visual impairments from a university in SA, and 5 students from a designated Institute

for the blind in SA.

20 sighted students from the same university at SA.

Online Questionnaire: 32 participants (16 VI, 16 sighted) from the main study, plus 30 additional VI students (from a range of classes in one Saudi university, including an EFL foundation-year class, juniors, seniors and sophomores), and 30 additional sighted students (from the same Saudi university).

It is important to note that by the time of the actual data collection, the number of participants might vary according to the admission rate.

Give a succinct description of the aims and the methods (participants, instruments, and procedures) of the project in up to 500 words noting:

1. Title of project:
Teaching vocabulary through listening to Saudi EFL learners with visual impairments

2. Purpose of project and its academic rationale

The main aim of this project is to investigate vocabulary through listening among visually impaired learners of English as a foreign language (EFL) in the teaching and learning process. A quasi experimental, mixed method design will be adopted to compare the impact of two kinds of vocabulary instruction (Codeswitching, and Aural Input Enhancement) on the vocabulary gain of learners with visual impairments (treatment group) and sighted learners (comparison group). It is inconclusive from the literature whether Codeswitching (CS), providing L1 (mother tongue) translation of a target L2 (second language) vocabulary presented in the aural text to the L2 learners, or Aural Input Enhancement (AIE) is best in teaching vocabulary to learners with visual impairment. AIE is manipulating the target lexical item by artificially increasing the volume to attract the learners' attention to its form (i.e., using a rising intonation to deliver the target item). The manipulation of the target item will be followed by elaborations of target items.

The scarce research dedicated to foreign and second language acquisition in visually impaired learners focuses on different teaching methodologies, rather than exploring the impact of those methodologies on learning. To my knowledge, there is no study that aims to investigate the effect of teaching L2 vocabulary through aural input on the vocabulary gain of these learners. Research that explores the impact of employing vocabulary instruction, mainly CS or AIE on these learners' L2 vocabulary acquisition is unavailable.

3. Brief description of methods and measurements

With the consent of head of departments, parents and the visually impaired learners, and prior to the intervention, the researcher will obtain data concerning each learner's eye condition from the Special Needs Office. The information collected will be used for 1) accommodating the participants' needs 2) drawing comparisons between visually impaired and sighted learners' vocabulary instruction preference. Moreover, with all parties' consent, the visually impaired learners will be assigned a human assistant to help in conducting the tests.

The intervention would be divided into two phases. The first phase would consist of a pre-test session to elicit details of the learners' language proficiency level and vocabulary knowledge respectively. Learners would receive a general listening comprehension test alongside a Listening Vocabulary Level Test (LVLT). The general listening comprehension test will be employed to evaluate the students' English proficiency level and the LVLT test will be used to assess their general vocabulary knowledge. The listening comprehension test will be developed based on the International Language Test System (IELTS). The vocabulary knowledge test will be adopted from the LVLT designed by McLean et al. (2015). The intervention target lexical items will be intermingled with the LVLT items to assess participants' knowledge of these items too. In the second phase of the intervention, six teaching sessions will take place. In each intervention session, the treatment and comparison groups would receive a listening comprehension task that is followed by three multiple choice comprehension questions (one for the general idea and two for specific) to ensure learners' general understanding of the listening passage. Additional vocabulary instruction through CS or AIE will be administered in the same session. In the CS phase, learners will receive the meaning of the target lexical items (L2) contained in the passage in L1. While in the AIE phase, learners' attention to the target lexical items will be drawn by artificially increasing the volume (i.e. using a rising intonation to deliver the target item) and then following it by an explicit word elaboration (i.e. using L2 definition of the target lexical items).

A within-subject design will be employed, so that all learners will experience both teaching methods. Moreover, a counterbalancing procedure (i.e. altering the order of the conditions in which participants receive the intervention) for the two types of vocabulary instruction (CS and AIE) will be employed to reduce order effects in within-subject experiments (i.e. "effect that occurs when participants' response in the various condition are effected by the order of conditions to which they were exposed" (Jhangian, 2017, p.121).

At the end of each teaching session, a vocabulary post-test will be employed. After two weeks of initiating each intervention session, a delayed post-test will be administered. All classes will be audio-recorded with consent from the head of departments, parents (in the case of school students), and participants.

After the last teaching session, four participants from each group (treatment and comparison) will be invited to take part in a stimulated recall interview. The present study will partially replicate Zhang's (2017) stimulated recall interview questions. The selection of the participants will be based on their test results to give a range of proficiency levels. They will listen to an audio file of the researcher teaching a certain item of the target vocabulary and will be asked a series of recall questions to shed light on their thoughts of the vocabulary explanation during the class.

Once the experimentation and interviews data have been collected, an online questionnaire with an open-ended question will be developed to explore the listening strategies adopted by visually impaired and sighted learners in comprehending the teacher's talk in the (EFL) classroom.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded. All teaching, whether online or in person, will be undertaken by the researcher.

4. Participants: Recruitment methods, number, age, gender, exclusion/inclusion criteria
   The main study will involve, in the treatment group:

   - Approximately 7 female learners with visual impairments, aged 18. All students selected are from an EFL foundation-year class, which is run in a Saudi university solely for learners with visual impairments.
   - Other visually impaired students will be selected from other levels of study, including juniors, seniors, and sophomores, at the same Saudi university, aged 19-21.
   - 4 to 7 twelfth grade female learners with visual impairments from an institute for the blind in Saudi Arabia, aged 16-17.

5. The learners will not be randomly selected since there is only one class for EFL foundation-year learners with visual impairments at the university and one upper secondary level class at the institute for the blind. These learners will receive the intervention in their normal class time. On the other hand, visually impaired learners in other university levels will come from different faculties; therefore, it will be necessary to form a single class that unites them. These learners will be invited to attend classes that are in addition to their normal classes. The researcher will coordinate with the Special Needs Office at the university to arrange for these participants to be present in classes that suits their different schedule in order to apply the intervention. Conducting the experiment with the students spread across their original classes would be impossible due to the low number of visually impaired learners in each class. Despite the discrepancy in the levels of learners, the amount of received instruction will be equal. All classes will be run by the researcher to ensure that the same teaching procedure and vocabulary instruction will be delivered equally and consistently. Visually impaired learners' classes will be assigned as the treatment groups. A within-subject design will be employed, so that all learners will experience both teaching methods. Moreover, a counterbalancing procedure for the two types of vocabulary instruction (CS and AIE) will be employed to reduce order effects.

6. A clear and concise statement of the ethical considerations raised by the project and how you intend to deal with them: The main ethical consideration raised by this project relates to the issue of recruiting the researcher's own students. Being an insider researcher is another element to be addressed. Both matters are concerns related directly to the dynamics of power. To mitigate against these, I will not exploit my position as an instructor at the university to coerce students to participate in the study. The necessity to recruit the researcher's own students is due to the fact that the number of visually impaired learners enrolled at the university is limited. In Jeddah, the researcher's city of residence, there is only one institute other than the university that embraces visually impaired students. Also, it is important to note that the regulations of universities in Saudi Arabia declare that access to the university campus is only granted to faculty and students of that particular university. The campus of all universities in Saudi Arabia is not in any way accessible to the public and is a fully gated community. This means that if the researcher wishes to even consider including other students from other universities, the

process will be lengthy to apply for permission. The unpredictability of the current situation with Covid 19 also affects this matter, as most institutions are rejecting access to visitors or researchers to control and implement procedures related to Covid 19. Therefore, it will be necessary for the researcher to recruit the students she is instructing. The researcher is fully aware of the sensitivity of this matter and will take necessary precautions to ensure ethical conduct. The researcher will act to reassure the students and eliminate the sensitivity of the power dynamics at hand. The researcher will work to raise the level of relaxation and confidence of the students and enhance an informal relationship to diffuse the power dynamics. Reassurance will be provided through an ice-breaker exercise to be conducted in the first intervention session (Pre-Test session). The first 30 minutes will be dedicated to an ice-breaker exercise called 'My Name is' in which each student states orally three adjectives to describe themselves. The researcher will also participate and enhance the discussion with the objective of eliminating any fears connected to the researcher. This will allow for interaction with the researcher at an informal level. The intention is to further eliminate barriers between the researcher adding to the students' confidence and relaxation and, it will decrease the power dynamics at hand. Furthermore, at the start of each intervention session, the researcher will assure the participants that they are not obliged to take part in the study, and they have the freedom to withdraw at any time during the study without providing a reason. They will also be informed that their withdrawal will not affect their grades. To create further assurance, the researcher will submit the overall grades for each test to the student in full transparency upon each individual request. This will allow the students to feel at ease when participating in the study. Additionally, students will be encouraged to voice their feedback during the interview. The researcher will ensure to function more as a listener and limit the time she will speak during the interview, which will empower the student and allow her to feel in control. This will help the student understand that she is not obliged to satisfy the teacher with her answers. She will feel comfortable expressing her feedback, feeling able to provide both positive and negative feedback. This will allow the researcher to provide more conclusive research results. The same measures will be applied to visually impaired learners from other faculties to ensure ethical conduct. Although in dealing with the upper secondary school level students the researcher will not be an insider, she will continue to follow the same measures to affirm ethical conduct.

Moreover, the head of the department/ school and students will be informed that participation or withdrawal in the study will have no effects on students' grades.

7. Estimated start date and duration of project:
Data collection: (pilot) 2 January 2022 (study) 6 September 2022
Intended thesis submission: 8 November 2024

Kindly note that the plan is to use the same information and consent forms for both the pilot and main study, modified as appropriate for each stage of the study. The information/consent forms, instructions for all tests, interview questions and the questionnaire will be translated into Arabic. All material will be provided in different formats that accommodate each visually impaired student's needs (i.e. Braille version or Enlarged version). The information sheets will be audio recorded. To make the online questionnaire accessible to the visually impaired, the researcher will use Microsoft Forms, which is supported by a screen reader programme such as Microsoft's Narrator, JAWS, or NVDA.

Section B: I consider that this project **may** have ethical implications that should be brought before the Institute's Ethics Committee.	☐

Please state the total number of participants that will be involved in the project and give a breakdown of how many there are in each category e.g., teachers, parents, pupils etc.	

Give a succinct description of the aims and the methods (participants, instruments, and procedures) of the project in up to 500 words.

  1. Title of project

  2. Purpose of project and its academic rationale

  3. Brief description of methods and measurements

  4. Participants: Recruitment methods, number, age, gender, exclusion/inclusion criteria

  5. Consent and participant information arrangements, debriefing (attach forms where necessary)

  6. A clear and concise statement of the ethical considerations raised by the project and how you intend to deal with then.

  7. Estimated start date and duration of project

RISK ASSESSMENT

Brief outline of Work/activity:	Participants will perform a proficiency level test, mainly a listening comprehension test and a vocabulary size test. They will also receive six intervention sessions using vocabulary instruction, complete post-tests, and participate in audio-recorded interviews. Once these data have been collected, an online questionnaire will be developed to explore the listening strategies adopted by the participants in comprehending the teacher's talk in the EFL classroom.

Where will data be collected?	At a Saudi University and at the Institute for the Blind in Saudi Arabia, on the premises. If teaching switches to online due to Covide-19, Microsoft Teams will be used.

| Significant hazards: | None acknowledged. The university and the institute for the blind are responsible for providing a safe working environment within their campuses.

If the intervention takes place online, there are risks related to the security of the data collection procedure and subsequent storage of the data collected in the platform. |
| --- | --- |

Who might be exposed to hazards?	Participants and the researcher

| Existing control measures: | If the intervention takes place on premises, classrooms are within the university/the institute for the blind's Health and Safety regulations.

If the intervention takes place online, the teaching sessions will be audio-recorded via Microsoft Teams and will hence be stored in a controlled repository that is secured by permission and encryption. Test and questionnaire data will be gathered via Microsoft Forms and will be password protected. Microsoft Teams and Microsoft Forms are committed to their own compliance with the EU General Data Protection Regulation (GDPR). |
| --- | --- |

Are risks adequately controlled:	Yes

If NO, list additional controls and actions required:	Additional controls	Action by:

Section C: SIGNATURE OF APPLICANT

Note: a signature is required. Typed names are not acceptable.

I have declared all relevant information regarding my proposed project and confirm that ethical good practice will be followed within the project.

Print Name: Areen Badri   Date: 11/01/2022

Sig

STATEMENT OF ETHICAL APPROVAL FOR PROPOSALS SUBMITTED TO THE INSTITUTE ETHICS COMMITTEE

This project has been considered using agreed Institute procedures and is now approved.

Print Name: R Harris   Date: 21/06/23

Signed:

(IoE Research Ethics Committee representative) *

* A decision to allow a project to proceed is not an expert assessment of its content or of the possible risks involved in the investigation, nor does it detract in any way from the ultimate responsibility which students/investigators must themselves have for these matters. Approval is granted on the basis of the information declared by the applicant.

Information Management and Policy Services

Data Protection Declaration for Ethical Approval (PhD/EdD projects)

This document can be used to provide assurances to your ethics committee where confirmation of data protection training and awareness is required for ethical approval.

By signing this declaration, I confirm that:

- I have read and understood the requirements for data protection within the *Data Protection for Researchers* document located here:

  https://www.reading.ac.uk/imps/-/media/49b402bbe9a74ae59dd8f4f080652123.ashx

- I have asked for advice on any elements that I am *unclear on* prior to submitting my ethics approval request, either from my supervisor, or the data protection team at: imps@reading.ac.uk

- I understand that I am responsible for the secure handling, and protection of, my research data.

- I know who to contact in the event of an information security incident, a data protection complaint or a request made under data subject access rights.

Researcher to complete

Project / Study Title: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

NAME	STUDENT ID NUMBER	DATE
Areen Badri		11/01/2022

Supervisor signature

Note for supervisors: Please verify that your student has completed the above actions

NAME	STAFF ID NUMBER	DATE
Suzanne Graham		12/01/2022

Submit your completed signed copy along with the other documents pertaining to the ethics application.

Copies to be retained by ethics committee.

VERSION	KEEPER	REVIEWED	APPROVED BY	APPROVAL DATE

1.0	IMPS	Annually	IMPS

Head of Department Information Sheet (University)

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Head of Department

I am a PhD candidate at the University of Reading. I would like to invite your institute to take part in a research study about teaching and learning English vocabulary.

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL university learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why my university has been chosen to take part?

Your university has been invited to take part in this project because it adopts the English-only instruction mode for English language teaching at the university level which will facilitate the collection of appropriate data. Also, I am looking for visually impaired students learning English as a foreign language at a Saudi university. Moreover, as a lecturer at the university, I anticipate that the findings of this study will enrich knowledge related to teaching a foreign language to visually impaired learners. It will provide some recommendations on how teachers can best teach English vocabulary to learners with visual impairments and help them improve in English learning.

Does my university have to take part?

It is entirely up to you whether you give your department consent to participate. You may also withdraw your consent to participation at any time during the project, without any repercussions to you, by contacting me via e-mail: a.badri@pgr.reading.ac.uk. Participation in this research will not affect the students' grades, nor any decision by you or the student to not to participate in the study or withdraw from it. Details of the students' participation in the study and any data relating to them as individuals will not be shared with you or your teachers.

What will happen if the university takes part?

If you give your consent for the department to take part in the study, the researcher will recruit both sighted and visually impaired students to participate in this project. Also, with your and the visually impaired learners' consent, the researcher will obtain data concerning each learner's eye condition from the Special Needs Office. The information collected will be used for 1) accommodating the participants' needs 2) drawing comparisons between visually impaired and sighted learners' vocabulary instruction preference. Moreover, with your and the participants' consent, they will be assigned a human assistant to help in conducting the tests.

With your consent, your selected Foundation- year students (visually impaired and sighted) will experience eight 60-min English lessons as part of their normal English instruction. At the start of the study, prior to these eight sessions, students will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) in normal class time in order to evaluate their English proficiency level. The score they will get will not affect or be part of their term grades. In six of the lessons, the students will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid learners in understanding the listening material. At the end of each of these six lessons, they will complete a further vocabulary test. In two of the sessions this test will take 10 minutes, and in four sessions it will take 20 minutes. In the final two lessons, learners will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With your consent and the participants' consent, the classes will be audio-recorded. In addition, some participants, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent and that of learners will be audio-recorded and transcribed. In the sixth session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

Concerning visually impaired learners in other university levels who come from different faculties, they will receive the same test and teaching experience as Foundation-year (visually impaired and sighted) students. However, it will be necessary to form a single class that unites them. These learners will be invited to attend classes that are in addition to their normal classes. The researcher will coordinate with the Special Needs Office at the university to arrange for these participants to be present in classes that suit their different schedule in order to apply the intervention. Conducting the experiment with the students spread across their original classes would be impossible.

All efforts will be made to guarantee that the participants' normal study is not affected.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by participants will remain confidential and will only be seen by the researcher herself and her supervisors whose names are listed at the start of this letter. Neither you, the university, nor the students will be identifiable in any published report resulting from the study. Information about individuals will not be shared with the teachers. Taking part or withdrawal will not affect students' course grades.

Concerning recruiting the researcher's own students, I will not exploit my position as an instructor to these students to coerce them to participate in the study. The researcher is fully aware of the sensitivity of this matter and will take

necessary precautions to ensure ethical conduct. The researcher will act to reassure the students and eliminate the sensitivity of the power dynamics at hand. Reassurance will be provided through an ice-breaker exercise to be conducted in the first intervention session (Pre-test session). The first 30 minutes will be dedicated to the ice-breaker exercise which will allow for interaction with the researcher at an informal level. Also, to further eliminate barriers of recruiting the researcher's own students and reduce power dynamics, at the start of each session, the researcher will assure the participants that they are not obliged to take part in the study, and they have the freedom to withdraw at any time during the study without providing a reason. They will also be informed that their taking part or withdrawal will not affect their grades.

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefore anticipate that the findings of this study will enrich knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking participants or the university to the study will be involved in any report that might be published. Participants will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any

identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been

given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are

available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor
Student name: Areen Badri Contact details Email: a.badri@pgr.reading.ac.uk Tel:	Professor Suzanne Graham Institute of Education University of Reading London Road Campus 4 Redlands Road Reading RG1 5EX UK Email: s.j.graham@reading.ac.uk Tel: +44 (0)118 378 2684

What happens if I change my mind?

You can change your mind at any time without any repercussions. If you change your mind after data collection has ended, I will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact my supervisor, Professor Suzanne Graham, Tel: +44 (0) 118 378 2684 or e-mail: s.j.graham@reading.ac.uk

Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

Visually Impaired Student Information Sheet (Foundation -Year)

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Student

I am a PhD candidate at the University of Reading. I would like to invite you to take part in a research study about teaching and learning English vocabulary

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL university learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why have I been chosen to take part?

You have been invited to take part in this project because I am looking for visually impaired students learning English
as a foreign language at university or upper secondary school level. Additionally, your participation may give you a
better insight into how you learn vocabulary and what strategies help you.

Do I have to take part?

Participation in this research will not affect your grades, nor any decision by you to not to participate in the study or

withdraw from it. It is entirely up to you whether you give your consent to participate. You may also withdraw your

consent to participation at any time during the project, without any repercussions to you, by contacting me via e-mail:

. Details of your participation in the study and any data relating to you as an individual will

not be shared with your teachers or heads of departments.

What will happen if I take part?

The researcher will recruit both sighted and visually impaired students to participate in this project. With your consent, the researcher will obtain data concerning your eye condition from the Special Needs Office. The information collected will be used for 1) accommodating the participants' needs 2) drawing comparisons between visually impaired and sighted learners' vocabulary instruction preference. Moreover, with your consent, you will be assigned a human assistant to help in conducting the tests.

If you agree to take part in this study, you will participate in eight 60-min English listening comprehension lessons as part of your normal English instruction. At the start of the study, prior to these eight sessions, you will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) in normal class time in order to evaluate your English proficiency level. The score you will get will not affect or be part of your term grades. In six of the lessons, you will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid you in understanding the listening material. At the end of each of these six lessons, you will complete a further vocabulary test. In two of the sessions this test will take 10 minutes, and in four sessions it will take 20 minutes. In the final two lessons, you will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With your consent, the classes will be audio-recorded. In addition, some participants, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent will be audio-recorded and transcribed. In the sixth session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

All the tasks would take place during normal class time. All efforts will be made to guarantee that your normal study is not affected.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by you in the study will remain confidential and will only be seen by the researcher herself and her supervisors whose names are listed at the start of this letter. Neither you nor the university will be identifiable in any published report resulting from the study. Information about individuals will not be shared with the university. Taking part or withdrawal will not affect your grades. You will be reminded of your right to withdraw the study in each session..

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefore anticipate that the findings of this study will enrich knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking you or the university to the study will be involved in any report that might be published. You will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor
Student name: Areen Badri	Professor Suzanne Graham Institute of Education

Contact details	University of Reading
Email: a.badri@pgr.reading.ac.uk	London Road Campus
	4 Redlands Road
Tel:	Reading
	RG1 5EX
	UK
	Email: s.j.graham@reading.ac.uk
	Tel: +44 (0)118 378 2684

What happens if I change my mind?

You can change your mind at any time without any repercussions. If you change your mind after data collection has ended, I will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact my supervisor, Professor Suzanne Graham, Tel: +44 (0) 118 378 2684 or e-mail: s.j.graham@reading.ac.uk

Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

data protection for information sheets

The organisation responsible for protection of your personal information is the University of Reading (the Data Controller). Queries regarding data protection and your rights should be directed to the University Data Protection Officer at imps@reading.ac.uk, or in writing to: Information Management & Policy Services, University of Reading, Whiteknights, P O Box 217, Reading, RG6 6AH.

The University of Reading collects, analyses, uses, shares, and retains personal data for the purposes of research in the public interest. Under data protection law we are required to inform you that this use of the personal data we may hold about you is on the lawful basis of being a public task in the public interest and where it is necessary for scientific or historical research purposes. If you withdraw from a research study, which processes your personal data, dependant on the stage of withdrawal, we may still rely on this lawful basis to continue using your data if your withdrawal would be of significant detriment to the research study aims. We will always have in place appropriate safeguards to protect your personal data.

If we have included any additional requests for use of your data, for example adding you to a registration list for the purposes of inviting you to take part in future studies, this will be done only with your consent where you have provided it to us and should you wish to be removed from the register at a later date, you should contact Areen Badri, Tel: Tel: +966 (0) 504688878 , E-mail: a.badri@pgr.reading.ac.uk

You have certain rights under data protection law which are:

- Withdraw your consent, for example if you opted in to be added to a participant register
- Access your personal data or ask for a copy
- Rectify inaccuracies in personal data that we hold about you
- Be forgotten, that is your details to be removed from systems that we use to process your personal data
- Restrict uses of your data
- Object to uses of your data, for example retention after you have withdrawn from a study

Some restrictions apply to the above rights where data is collected and used for research purposes.

You can find out more about your rights on the website of the Information Commissioners Office (ICO) at https://ico.org.uk

You also have a right to complain the ICO if you are unhappy with how your data has been handled. Please contact the University Data Protection Officer in the first instance.

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Please complete and return this form to: a.badri@pgr.reading.ac.uk

<u>**Student Form (VI- Foundation-Year)**</u>

1. I have read the Information Sheet about the project and received a copy of it. ☐

2. I understand what the purpose of the study is and what you want me to do. All my questions have been

    answered.☐

3. I agree to the Special Needs Office giving the researcher details of my eye condition.☐

4. I understand that I have the freedom to participate in this study and that I can withdraw at any time,

    without giving a reason and that will not have any effect on my grades.☐

5. I agree to complete an initial listening comprehension test and a vocabulary knowledge test (45 minutes each) and subsequent vocabulary tests in each of eight teaching sessions (tests 10 minutes long in 4 sessions, and 20 minutes in 4 sessions) for use within this research.☐

6. I agree to participate in a 15–20-minute individual interview.☒

7. I agree to the audio-recording of my interview.☐

8. I agree to the audio-recording of the English listening comprehension classes.☐

9. I agree to the use of anonymised quotes in subsequent publications.☐

10. I agree to the use of a human assistant whenever is needed. ☐

11. I agree to switch to online teaching due to Covid-19 ☐

Name: _____

Signed: _____

Date: _____

Visually Impaired Student Information Sheet (Different Faculties)

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Student

I am a PhD candidate at the University of Reading. I would like to invite you to take part in a research study about teaching and learning English vocabulary.

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL university learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why have I been chosen to take part?

You have been invited to take part in this project because I am looking for visually impaired students learning English as a foreign language at university or upper secondary school level. Additionally, your participation may give you a better insight into how you learn vocabulary and what strategies help you.

Do I have to take part?

Participation in this research will not affect your grades, nor any decision by you to not to participate in the study or

withdraw from it. It is entirely up to you whether you give your consent to participate. You may also withdraw your consent to participation at any time during the project, without any repercussions to you, by contacting me via e-mail: a.badri@pgr.reading.ac.uk.Details of your participation in the study and any data relating to you as an individual will not be shared with your teachers or heads of departments.

What will happen if I take part?

The researcher will recruit both sighted and visually impaired students to participate in this project. With your consent, the researcher will obtain data concerning your eye condition from the Special Needs Office. The information collected will be used for 1) accommodating the participants' needs 2) drawing

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comparisons between visually impaired and sighted learners' vocabulary instruction preference. Moreover, with your consent, you will be assigned a human assistant to help in conducting the tests.

If you agree to take part in this study, you will attend additional classes outside your normal class time. You will be required to participate in eight 60-min English listening comprehension lessons. At the start of the study, prior to these eight sessions, you will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) outside your normal class time in order to evaluate your English proficiency level. The score you will get will not affect or be part of your term grades. In six of the lessons, you will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid you in understanding the listening material. At the end of each of these six lessons, you will complete a further vocabulary test. In two of the sessions this test will take 10 minutes, and in four sessions it will take 20 minutes. In the final two lessons, you will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With your consent, the classes will be audio-recorded. In addition, some participants, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent will be audio-recorded and transcribed. In the sixth session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

All the tasks would take place outside normal class time and will be scheduled according to students' convenience. They will be considered additional classes attended by the students. All efforts will be made to guarantee that your normal study is not affected. Please be assured that all classes will be in your regular study room at Building 35. We are sensitive to having all these classes in a venue familiar and comfortable for you. If you need assistance in accessing the room for any reason, please inform me and I will arrange with the Special needs office to arrange for a human assistant. Also, rest assured that all the sessions will be scheduled in accordance with your set university schedule. We ensure there is no conflict between your schedule and the sessions allocated.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by you in the study will remain confidential and will only be seen by the researcher herself and her supervisors whose names are listed at the start of this letter. Neither you nor the university will be

identifiable in any published report resulting from the study. Information about individuals will not be shared with the university. Taking part or withdrawal will not affect your grades.

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefore anticipate that the findings of this study will enrich knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking you or the university to the study will be involved in any report that might be published. You will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor
Student name: Areen Badri Contact details Email: a.badri@pgr.reading.ac.uk Tel:	Professor Suzanne Graham Institute of Education University of Reading London Road Campus 4 Redlands Road Reading RG1 5EX UK Email: s.j.graham@reading.ac.uk

	Tel: +44 (0)118 378 2684

What happens if I change my mind?

You can change your mind at any time without any repercussions. If you change your mind after data collection has ended, I will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact my supervisor, Professor Suzanne Graham, Tel: +44 (0) 118 378 2684 or e-mail: s.j.graham@reading.ac.uk

Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

data protection for information sheets

The organisation responsible for protection of your personal information is the University of Reading (the Data Controller). Queries regarding data protection and your rights should be directed to the University Data Protection Officer at imps@reading.ac.uk, or in writing to: Information Management & Policy Services, University of Reading, Whiteknights, P O Box 217, Reading, RG6 6AH.

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If we have included any additional requests for use of your data, for example adding you to a registration list for the purposes of inviting you to take part in future studies, this will be done only with your consent where you have provided it to us and should you wish to be removed from the register at a later date, you should contact Areen Badri, Tel: Tel: +966 (0) 504688878 , E-mail: a.badri@pgr.reading.ac.uk

You have certain rights under data protection law which are:

- Withdraw your consent, for example if you opted in to be added to a participant register
- Access your personal data or ask for a copy
- Rectify inaccuracies in personal data that we hold about you
- Be forgotten, that is your details to be removed from systems that we use to process your personal data
- Restrict uses of your data
- Object to uses of your data, for example retention after you have withdrawn from a study

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Student Information Sheet (Foundation -Year Sighted Learners)

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Student

I am a PhD candidate at the University of Reading. I would like to invite you to take part in a research study about teaching and learning English vocabulary.

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL university/upper secondary school level learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why have I been chosen to take part?

You have been invited to take part in this project because I am looking for students learning English as a foreign language at university. Your participation will allow the researcher to draw comparisons between your vocabulary instruction preference and that of visually impaired learners. Additionally, your participation may give you a better insight into how you learn vocabulary and what strategies help you.

Do I have to take part?

Participation in this research will not affect your grades, nor any decision by you to not to participate in the study or

withdraw from it. It is entirely up to you whether you give your consent to participate. You may also withdraw your consent to participation at any time during the project, without any repercussions to you, by contacting me via e-mail: a.badri@pgr.reading.ac.uk. Details of your participation in the study and any data relating to you as an individual will not be shared with your teachers or heads of departments.

What will happen if I take part?

The researcher will recruit both sighted and visually impaired students to participate in this project. If you agree to take part in this study, you will participate in eight 60-min English listening comprehension lessons as part of your normal English instruction. At the start of the study, prior to these eight sessions, you will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) in class time in order to evaluate your English proficiency level. The score you will get will not affect or be part of your term grades. In six of the lessons, you will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid you in understanding the listening material. At the end of each of these six lessons, you will complete a further vocabulary test. In two of the sessions this test will take 10 minutes, and in four sessions it will take 20 minutes. In the final two lessons, you will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With your consent, the classes will be audio-recorded. In addition, some participants, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent will be audio-recorded and transcribed. In the sixth session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

All the tasks would take place during normal class time. All efforts will be made to guarantee that your normal study is not affected.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by you in the study will remain confidential and will only be seen by the researcher herself and her supervisors whose names are listed at the start of this letter. Neither you nor the university will be identifiable in any published report resulting from the study. Information about individuals will not be shared with the university. Taking part or withdrawal will not affect your grades.

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefor anticipate that the findings of this study will enrich the knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking you or the university to the study will be involved in any report that might be published. You will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor
Student name: Areen Badri Contact details Email: a.badri@pgr.reading.ac.uk Tel:	Professor Suzanne Graham Institute of Education University of Reading London Road Campus 4 Redlands Road Reading RG1 5EX UK Email: s.j.graham@reading.ac.uk Tel: +44 (0)118 378 2684

What happens if I change my mind?

You can change your mind at any time without any repercussions. If you change your mind after data collection has ended, I will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact my supervisor, Professor Suzanne Graham, Tel: +44 (0) 118 378 2684 or e-mail: s.j.graham@reading.ac.uk

Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

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data protection for information sheets

The organisation responsible for protection of your personal information is the University of Reading (the Data Controller). Queries regarding data protection and your rights should be directed to the University Data Protection Officer at imps@reading.ac.uk, or in writing to: Information Management & Policy Services, University of Reading, Whiteknights, P O Box 217, Reading, RG6 6AH.

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lawful basis to continue using your data if your withdrawal would be of significant detriment to the research study aims. We will always have in place appropriate safeguards to protect your personal data.

If we have included any additional requests for use of your data, for example adding you to a registration list for the purposes of inviting you to take part in future studies, this will be done only with your consent where you have provided it to us and should you wish to be removed from the register at a later date, you should contact Areen Badri, Tel: Tel: +966 (0) 504688878 , E-mail: a.badri@pgr.reading.ac.uk

You have certain rights under data protection law which are:

- Withdraw your consent, for example if you opted in to be added to a participant register
- Access your personal data or ask for a copy
- Rectify inaccuracies in personal data that we hold about you
- Be forgotten, that is your details to be removed from systems that we use to process your personal data
- Restrict uses of your data
- Object to uses of your data, for example retention after you have withdrawn from a study

Some restrictions apply to the above rights where data is collected and used for research purposes.

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You also have a right to complain the ICO if you are unhappy with how your data has been handled. Please contact the University Data Protection Officer in the first instance.

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Please complete and return this form to: a.badri@pgr.reading.ac.uk

Student Form (Sighted Learners-Foundation-Year)

1. I have read the Information Sheet about the project and received a copy of it. ☐

2. I understand what the purpose of the study is and what you want me to do. All my questions have been

   answered.☐

3. I understand that I have the freedom to participate in this study and that I can withdraw at any time,

   without giving a reason and that will not have any effect on my grades.☐

4. I agree to complete an initial listening comprehension test and a vocabulary knowledge test (45 minutes each) and subsequent vocabulary tests in each of eight teaching sessions (tests 10 minutes long in 4 sessions, and 20 minutes in 4 sessions) for use within this research.☐

5. I agree to participate in a 15–20-minute individual interview.☐

6. I agree to the audio-recording of my interview.☐

7. I agree to the audio-recording of the English listening comprehension classes.☐

8. I agree to the use of anonymised quotes in subsequent publications.☐

9. I agree to switch to online teaching due to Covid-1

Name: _____

Signed: _____

Date: _____

Head Teacher Information Sheet (Institute for the Blind-Secondary School)

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Head Teacher

I am a PhD candidate at the University of Reading. I would like to invite your institute to take part in a research study about teaching and learning English vocabulary.

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL upper secondary school level learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why my school has been chosen to take part?

Your school has been invited to take part in this project because it adopts the English-only instruction mode for English language teaching at the upper secondary school level which will facilitate the collection of appropriate data. Also, I am looking for visually impaired students learning English as a foreign language at a Saudi institute for the blind. Moreover, as a teacher of visually impaired learners, I anticipate that the findings of this study will enrich knowledge related to teaching a foreign language to visually impaired learners. It will provide some recommendations on how teachers can best teach English vocabulary to learners with visual impairments and help them improve in English learning.

Does my school have to take part?

It is entirely up to you whether you give your school consent to participate. You may also withdraw your consent to participation at any time during the project, without any repercussions to you, by contacting me via e-mail: a.badri@pgr.reading.ac.uk. Participation in this research will not affect the students' grades, nor any decision by you or the student to not to participate in the study or withdraw from it. Details of the student's participation in the study and any data relating to them as individuals will not be shared with you or your teachers.

What will happen if the school takes part?

If you give your school consent to take part in the study, the researcher will recruit your twelfth grade visually impaired students to participate in this project Also, with your, parents, and the visually impaired learners' consent, the researcher will obtain data concerning each learner's eye condition from the Special Needs Office. The information collected will be used for 1) accommodating the participants' needs 2) drawing comparisons between visually impaired and sighted learners' vocabulary instruction preference. Moreover, with all parties' consent, learners will be assigned a human assistant to help in conducting the tests.

With your consent, learners will experience eight 60-min English listening comprehension lessons as part of their normal English instruction. At the start of the study, prior to these eight sessions, students will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) in normal class time in order to evaluate their English proficiency level. The score they will get will not affect or be part of their term grades. In six of the lessons, students will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid the students in understanding the listening material. At the end of each of these six lessons, students will complete a further vocabulary test. In two of the sessions this test will take 10 minutes, and in four sessions it will take 20 minutes. In the final two lessons, learners will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With your consent and the participants' consent, the classes will be audio-recorded. In addition, some participants, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent will be audio-recorded and transcribed. In the sixth session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

In the interest of preserving the students' regular learning, the researcher will assure that there is early and effective communication with the teacher to ensure a balanced and efficient timetable for implementation. Thorough discussions are already in progress with the teacher. At least two months before the beginning of the semester, the researcher and the teacher will intensify these discussions to look at the timetable of the students and ensure that the 6 intervention sessions desired will not conflict with the students' regular learning. The researcher and the teacher will discuss how best to avoid exam time and any other stressful times for the students. All the tasks would take place during normal class time. All efforts will be made to guarantee that the participants' normal study is not affected.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by participants will remain confidential and will only be seen by the researcher herself and her supervisors whose names are listed at the start of this letter. Neither you, the university, nor the students will be identifiable in any published report resulting from the study. Information about individuals will not be shared with the teachers. Taking part or withdrawal will not affect students' course grades.

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefore anticipate that the findings of this study will enrich knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking participants or the university to the study will be involved in any report that might be published. Participants will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor
Student name: Areen Badri Contact details Email: a.badri@pgr.reading.ac.uk	Professor Suzanne Graham Institute of Education University of Reading London Road Campus 4 Redlands Road

Tel:	Reading
	RG1 5EX
	UK
	Email: s.j.graham@reading.ac.uk
	Tel: +44 (0)118 378 2684

What happens if I change my mind?

You can change your mind at any time without any repercussions. If you change your mind after data collection has ended, I will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact my supervisor, Professor Suzanne Graham, Tel: +44 (0) 118 378 2684 or e-mail: s.j.graham@reading.ac.uk

Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

data protection for information sheets

The organisation responsible for protection of your personal information is the University of Reading (the Data Controller). Queries regarding data protection and your rights should be directed to the University Data Protection Officer at imps@reading.ac.uk, or in writing to: Information Management & Policy Services, University of Reading, Whiteknights, P O Box 217, Reading, RG6 6AH.

The University of Reading collects, analyses, uses, shares, and retains personal data for the purposes of research in the public interest. Under data protection law we are required to inform you that this use of the personal data we may hold about you is on the lawful basis of being a public task in the public interest and where it is necessary for scientific or historical research purposes. If you withdraw from a research study, which processes your personal data, dependant on the stage of withdrawal, we may still rely on this lawful basis to continue using your data if your withdrawal would be of significant detriment to the research study aims. We will always have in place appropriate safeguards to protect your personal data.

If we have included any additional requests for use of your data, for example adding you to a registration list for the purposes of inviting you to take part in future studies, this will be done only with your consent where you have provided it to us and should you wish to be removed from the register at a later date, you should contact Areen Badri, Tel: Tel: +966 (0) 504688878 , E-mail: a.badri@pgr.reading.ac.uk

You have certain rights under data protection law which are:

- Withdraw your consent, for example if you opted in to be added to a participant register
- Access your personal data or ask for a copy
- Rectify inaccuracies in personal data that we hold about you
- Be forgotten, that is your details to be removed from systems that we use to process your personal data
- Restrict uses of your data
- Object to uses of your data, for example retention after you have withdrawn from a study

Some restrictions apply to the above rights where data is collected and used for research purposes.

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You also have a right to complain the ICO if you are unhappy with how your data has been handled. Please contact the University Data Protection Officer in the first instance.

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Please complete and return this form to: a.badri@pgr.reading.ac.uk

Head Teacher Form (Institute for the Blind-Secondary School)

1. I have read the information sheet about the project and received a copy of it. ☐

2. I understand what the purpose of the study is and what you want me to do. All my questions have been

   answered.☐

3. I understand that participation is entirely voluntary and that I have the right to withdraw from the project at any time, and that this will be without detriment.☐

4. I agree to the involvement of my institute in the project as outlined in the Information Sheet.☐

5. I agree to the Special Needs office giving the researcher information about my students' eye condition.☐

6. I agree to the researcher using a human assistant whenever is needed.☐

7. I agree to my students completing an initial listening comprehension test and a vocabulary knowledge test (45 minutes each) and subsequent vocabulary tests in each of eight teaching sessions (tests 10 minutes long in 4 sessions, and 20 minutes in 4 sessions) for use within this research.☐

8. I agree to the audio-recording of the English listening comprehension classes.☐

9. I agree to the audio-recording of interviews with students.☐

10. I agree to the use of anonymised quotes in subsequent publications.☐

11. I agree to switch to online teaching due to Covid-19 ☐

Name: _____

Signed: _____

Date: _____

Parent/Carer Information Sheet

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Parent/Carer

I am a PhD candidate at the University of Reading. I would like to invite your child to take part in a research study about teaching and learning English vocabulary.

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL upper secondary school level learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why has my child been chosen to take part?

Your child has been invited to take part in this project because I am looking for visually impaired students learning English as a foreign language at an upper secondary school level. Additionally, their English teacher has expressed an interest in helping with this research study.

Does my child have to take part?

Participation in this research will not affect your child's grades, nor any decision by you to not let your child participate in the study or withdraw from it. It is entirely up to you whether your child takes part in this study. If you are happy for your child to take part, please return the consent form to (The Head Teacher of the Institute for the Blind). You may also withdraw your consent to their participation at any time during the project, without any repercussions by contacting me via e-mail: a.badri@pgr.reading.ac.uk. Details of your child's participation in the study and any data relating to you or your child as an individual will not be shared with their teachers or heads of departments.

What will happen if my child takes part?

If you give your child's school consent to take part in the study, the researcher will recruit the twelfth-grade visually impaired students to participate in this project. With your and your child's consent, the researcher will obtain data concerning your child's eye condition from the Special Needs Office at the Institute for the Blind. The information collected will be used for 1) accommodating the participants' needs 2) drawing comparisons between visually impaired and sighted learners' vocabulary instruction

preference. Moreover, with your and the participants' consent, they will be assigned a human assistant to help in conducting the tests.

If you agree that your child takes part in this study, she will participate in eight 60-min English listening comprehension lessons as part of her normal English instruction. At the start of the study, prior to these eight sessions, your child will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) in class time in order to evaluate her English proficiency level. The score she will get will not affect or be part of her term grades. In six of the lessons, students will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid the students in understanding the listening material. At the end of each of these six lessons, students will complete a further vocabulary test. In two of the sessions this test will take 10 minutes, and in four sessions it will take 20 minutes. In the final two lessons, learners will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With the consent of all parties, the classes will be audio-recorded. In addition, some children, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent will be audio-recorded and transcribed. In the sixth session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

In the interest of preserving the students' regular learning, the researcher will assure that there is early and effective communication with the teacher to ensure a balanced and efficient timetable for implementation. Thorough discussions are already in progress with the teacher. At least two months before the beginning of the semester, the researcher and the teacher will intensify these discussions to look at the timetable of the students and ensure that the 6 intervention sessions desired will not conflict with the students' regular learning. The researcher and the teacher will discuss how best to avoid exam time and any other stressful times for the students. All efforts will be made to guarantee that the participants' normal study is not affected. All the tasks would take place during normal class time. All efforts will be made to guarantee that your child's normal study is not affected.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by your child in the study will remain confidential and will only be seen by the researcher herself

and her supervisors whose names are listed at the start of this letter. Neither your child nor her school will be identifiable in any published report resulting from the study. Information about individuals will not be shared with the school. Taking part or withdrawal will not affect your child's grades.

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefor anticipate that the findings of this study will enrich the knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking your child or the school to the study will be involved in any report that might be published. Your child will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor
Student name: Areen Badri Contact details Email: a.badri@pgr.reading.ac.uk Tel:	Professor Suzanne Graham Institute of Education University of Reading London Road Campus 4 Redlands Road Reading RG1 5EX

	UK Email: s.j.graham@reading.ac.uk Tel: +44 (0)118 378 2684

What happens if I change my mind?

You can change your mind at any time without any repercussions. If you change your mind after data collection has ended, we will discard the data collected from your child.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact you can contact my supervisor, Professor Suzanne Graham,
Tel: +44 (0) 118 378 2684 or e-mail: s.j.graham@reading.ac.uk

Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

data protection for information sheets

The University of Reading collects, analyses, uses, shares, and retains personal data for the purposes of research in the public interest. Under data protection law we are required to inform you that this use of the personal data we may hold about you is on the lawful basis of being a public task in the public interest and where it is necessary for scientific or historical research purposes. If you withdraw from a research study, which processes your personal data, dependant on the stage of withdrawal, we may still rely on this lawful basis to continue using your data if your withdrawal would be of significant detriment to the research study aims. We will always have in place appropriate safeguards to protect your personal data.

If we have included any additional requests for use of your data, for example adding you to a registration list for the purposes of inviting you to take part in future studies, this will be done only with your consent where you have provided it to us and should you wish to be removed from the register at a later date, you should contact Areen Badri, Tel: Tel: +966 (0) 504688878 , E-mail: a.badri@pgr.reading.ac.uk

You have certain rights under data protection law which are:

- Withdraw your consent, for example if you opted in to be added to a participant register
- Access your personal data or ask for a copy
- Rectify inaccuracies in personal data that we hold about you
- Be forgotten, that is your details to be removed from systems that we use to process your personal data
- Restrict uses of your data
- Object to uses of your data, for example retention after you have withdrawn from a study

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Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Please complete and return this form to: a.badri@pgr.reading.ac.uk

Parent/Carer Form

1. I have read the Information Sheet about the project and received a copy of it. ☐

2. I understand what the purpose of the study is and what you want my child to do. All my questions have been

   answered.☐

3. I agree to the Special Needs Office at the Institute for the Blind giving the researcher details of my child's eye condition.☐

4. I understand that I have the freedom to allow my child to participate in this study or withdraw at any time,

   without giving a reason and that will not have any effect on her grades.☐

5. I agree to my child completing an initial listening comprehension test and a vocabulary knowledge test (45 minutes each) and subsequent vocabulary tests in each of eight teaching sessions (tests 10 minutes long in 4 sessions, and 20 minutes in 4 sessions) for use within this research.☐

6. I agree to my child participating in a 15–20-minute individual interview.☐

7. I agree to the audio-recording of my child's interview.☐

8. I agree to the audio-recording of the English listening comprehension classes.☐

9. I agree to the use of anonymised quotes in subsequent publications.☐

10. I agree to the use of a human assistant whenever is needed. ☐

11. I agree to switch to online teaching due to Covid-19. □

Name of child: _____

Name of parents/carer: _____

Signed: _____

Date: _____

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Please complete and return this form to: a.badri@pgr.reading.ac.uk

Student Form (VI-Different Faculties)

1. I have read the information sheet about the project and received a copy of it. ☐

2. I understand what the purpose of the study is and what you want me to do. All my questions have been

    answered.☐

3. I agree to the Special Needs Office giving the researcher details of my eye condition.☐

4. I understand that I have the freedom to participate in this study and that I can withdraw at any time,

    without giving a reason and that will not have any effect on my grades.☐

5. I agree to attend classes that will be in a different venue than my regular teaching venue.☐

6. I agree to attend six classes that will be scheduled outside the times of my normal classes.☐

7. I agree to complete an initial listening comprehension test and a vocabulary knowledge test (45 minutes each) and subsequent vocabulary tests in each of eight teaching sessions

(tests 10 minutes long in 4 sessions, and 20 minutes in 4 sessions) for use within this research. .☐

8. I agree to participate in a 15–20-minute individual interview.☐

9. I agree to the audio-recording of my interview.☐

10. I agree to the audio-recording of the English listening comprehension classes.☐

11. I agree to the use of anonymised quotes in subsequent publications.☐

12. I agree to the use of a human assistant whenever is needed. ☐

Name: _____

Signed: _____

Date: _____

Student Information Sheet (Institute for the Blind-Secondary School)

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Student,

I am a PhD candidate at the University of Reading. I would like to invite you to take part in a research study about teaching and learning English vocabulary.

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL upper secondary school learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why have I been chosen to take part?

You have been invited to take part in this project because I am looking for visually impaired students learning English
as a foreign language at an upper secondary school level. Additionally, your participation may give you a better insight into how you learn vocabulary and what strategies help you.

Do I have to take part?

Participation in this research will not affect your grades, nor any decision by you to not to participate in the study or

withdraw from it. It is entirely up to you whether you give your consent to participate. You may also withdraw your

consent to participation at any time during the project, without any repercussions to you, by contacting me via e-mail:

a.badri@pgr.reading.ac.uk.Details of your participation in the study and any data relating to you as an individual will

not be shared with your teachers or the head teacher.

What will happen if I take part?

The researcher will recruit the twelfth grade visually impaired students to participate in this project. With your consent, the researcher will obtain data concerning each learner's eye condition from the Special Needs Office. The information collected will be used for 1) accommodating the participants' needs 2) drawing comparisons between visually impaired and sighted learners' vocabulary instruction preference. Moreover, with your consent, you will be assigned a human assistant to help in conducting the tests.

If you agree to take part in this study, you will participate in eight 60-min English listening comprehension lessons as part of your normal English instruction. At the start of the study, prior to these eight sessions, you will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) in normal class time in order to evaluate your English proficiency level. The score you will get will not affect or be part of your term grades. In six of the lessons, you will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid you in understanding the listening material. At the end of each of these six lessons, you will complete a further vocabulary test. In two of the sessions this test will take 10 minutes, and in four sessions it will take 20 minutes. In the final two lessons, you will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With your consent, the classes will be audio-recorded. In addition, some participants, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent will be audio-recorded and transcribed. In the sixth session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

In the interest of preserving your regular learning, the researcher will assure that there is early and effective communication with your teacher to ensure a balanced and efficient timetable for implementation. The researcher and your teacher will ensure that the 6 intervention sessions desired will not conflict with your regular learning and will discuss how best to avoid exam time and any other stressful times for the students. All the tasks would take place during normal class time. All efforts will be made to guarantee that the participants' normal study is not affected.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by you in the study will remain confidential and will only be seen by the researcher herself and her supervisors whose names are listed at the start of this letter. Neither you nor your institute will be identifiable in any published report resulting from the study. Information about individuals will not be shared with teachers or the head teacher at the institute. Taking part or withdrawal will not affect your grades.

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefore anticipate that the findings of this study will enrich knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking you or the university to the study will be involved in any report that might be published. You will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor

| Student name: **Areen Badri**

Contact details

Email: a.badri@pgr.reading.ac.uk

Tel: | Professor Suzanne Graham
Institute of Education
University of Reading
London Road Campus
4 Redlands Road
Reading
RG1 5EX

UK
Email: s.j.graham@reading.ac.uk

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Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk.

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

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- Access your personal data or ask for a copy
- Rectify inaccuracies in personal data that we hold about you
- Be forgotten, that is your details to be removed from systems that we use to process your personal data
- Restrict uses of your data
- Object to uses of your data, for example retention after you have withdrawn from a study

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Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Please complete and return this form to: a.badri@pgr.reading.ac.uk

1. **Student Form (VI- Institute for the Blind-Secondary School)**I have read the Information

   Sheet about the project and received a copy of it. ☐

2. I understand what the purpose of the study is and what you want me to do. All my questions have been

   answered.☐

3. I agree to the Special Needs Office at the Institute for the Blind giving the researcher details of my eye condition.☐

4. I understand that I have the freedom to participate in this study and that I can withdraw at any time,

   without giving a reason and that will not have any effect on my grades.☐

5. I agree to complete an initial listening comprehension test and a vocabulary knowledge test (45 minutes each) and subsequent vocabulary tests in each of eight teaching sessions (tests 10 minutes long in 4 sessions, and 20 minutes in 4 sessions) for use within this research.☐

6. I agree to participate in a 15–20-minute individual interview.☐

7. I agree to the audio-recording of my interview.☐

8. I agree to the audio-recording of the English listening comprehension classes.☐

9. I agree to the use of anonymised quotes in subsequent publications.☐

10. I agree to the use of a human assistant whenever is needed. ☐

11. I agree to switch to online teaching due to Covid-19 ☐

Name: _____

Signed: _____

Date: _____

Student Information Sheet (Pilot)

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Researcher: Areen Badri

Supervisors: Professor Suzanne Graham and Dr Pengchong Anthony Zhang

Dear Student,

I am a PhD candidate at the University of Reading. I would like to invite you to take part in a research study about teaching and learning English vocabulary

What is the study?

This study aims to compare using different methods of vocabulary instruction to teach EFL university/ upper secondary school learners vocabulary through listening. It hopes to make recommendations concerning how teachers can best help learners with visual impairments to progress in English vocabulary learning.

Why have I been chosen to take part?

You have been invited to take part in this pilot study because I am looking for visually impaired students who learned
English as a foreign language at university /upper secondary school. Additionally, you have expressed an interest in helping with this research study. Furthermore, your participation may give you a better insight into how you learn vocabulary and what strategies help you.

Do I have to take part?

It is entirely up to you whether you give your consent to participate. You may also withdraw your consent to

participation at any time during the project, without any repercussions to you, by contacting me via e-mail:

a.badri@pgr.reading.ac.uk . Details of your participation in the study and any data relating to you as an individual will not be shared with anyone.

What will happen if I take part?

The researcher will recruit visually impaired students and sighted students to participate in this project. With your consent, the researcher will ask you to share information relevant to your eye condition. The information collected will be used for 1) accommodating your needs 2) drawing comparisons between visually impaired and sighted learners' vocabulary instruction preference. Moreover, with your consent, you will be assigned a human assistant to help in conducting the tests.

If you agree to take part in this pilot study, you will participate in four 60-min English listening comprehension lessons. These sessions will be arranged according to a convenient time and venue for the participants. At the start of the study, prior to these four sessions, you will be requested to complete a listening comprehension test (45 minutes) and a vocabulary knowledge test (45 minutes) in order to evaluate your English proficiency level. In two of these lessons, you will complete a listening comprehension task (15 minutes). During the listening comprehension task, the teacher will provide additional vocabulary explanations that will aid you in understanding the listening material. At the end of each of these two lessons, you will complete a further vocabulary test (10 minutes). In the final two lessons, you will receive revision of the vocabulary previously introduced and a 10-minute vocabulary test. With your consent, the classes will be audio-recorded. In addition, some participants, representing a range of English proficiency levels, will be interviewed.

The interview session will last 15-20 minutes and with your consent will be audio-recorded and transcribed. In the second session, the last session, the interview will take place towards the end of the class. If not possible, it will be arranged outside class time at a time convenient for participants.

If teaching switches to online due to Covid-19, Microsoft Forms and Microsoft teams will be used to conduct the tests and intervention sessions. With consent, online teaching sessions will be audio-recorded and transcribed. All teaching, whether online or in-person, will be undertaken by the researcher.

All the tasks would take place during the agreed times between the researcher and the participants. All efforts will be made to guarantee that your normal daily activity is not affected.

What are the risks and benefits of taking part?

There are no risks in taking part in this study and there is no obligation to participate in it. The information given by you in the study will remain confidential and will only be seen by the researcher herself and her supervisors whose names are listed at the start of this letter. You will not be identifiable in any published report resulting from the study. Information about individuals will not be shared with anyone. Taking part or withdrawal will not have any repercussion to you.

Studies on teaching English as a foreign language to learners with visual impairments are scarce. I therefore anticipate that the findings of this study will enrich knowledge and will be useful for teachers in improving how they teach English to learners with visual impairments.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. Research records for this study will be kept strictly confidential. No identifiers linking you to the study will be involved in any report that might be published. You will be assigned a pseudonym and will be referred to by the pseudonym in all records. The records will be sorted securely in password-protected files on a non-shared PC and all paper documentation will be kept in a locked filing cabinet and only the researcher will have access to the records. All data including interview audio recordings and audio recording from the class will be destroyed after the end of the research. In line with the University's policy on the management of research data, anonymised data gathered in this research may be preserved and made publicly available for others to consult and re-use. All anonymised research data will be retained indefinitely whereas any identifying information such as consent forms will be disposed of securely after the research findings have been written up. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

Name, position and contact address of Researcher	Name, position and contact address of Supervisor
Student name: Areen Badri Contact details Email: a.badri@pgr.reading.ac.uk Tel:	Professor Suzanne Graham Institute of Education University of Reading London Road Campus 4 Redlands Road Reading RG1 5EX

	UK
	Email: s.j.graham@reading.ac.uk
	Tel: +44 (0)118 378 2684

What happens if I change my mind?

You can change your mind at any time without any repercussions. If you change your mind after data collection has ended, I will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact my supervisor, Professor Suzanne Graham, Tel: +44 (0) 118 378 2684 or e-mail: s.j.graham@reading.ac.uk

Where can I get more information?

If you would like more information, please contact me, Areen Badri.

E-mail: a.badri@pgr.reading.ac.uk

If you are happy to take part, please complete and return to a.badri@pgr.reading.ac.uk the attached consent form.

Yours faithfully

Areen Badri

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data protection for information sheets

The organisation responsible for protection of your personal information is the University of Reading (the Data Controller). Queries regarding data protection and your rights should be directed to the University Data Protection Officer at imps@reading.ac.uk, or in writing to: Information Management & Policy Services, University of Reading, Whiteknights, P O Box 217, Reading, RG6 6AH.

The University of Reading collects, analyses, uses, shares, and retains personal data for the purposes of research in the public interest. Under data protection law we are required to inform you that this use of the personal data we may hold about you is on the lawful basis of being a public task in the public interest and where it is necessary for scientific or historical research purposes. If you withdraw from a research study, which processes your personal data, dependant on the stage of withdrawal, we may still rely on this lawful basis to continue using your data if your withdrawal would be of significant detriment to the research study aims. We will always have in place appropriate safeguards to protect your personal data.

If we have included any additional requests for use of your data, for example adding you to a registration list for the purposes of inviting you to take part in future studies, this will be done only with your consent where you have provided it to us and should you wish to be removed from the register at a later date, you should contact Areen Badri, Tel: Tel: +966 (0) 504688878 , E-mail: a.badri@pgr.reading.ac.uk

You have certain rights under data protection law which are:

- Withdraw your consent, for example if you opted in to be added to a participant register
- Access your personal data or ask for a copy
- Rectify inaccuracies in personal data that we hold about you
- Be forgotten, that is your details to be removed from systems that we use to process your personal data
- Restrict uses of your data
- Object to uses of your data, for example retention after you have withdrawn from a study

Some restrictions apply to the above rights where data is collected and used for research purposes.

You can find out more about your rights on the website of the Information Commissioners Office (ICO) at https://ico.org.uk

You also have a right to complain the ICO if you are unhappy with how your data has been handled. Please contact the University Data Protection Officer in the first instance.

Research Project: Teaching vocabulary through listening to Saudi EFL Learners with visual impairments

Please complete and return this form to: a.badri@pgr.reading.ac.uk

Student Form (Pilot)

1. I have read the Information Sheet about the project and received a copy of it. ☐

2. I understand what the purpose of the study is and what you want me to do. All my questions have been

   answered.☐

3. I agree to giving the researcher details of my eye condition.☐

4. I understand that I have the freedom to participate in this study and that I can withdraw at any time,

   without giving a reason.☐

5. I agree to attend two lessons and complete an initial listening comprehension test and a vocabulary knowledge test (45 minutes each) and subsequent vocabulary tests in each of four teaching sessions (10 minutes each) for use within this research.☐

6. I agree to participate in a 15–20-minute individual interview.☐

7. I agree to the audio-recording of my interview.☐

8. I agree to the audio-recording of the English listening comprehension classes.☐

9. I agree to the use of anonymised quotes in subsequent publications.☐

10. I agree to the use of a human assistant whenever is needed. ☐

11. I agree to switch to online teaching due to Covid-19 ☐

Name: _____

Signed: _____

Date: _____