Developing Speaking Strategies among Adult English-as-an-Additional-Language (EAL) Learners in Performing the IELTS Speaking Tasks, Mediated by Audio-Recorded and Video-Stimulated Individual Verbal Reflection

by

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B.A., King Saud University, 2005
M.A., The University of Queensland, 2008

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We acknowledge and respect the Lək̓ʷəŋən (Songhees and Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

Supervisory Committee

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Abstract

Improving speaking skills is a considerable challenge for many English-as-an-Additional-Language (EAL) learners striving to achieve oral proficiency and succeed in high-stakes standardized language tests. This study examined the reported and observed speaking strategies employed by 24 intermediate-level EAL learners performing IELTS (International English Language Testing System) Speaking tasks.

The study explored the efficacy of integrating individual verbal reflection through Video-Stimulated Recall (VSR) and audio-voice recorders to facilitate EAL participants' development of task-specific strategies and oral language production. Over a six-week period, participants engaged in a non-credit bearing speaking course, with a specific focus on the IELTS Speaking tasks. Participants were randomly divided into three groups: experimental group A (n = 8), experimental group B (n = 8), and comparison group C (n = 8). All groups received identical weekly lessons from the same instructor, followed by 30-minute post-task activities: group A engaged in VSR verbal reflections, group B in audio-recorded verbal reflections, and group C in non-reflective activities. In the sphere of strategy use, data were collected and analysed from three sources: weekly instructor-facilitated reflective group discussions, strategies reported weekly during reflection sessions, and the researcher's observations of participants' weekly performances. In the sphere of oral production, pre- and post-test scores, along with weekly task performance scores determined by two raters, were used to measure changes in participants' oral production. Qualitative data were gathered via a post-study perception questionnaire to explore participants' views on verbal reflection. Descriptive statistics revealed that participants used a wide range of strategies, with six strategy categories and a total of 2,038 individual strategies, including 84 unique individual strategies, identified across all data sources. Nonparametric tests indicated a significant improvement in oral production for group B, suggesting that audio-recorded verbal reflection may positively impact oral language development. However, the differences between groups A and C did not reach statistical significance. Interestingly, the lack of significant differences between groups A and B suggests that both reflection modalities may similarly facilitate the development of strategy use and oral production, meriting further research. The correlational analysis uncovered significant relationships among different variables. For example, cognitive strategies in Week 5 and metacognitive strategies in Week 6 positively correlated with performance, while communication and social strategies showed negative correlations in Weeks 1 and 4. Notably, eight individual strategies demonstrated positive correlations with performance scores, while four individual strategies showed negative correlations. Content analysis of the responses to the perception questionnaire highlighted key considerations for future research and pedagogical practices. The findings and their implications are discussed, offering practical pedagogical recommendations for implementing individual VSR and audio-recorded verbal reflections.

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List of Abbreviations

IELTS	The International English Language Testing System
EAL	English-as-Additional-Language
L2	Second Language
LLS	Language-Learner Strategies
SLA	Second Language Acquisition
TL	Target Language
SILL	Strategy Inventory for Language Learning
LSUII	Language Strategy Use Inventory and Index
VSR	Video-Stimulated Recall
L1	First Language
ESL	English-as-a-Second Language
EFL	English-as-a-Foreign-Language
OCSI	Oral Communication Strategy Inventory
TOEFL iBT	Internet-based Test of English as a Foreign Language
APP	Approach Strategies
COM	Communication Strategies
COG	Cognitive Strategies
METACOG	Metacognitive Strategies
AFF	Affective Strategies
SOC	Social Strategies

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For all of this and beyond, I am deeply grateful to God.

Dedication

This dissertation is dedicated to my precious family who shared this journey with me—my loving husband, and to my dear Sara and Faris.

Your love and support gave me the strength and courage to achieve my dreams.

Chapter One: Introduction

1.1 Research Background

The International English Language Testing System (IELTS) is an internationally recognized standardized test taken yearly by over four million English-as-additional-language (EAL) learners in over 140 countries (IELTS, 2024). Recognized by over 12,000 institutions worldwide, IELTS (the academic version)[1] is a gatekeeping standardized test used to assess test-takers' English language proficiency and chances of thriving in higher educational institutions. As a widely recognized benchmark, the academic version of IELTS holds immense significance for individuals aspiring to pursue higher education in English-medium academic environments. It serves as a crucial determinant in admission processes, aiding educational institutions in gauging candidates' linguistic capabilities and readiness to engage effectively in academic discourse. Given its widespread adoption and influence, IELTS plays a pivotal role in shaping the academic trajectories and opportunities available to EAL learners seeking to pursue their educational aspirations on an international scale.

The speaking component of the IELTS test has been designed to examine a test-taker's language proficiency and evaluate a test-taker's ability to maintain effective communication with English language speakers (IELTS, 2024). Many EAL learners face the challenge of improving their oral production in preparation for the IELTS speaking section.

In general, developing speaking skills is a challenge shared by many EAL learners particularly in academic settings (Huang, 2012). Most importantly, many EAL students recognize that speaking is a key factor for successful engagement in academic discussions and dialogues, as well as effective participation in academic seminars and conferences. In fact,

[1] "The IELTS academic test is for people applying for higher education or professional registration in an English-speaking environment" (IELTS, 2024, para. 2).

improving speaking skills is an important goal for many English learners. As Richards and Renandya (2002) pointed out, "a large percentage of the world's language learners study English in order to develop proficiency in speaking" (p. 201). Moreover, it is widely recognized among language teachers and teacher-educators that "for the vast majority of learners, it is the ability to engage in successful oral communication, whether this success is defined as achieving nativelike mastery or merely getting messages across, that drives their motivation to learn a particular language" (Pawlak, 2011, p.19). In the language classroom, the significance of speaking could be noticed from the emphasis given to speaking activities by Second Language (L2) teachers and learners. As Rodríguez-González and Castañeda (2018) stated, "teachers and students frequently prioritize and value the development of speaking skills" (p.122).

For years, teachers who are aiming to improve their students' ability to speak effectively have investigated different pedagogical methods to provide support for students to develop their speaking skills. Encouraging students to participate in spoken interactions, whether with peers or native speakers, can be a challenging task (Donato & MacCormick, 1994; Tsou, 2005; Zuengler, 1993). One major issue is students' understanding of their own role in the learning process. Many students perceive their teachers "as the only source of learning" (Huang, 2012, p. 18). This perspective presents a real-world problem for both teachers and learners and has led many researchers to explore methods and tools to enhance and promote self-regulated learning[2].

In the long and effortful journey of learning to speak an additional language, learners could benefit from the use of language learning strategies[3] to develop and improve their speaking

[2] Self-regulated learning refers to learners' active involvement in planning, organizing, setting goals, self-monitoring, and self-evaluating their own learning at various stages in the process of acquisition (Zimmerman, 2002).

[3] Language learning strategies are "specific actions, behaviours, steps, or techniques that students (often intentionally) use to improve their progress in developing L2 skills" (Oxford, 1990, p. 1).

skills (Donato & MacCormick, 1994). Weinstein and Mayer (1986) claimed that the use of learning strategies can "affect the learner's motivational or affective state, or the way in which the learner selects, acquires, organizes, or integrates new knowledge" (p. 315). Most importantly, language learning strategies can help learners to take more responsibility for their own language learning and personal development (Wong & Dunan, 2011). In the area of L2 speaking strategies, researchers have suggested the potential benefits of raising learners' awareness of speaking strategies through written reflection about their strategy use (Donato & MacCormick, 1994; Huang, 2004, 2010; Porto, 2007). Over the years, the importance of addressing L2 strategy use from a sociocultural perspective has been demonstrated by a number of researchers (e.g., Huang, 2010; Riley & Harsch, 1999). The sociocultural theory proposed by Vygotsky (1978) holds that higher mental processes, needed for improvement in areas such as strategy development, require time and mediation. Through engaging in mediating actions in sociocultural settings (e.g., classrooms) facilitated through reflective practices (e.g., reflective speaking, reflective writing, or reflective interactions), higher mental functions can be developed (e.g., evaluating, planning, problem solving, memorizing, decision making, and verbal thought). Such high mental functions are associated with many categories of learner strategies (Huang, 2010).

Although many experts have found relationships between the use of specific strategies and positive learning outcomes (e.g., Oxford, 2003; Bachman & Palmer, 1996), areas such as the potential efficacy of strategy awareness on learners' performances of speaking tasks that involve interactions—such as the IELTS speaking tasks—are yet to be explored. Furthermore, little attention has been given to exploring the efficacy of integrating different types of verbal

reflection on strategy selection and use (Huang, 2010). Further attention is also needed to investigate the effects of task type on learners' selection and orchestration of strategies.

1.2 Research Objectives and Significance of the Study

Although research in the area of language learning strategies has established the importance of raising learners' awareness of strategy use, the domain of L2 speaking has received relatively little attention in comparison to other language skills such as reading and writing (Huang, 2021a).

The present study aims to integrate verbal reflection to facilitate EAL participants' development of strategy use and oral production. Over a six-week study period, video-stimulated recall and audio-recorded verbal reflections served as mediational means for intermediate-level EAL learners to engage in goal-oriented and task-specific reflective thinking after completing speaking tasks. Given that developing speaking skills for EAL students is a key factor for their success in their academic studies, this study is designed to develop EAL learners' task-specific strategic behaviours and explore effective speaking strategies to complete IELTS speaking tasks. As stated earlier, IELTS is considered one of the most common standardized English language proficiency tests. Many prospective EAL students seek to meet the English language requirement need to apply for many institutions. In fact, the popularity of the IELTS test as an admission tool to many universities and institutions in Canada and worldwide has resulted in the growing interest among EAL learners to take such a test.

Following the long history of reflection as a tool in educational contexts (Rogers, 2001), this study intends to explore the potential efficacy of verbal reflection in an EAL classroom context. In the field of applied linguistics, there have been several calls for more research into the role of reflection in the development of language learning strategies (e.g., Donato &

MacCormick, 1994; Huang, 2010, 2012). Furthermore, many L2 instructors and action researchers have expressed the desire/willingness to incorporate reflective practices to help guide students to explore effective, task- and context-specific language learning strategies (Huang, 2021a).

Empirically, this study provides insights into the potential efficacy of verbal reflection on the development of EAL learners' strategic behaviours while performing the IELTS speaking tasks. Methodologically, it aligns with the calls by several scholars (e.g., Huang, 2013b, 2014, 2021a; Gao, 2007; Khan & Victori, 2011) for researchers to recognize the importance of using multiple data sources when eliciting strategy use. Research on learners' strategies has demonstrated that employing different elicitation methods is crucial to sufficiently capture cognitive processes and strategic behaviours (Huang, 2010, 2014; Macaro, 2006). In addition to the observations of overt strategic behaviours, the present study obtained data through elicitation methods that employed different types of verbal reports.

From a pedagogical perspective, the results of this study have implications for instructors in terms of providing a learner-centered method to help learners develop and explore effective speaking strategy use. Findings in this area could be used to enhance L2 instructors' and educators' understanding of language learning strategies, and to design instruction and interventions that involve reflective practices to support and guide students in their efforts to improve their speaking performance. Additionally, the practical tips and suggestions derived from the study can assist EAL instructors in guiding learners to identify and employ appropriate strategies for enhancing their speaking skills. It can be used to aid instructors in creating learning environments that foster strategic awareness and empower learners to take ownership of their language learning journey.

1.3 Outline of the Dissertation

This dissertation is organized as follows: The Literature Review (Chapter 2) presents an overview of Language Learning Strategy (LLS) (Section 2.1), including a brief background of the strategy research area (Section 2.1.1), the literature addressing the issues surrounding definitions of strategies and strategy classification taxonomies (Section 2.1.2), and followed by a discussion on defining and classifying L2 speaking strategies (Section 2.1.3). Next, Section 2.2 addresses research methods for LLS research, looking closely at the literature on examining strategy use (Section 2.2.1), video-stimulated recall (Section 2.2.2), and reflection (Section 2.2.3) as data collection methods, and the advantages versus the shortcomings of employing such methods. Next, Section 2.3 discusses the most relevant research on L2 speaking strategies. Lastly, Section 2.4 presents the research questions for the present study.

The Methods section (Chapter 3) describes the study's methodology, including the participants' background characteristics (Section 3.1), research setting (Section 3.2), and data collection procedures and instruments (Section 3.3). This is followed by a section describing the course design (Section 3.4) and the pilot study (Section 3.5). Finally, Section 3.6 describes the data coding and analysis process.

The Results section (Chapter 4) presents the study's results. Section 4.1 provides an overview of the reported speaking challenges. The study's results for each research question are addressed as follows: Section 4.2 addresses the results of the overall reported and observed strategy use; Section 4.3 lays out the results of the reported and observed strategic behaviours in response to each task type; Section 4.4 presents the results from the data obtained from each of the three elicitation methods; and Section 4.5 reports the results of the differences in reported and observed strategy use vis-à-vis the modality of post-task reflection. Then, Section 4.6 presents

the results in regard to oral production improvement. Lastly, Section 4.7 describes the results of the perception questionnaire responses.

The Discussion section (Chapter 5) presents the study's findings. Section 5.1 presents and discusses the study's key findings. This is followed by Section 5.2, which discusses the findings regarding oral production improvement. Finally, Section 5.3 discusses participants' perceptions of the reflection experience.

Finally, the Concluding section (Chapter 6) identifies the study's empirical, methodological, and pedagogical implications (Section 6.1). These are followed by the study's limitations (Section 6.2), directions for future research (Section 6.3). Finally, concluding remarks of the study are presented in Section 6.4.

Chapter Two: Literature Review

This chapter provides a review of the literature on existing research on LLS in Second Language Acquisition (SLA) and applied linguistics. The review is presented and discussed in four sections: Section 2.1 presents a brief overview of LLS research; Section 2.2 provides a review of research methods used in assessing strategy use; Section 2.3 examines previous research on L2 speaking strategies; and finally, Section 2.4 puts forward six research questions for the present study.

2.1 An Overview of LLS Research

2.1.1 Background

For decades, particularly throughout the latter half of the 20th century and into the late 2000s, considerable research in the domain of language learning and teaching predominantly centered on developing and advancing theories, approaches, and methods for instruction. A great deal of time and effort was invested in investigating, exploring, and understanding language acquisition, development, and use. However, during this period, much less attention was paid to the significant role of the learner in the process of language development (Griffiths, 2013). In fact, many issues relating to the learner's role (i.e., how learners could potentially contribute to their own learning) were often overlooked or undervalued (Larsen-Freeman, 2001).

In applied linguistics, the publication of Selinker's (1972) article *Interlanguage* was a major turning point that has shifted the scholars' attention from the *product* of learning to the *process* of learning (Swain et al., 2009; Macaro, 2010). In his article, Selinker shed light on the importance of valuing the linguistic errors that language learners make in their attempts to produce the Target Language (TL). In his view, these patterns of errors should not be seen as evidence of unsuccessful acquisition, but rather a valuable data for researchers and a window to

understand the psycholinguistic processes underlying a learner's interlanguage. Selinker considered L2 learning to be one of the five processes that influence the output of the interlanguage system, along with *language transfer* (i.e., related to transfer effects of the first language transfer), *transfer-of-training* (i.e., transfer that results from the way learners are taught), *strategies of L2 communication* (i.e., employed to address conversation breakdowns), and *overgeneralization* of TL linguistic material (i.e., generalization of TL's linguistic components, including its rules and semantic aspects).

Since Selinker's (1972) publication, the question of what could possibly lead to learners' success in language learning has sparked the attention of many researchers (e.g., Naiman et al., 1978). As Rubin (1975) hypothesized, "If we knew more about what the successful learners did, we might be able to teach these strategies to poorer learners to enhance their success record" (p. 42).

Early attempts to identify LLS began in the mid 1970s as scholars asked what good language learners do (Naiman et al., 1978; Rubin, 1975; Stern, 1975). In these studies, scholars examined factors contributing to the success of L2 learners, looking in particular at the strategies and techniques employed by successful learners to improve their L2 learning. These early studies, commonly referred to as the good language-learner studies, have launched over four decades of strategy research.

Pioneers in the field of research into LLS (e.g., O'Malley et al., 1985; Rubin, 1975, 1987) suggest that differences in strategy use may distinguish successful language learners from their unsuccessful counterparts. Chamot (2001, 2008), Cohen (1998, 2011), Griffiths (2008), Macaro (2006), O'Malley (1987), and Oxford (1990; 2011b), among others, have continued to suggest

that LLS, which was described by O'Malley et al., (1985) as "an extremely powerful learning tool" (p. 43), might potentially facilitate language learning.

The significance of strategy research was brought to the attention of scholars after the inclusion of *strategic competence* in Canale and Swain's (1980) influential theoretical framework of communicative competence. This framework highlights the importance of the strategic component (i.e., how a speaker tackles/overcomes issues when difficulties in communication occur) to successfully use a language to interact with others along with *grammatical competence* (i.e., knowledge of grammar and syntax), *sociolinguistic competence* (i.e., knowledge related to the sociocultural rules of language use), and *discourse competence* (i.e., the ability to use language to produce cohesive and coherent spoken or written text in a language).

Over the years, LLS research has broadened its scope. In the early stages of research, general learning behaviours were the main focus (Oxford, 1990; Dörnyei, 2005). As the area expanded, researchers have investigated strategies employed by L2 learners to develop their L2 skills in different language domains such as: reading (e.g., Anderson, 2004; Khatri, 2018; Yapp et al., 2021); writing (e.g., Chen, 2011; Guo, 2012; Wang & Wen, 2002); listening (e.g., Goh, 2002; Goh & Hu, 2014; O'Malley et al., 1989; Vandergrift & Goh, 2012); speaking (e.g., Donato & MacCormick, 1994; Huang, 2010, 2012; Zhou & Huang, 2018); and vocabulary learning (e.g., Fan, 2003; Gu & Johnson, 1996).

The wealth of research on LLS includes studies that focus extensively on the use of LLS in L2 learning (e.g., Cohen, 1998, 2011; Griffiths, 2008, 2013; Lee, 1998; Oxford, 1990; Phakiti, 2003; Rubin, 1975; Song, 2005; Stern, 1975), as well as studies that look at what LLS there are in the repertories of L2 learners (e.g., Holec, 1981; Little & Dam,1998; Vann & Abraham, 1990).

Several studies have examined the role of exposure to LLS and the positive role of strategies in making language learning more successful (e.g., Chamot, 1993; O'Malley & Chamot, 1990; Oxford, 1990; Skehan, 1989). Some studies have investigated the use of strategies in specific contexts (e.g., Oxford & Amerstorfer, 2018; Oxford & Ehrman, 1995). In addition, a number of studies have looked at strategy use in testing situations (Huang, 2013b; Phakiti, 2003; Purpura, 1998; Song, 2005; Swain et al., 2009).

Researchers have also investigated the potential influential factors that may determine the use of LLS. For instance, speakers' language proficiency has been found to play a role in strategy selection and use. Previous studies have shown that speakers of different language proficiency levels tended to choose different types of strategies (e.g., Huang, 2012, 2013b; Nakatani, 2006). Some studies have examined the relationship between LLS and speakers' disciplines (e.g., Mochizuki, 1999; Peacock & Ho, 2003; Zhou & Huang, 2018). In general, these studies have found that the use of some strategy categories varied across disciplines. Moreover, several studies have identified task type as a variable that may potentially affect strategy use (e.g., An & Nathalang, 2010; Huang, 2010; Khan & Victori, 2011; Macaro, 2006). It has been found that learners used different strategies when performing various types of tasks (e.g., translation tasks, two-way discussions, story-telling, object-description, Jigsaw, etc.).

Although many scholars have suggested the potential of LLS to facilitate successful learning (Cohen,1998; O'Malley et al., 1985; Oxford & Crookall, 1989), a number of researchers have argued that being exposed to LLS or even receiving formal instruction on how to use LLS may not always be effective (Macaro, 2006; Skehan, 1989). This is particularly true when learners do not connect LLS with their own language use; this connection is necessary if such strategies are to be effective (Griffiths, 2003; Huang, 2012; Vann & Abraham, 1990).

A great deal of research has focused on strategy instruction. The growth of LLS research and researchers' ability to identify many strategies used by successful learners have led to testing the teachability of these strategies to less successful language learners (Psaltou-Joycey et al., 2018). However, there is ongoing debate about the feasibility of strategy instruction. Some researchers advocate for the direct teaching of LLS (e.g., Cohen, 1998; O'Malley & Chamot, 1990; Oxford, 1990), while others argue against it (e.g., Kellerman, 1991; Rossiter, 2003; Huang, 2010, 2012). A meta-analysis of 61 studies found a small to medium overall effect of strategy instruction on L2 learning performance, suggesting that longer interventions focusing on a few selected strategies are more effective (Plonsky, 2011). Despite these findings, strategy instruction faces challenges. Limited instructional time may hinder its implementation, and selecting which strategies to teach remains difficult. Huang (2021b) underscores that the question of "which strategies should be selected for instruction, given the wide range identified in the literature?" (p. 220) remains empirically unanswered. Due to these time and resource constraints, a number of researchers have taken a third position regarding strategy instruction. These scholars adapt the awareness-raising approach to developing learners' strategic competence. They argue that learners could benefit from engaging in activities that facilitate strategy awareness and development. In this approach, instructors guide learners by asking them to actively reflect on their strategic behaviours within a specific context or goal. The latter view is the one adopted in the present study.

2.1.2 Definition of LLS and Strategy Taxonomies

By a careful examination of the literature, one could easily notice that the term strategy itself is a controversial term (Cohen, 1998; Griffiths, 2013). In fact, it seems that even after decades of research into LLS, there is a great deal of controversy and variation among researchers in regards to a) the terminology they use to examine LLS, and b) the way they define, conceptualize, and classify strategies (Dörnyei & Scott, 1997).

At the terminology level, the terms *tactic, method, technique, plan, step, learning behaviour, procedure,* and *action* have sometimes been used interchangeably with the term strategy (Cohen, 1998). However, Griffiths (2013) argued that despite the existing variations in terminology, the term *strategy* has the longest history in the literature and seems to be the most frequently and consistently used term over the years. Furthermore, the term *strategy* was used in Rubin's (1975) landmark study *what the "good language learner" can teach us,* which has been one of the most widely cited studies in the strategy field.

Perhaps the biggest issue facing LLS research has been the ongoing challenge of reaching a universally agreed-upon definition for LLS. Since the early studies in the field, such as those by Rubin (1975) and Stern (1975), researchers have recognized the difficulty of articulating a precise definition for LLS (e.g., Griffiths, 2013; Oxford, 2017). Griffiths (2013) noted that LLS "have been notoriously difficult to define" (p. 5). Dörnyei and Ryan (2015) argued that the problem with defining LLS resides in the difficultly to define them "at the rigorous scientific level" (p. 144). However, recent efforts have sought to reach some level of consensus on the definition and classification of LLS, reflecting a broader agreement on their conceptual framework and practical applications (Oxford, 2017).

Most of the definitional criticisms stem from a lack of agreement among researchers; as O'Malley et al. (1985) pointed out, "there is no consensus on what constitutes a learning strategy in second language learning" (p. 22). The early definitions of LLS provided by researchers in the field were overly broad. The following are some examples of these early definitions: LLS are "the techniques or devices which a learner may use to acquire knowledge" (Rubin, 1975, p. 43); "strategies which contribute to the development of the language system which the learner constructs and affect learning directly" (Rubin, 1987, p. 15); and in Stern's (1983) view, it is "the approach employed by the language learner" (p. 236). In the majority of the recent definitions, however, it appears that there is more emphasis on "the presence of self-directedness within language learning strategies" (Thomas & Rose, 2018, p. 251). This can be seen in definitions emerging around the late 90s and beyond as researchers continued searching for a more precise and comprehensive definition of LLS. For example, Richards and Platt (1992) proposed that "learning strategies are *intentional* behavior and thoughts that learners make use of during learning in order to better help them understand, learn, or remember new information" (p. 209). Anderson (2005) defined strategies as "*the conscious actions* that learners take to improve their language learning" (p. 757). According to Chamot (2005), "strategies are most often *conscious* and *goal-driven*, especially in the beginning stages of tackling an unfamiliar language task" (p. 112). For Cohen (2011), strategies are "thoughts and action, *consciously chosen* and operationalized by language learners, to assist them in carrying out a multiplicity of tasks from the very onset of learning to the most advanced levels of target-language performance" (p. 7). LLS, or strategic behaviours as described by Huang (2010), have been defined "theoretically as the *conscious, goal-oriented* thoughts and actions that learners use to regulate cognitive processes with the goal of improving language learning or language use" (p. 246). Oxford (2017)

conducted a content analysis study of 33 existing definitions of LLS. In light of the findings from her analysis, she proposed the following inclusive definition:

> L2 learning strategies are complex, dynamic thoughts and actions, selected and used by learners with some degree of consciousness in specific contexts in order to regulate multiple aspects of themselves (such as cognitive, emotional, and social) for the purpose of (a) accomplishing language tasks; (b) improving language performance or use; and/or (c) enhancing long-term proficiency. Strategies are mentally guided but may also have physical and therefore observable manifestations. Learners often use strategies flexibly and creatively; combine them in various ways, such as strategy clusters or strategy chains; and orchestrate them to meet learning needs. Strategies are teachable. Learners in their contexts decide which strategies to use. Appropriateness of strategies depends on multiple personal and contextual factors (p. 48).

All of the above definitions illustrate the range of ways that strategies have been conceptualized in the literature. Thomas and Rose (2019) argued that Oxford's (2017) definition succeeded in teasing apart the issues associated with strategy use, although it is not yet an agreed-upon definition.

Researchers in the fields of SLA and language testing have proposed numerous taxonomies for systematically categorizing LLS in attempts to offer insights into language learning and test-taking processes (e.g., Bialystok, 1990; Cohen, 2006; Cohen & Upton, 2007; Huang, 2013; Nakatani, 2006; Nikolov, 2006; O'Malley & Chamot, 1990; Oxford, 1990; Poulisse, 1990; Purpura, 1997, 1998; Rubin,1987; Stern, 1983, 1992; Swain et al., 2009; Tarone, 1977; Wenden & Rubin, 1987; Yoshida-Morise, 1998). Among the most cited classifications are O'Malley & Chamot's (1990), Oxford's (1990), Rubin's (1987), and Stern's (1983, 1992) taxonomies. As with the terminologies and definitions, the classification of strategies is an area

of continuous debate (Griffiths, 2013). Over the years, there have been numerous attempts to group and classify strategies. The majority of classifications proposed in SLA are either classifications by function (i.e., approach, communication, cognitive, metacognitive, affective, and social strategies), by language skill (i.e., listening, speaking, reading, and writing), or by language learning and language use.

In Rubin's (1987) classification, she identified three kinds of learning strategies that contribute directly or indirectly to language learning: *learning strategies, communication strategies,* and *social strategies*. Stern (1975) produced a list of ten strategies used by good language learners, which he then further reclassified in Stern's (1992) into five main language learning strategies: (a) *management and planning strategies,* (b) *cognitive strategies*, (c) c*ommunicative–experiential strategies*, (d) *interpersonal strategies*, and (e) *affective strategies*.

O'Malley and Chamot (1990) proposed a framework in which three major types of learning strategies are classified: *metacognitive* (i.e., planning for learning, thinking about the learning process, monitoring of one's production or comprehension, and evaluating learning), *cognitive* (i.e., repetition, translation, grouping, deduction, contextualization, and transfer), and *social/affective* (i.e., interaction with other learners or native speakers, cooperation, question for clarification, and self-talks). In Oxford's (1990) taxonomy, she classified strategies into two major categories: *direct* and *indirect* strategies. According to Oxford, the direct strategies are: *memory strategies, cognitive strategies,* and *compensation strategies.* On the other hand, the indirect strategies include *metacognitive, affective,* and *social strategies,* or as she puts it: "actions which go beyond purely cognitive devices, and which provide a way for learners to coordinate their own learning process" (p. 136). Another functional classification was proposed by Swain et al. (2009) and Huang (2010), which include six categories of strategies: *approach*,

communication, cognitive, metacognitive, affective, and *social strategies.* A thorough discussion on other classifications of learning strategies can be found in Dörnyei and Scott (1997).

As can be seen in the above discussion, a substantial body of literature has been concerned with defining LLS and how these learning strategies are classified and taxonomized. The difficulty with the dozens of pre-existing classifications in the literature is that it would make the selection of an appropriate classification system for a particular research project a puzzling task. Griffiths (2013) suggested that "grouping should be done on a case-by-case basis and justified according to the particular learners, situation, and goal involved and the purpose for which the research is being carried out" (p. 44). Indeed, the rationale for considering a particular classification system should be based on factors such as context, the learning environment, participants' goals, and research purposes. In addition, most taxonomies are drawn from learners' self-reported data (e.g., interviews, questionnaires, and verbal protocols); thus, mainly driven by learners' needs and goals (Swain et al., 2009).

2.1.3 Defining and Classifying L2 Speaking Strategies

As can be inferred from the above overview, several studies have pointed out the beneficial effects of strategy use on L2 learning and performance (e.g., O'Malley & Chamot, 1990; Oxford & Burry-Stock, 1995). In a similar vein, it has been found that successful L2 speakers would benefit from employing effective speaking strategies to improve and develop their speaking performance (e.g., Donato & MacCormick, 1994; Huang, 2010, 2012; Swain et al., 2009).

There is no doubt that L2 speakers face challenges associated with the ability to communicate and develop their speaking skills. In fact, the ability to produce oral language, as Tarone (2005) argued, "is the most complex and difficult to master" (p. 485). The difficulty with

developing the ability to communicate orally involves not only developing many aspects of language (e.g., vocabulary, grammar, pragmatics, phonology, turn-taking, listening to interlocutors, understanding formal/informal spoken language), but also having to activate these resources in real time (Pawlak, 2018). The immediate/online nature of speaking imposes a number of demands and pressure on L2 speakers; hence, many L2 speakers rely on speaking strategies to achieve their communicative goals. Some of these strategies are provoked when communication problems arise (e.g., negotiation of meaning or repetition strategies). These strategies are referred to in the literature as communication strategies. The emergence of studies that looked at communication strategies dates back to Tarone (1981). In her work, Tarone (1981) provided an interactional definition of communication strategies, which involves "a mutual attempt of two interlocutors to agree on a meaning in situations where requisite meaning structures are not shared" (p. 288). According to Færch and Kasper (1983), communication strategies are "potentially conscious plans for solving what to an individual presents itself as a problem in reaching a particular communicative goal" (p. 36). Faucette (2001) provided the following definition, communication strategies are "the ways in which an individual speaker manages to compensate for this gap between what she wishes to communicate and her immediate available linguistic resources" (p. 1). It can be implied from the definitions of communication strategies that these strategies are employed when learners recognize a communication problem and/or attempt to avoid communication breakdowns (Bialystok, 1990).

While it is understood from the existing definitions on communication strategies that these strategies are actions that learners resort to when they encountered by problems at the dialogue level, speaking strategies include, in addition to communication strategies, actions that learners take to improve their speaking performance. According to Pawlak (2018), speaking

strategies "comprise both largely proactive and mainly reactive strategic devises" (p. 271). Proactive strategies involve, for instance, the use of the metacognitive strategy of planning a conversation, the cognitive strategy of rehearsing a speech, or the affective strategy of positive self-talk before speaking.

However, when looking at strategy research in the speaking domain, the majority of the available research on speaking strategies focused predominately on communication strategies (e.g., Liskin-Gasparro, 1996; Nakatani, 2006, 2010; Zhou & Huang, 2018). Limited research has focused on L2 speaking strategies in learning or testing contexts (e.g., Huang, 2010, 2012, 2013b; Swain et al., 2009).

For the purpose of the present study, LLS or strategic behaviours as Huang (2010) has termed it, are operationally defined as EAL learners' "conscious actions for acquiring or manipulating information, such as attending, predicting, translating, monitoring, and linking" (Huang, 2010, p. 246), This includes their thoughts regarding these actions, emotions, self-assessment, and planning as elicited through verbal reflections.

As for the classification of speaking strategies, the present study follows the functional approach to strategy classification proposed by Huang (2010) and Swain et al. (2009). That is, speaking strategies can be classified into six major categories:

1. *Approach:* Orienting oneself to the speaking task
2. *Communication:* Involving conscious plans for solving a linguistic problem in order to reach a communication goal
3. *Cognitive:* Manipulating the target language for understanding and producing language
4. *Metacognitive:* Examining the learning process to organize, plan, and evaluate efficient ways of learning

5. *Affective:* Using self-talk or mental control over affect
6. *Social*: Interacting with others to improve language learning

2.2 Research Methods for LLS Research

A thorough review of the literature reveals that in addition to the theoretical challenges associated with LLS research, there are several methodological issues. Most of these issues are concerned with the instruments that are available to researchers to assess and examine such mental processes as strategies. The following problematic points have been brought up by numerous researchers (e.g., Egi, 2008; Gass & Mackey, 2000; Huang, 2014): participants may not recall or be able to articulate the strategies they utilized; the modality or elicitation method may affect the quality or amount of data that could be obtained; the language chosen to report strategic behaviours may affect participants' self-reported data; and lastly, the available data collection methods are not necessarily suitable for all purposes or even feasible in all contexts.

The following sub-sections present and discuss the research methods used to examine LLS, including advantages and pitfalls. In addition, the discussion addresses the limitations associated with the selected elicitation methods for the present study and the steps taken to minimize such potential limitations.

2.2.1 Examining Strategy Use

L2 strategy researchers have widely employed methods such as strategy inventories, interviews, diary journals, portfolios, key-stroke logging, eye-tracking, observations, think aloud protocols, verbal video-stimulated recall, and reflection to capture and understand strategy use (Bax, 2013; Donato & MacCormick, 1994; Guo & Huang, 2018; Huang, 2010, 2013b; Oxford & Crookall, 1989; Riley & Harsch, 1999; Song & Cheng, 2006; Wengelin et al., 2009). A review of literature on strategy research reveals that questionnaires are among the most commonly used

methods in the field. Among the most recognized and cited ones are Oxford's (1989, 1990) Strategy Inventory for Language Learning (SILL)[4], and Cohen and Chi's (2002) Language Strategy Use Inventory and Index (LSUII)[5]. While the use of questionnaires may elicit insights into overall strategy use, the use of questionnaires alone is subject to critique. Many scholars, such as Huang (2013b), have raised concerns regarding the quality and validity of data obtained by questionnaires, particularly when not triangulated with other data. Huang (2014) argued that most questionnaires elicit strategies that are not specific to a particular language-learning use or context. Such an elicitation method would not fully reflect strategic behaviours employed by learners in response to specific tasks or contexts. Further, this approach assumes that learners use the same strategies for different tasks, an assumption that has been disapproved by many studies (Huang, 2013b; Macaro, 2006). One could ask how accurate learners would be, when responding to questionnaires, about what they actually do in different situations/contexts, given that strategy use is affected by contextual factors and task demands (Huang, 2014). As Oxford (2001) pointed out "actual-task strategy assessment usually measures the use of tactics responding to real-time, specific learning purposes" (p. 140). Therefore, respondents' ability to accurately link strategic behaviours to actual language use is questionable. These limitations pose serious threats to the validity of the data obtained by questionnaires, making questionnaires the least rigorous method in eliciting strategy use (Huang, 2014).

In the strategy research field, observation is used mainly to examine observable strategic behaviour through note-taking during the participant's performance or a video recording of the

[4] Developed by Oxford in 1989 and 1990, the SILL is a self-report questionnaire used to measure the frequency of LLS employed by learners. It assesses strategies across categories such as cognitive, metacognitive, social, affective, memory, and compensation strategies.

[5] Created by Cohen and Chi in 2002, the LSUII is an inventory designed to evaluate the specific LLS learners use, with a focus on cognitive and metacognitive strategies. It assesses learners' use of strategies across different language skills (i.e., listening, speaking, reading, and writing).

participant's performance. Observation of strategy use is rarely used on its own due to obvious limitations. One of the limitations associated with observing strategy use is that not all strategies are observable; many strategies are undertaken mentally (Oxford, 2011). Another major limitation is that not all observable actions are strategies. It is important to be careful not to assign a strategy to every observable action. Strategies, as defined by Oxford (2011), are intentional and deliberate actions that learners choose to employ in order to achieve a particular goal or purpose, unlike skills, which are automatic. Since it is hard to tell whether an action is deliberate or automatic, observation should always be triangulated with other data. Despite its limitations, observation as a data collection method can be valuable (Macaro, 2001a, 2001b). Observation has proved to be useful in providing valuable clues to certain strategic behaviours. It also has been used as a means of verifying self-reported strategies (Guo, 2012; Huang, 2013b).

Numerous studies have employed verbal reporting (e.g., introspective, immediate, or delayed retrospective) (Cohen, 1998; Gass & Mackey, 2000). Theses methods require learners to recall what they were thinking at a particular point in time. Although concurrent and retrospective methods may not fully capture any particular cognitive process (Huang 2014), they can be informative when triangulated with other data sources.

2.2.2 Video-Stimulated Recall

Video-Stimulated Recall (VSR) is a method for collecting verbal reports that finds widespread application across various disciplines, including applied linguistics, as noted by Huang (2014). This method consists of recording participants performing or interacting in a particular task and then having these participants watch the recording, recall their actions, and discuss their thoughts and behaviours during the event.

For strategy research, VSR can provide rich data on learners' cognitive processes and strategy uses. Following are the advantages identified in the literature of using VSR: it provides an emic or "insider" perspective (in this case, the learner's perspective); researchers can tap into underlying processes that are rarely observed (e.g., strategic behaviours that occur mentally); it has the potential to produce rich data; it is suitable for different age groups; it is practical and requires only minimum training; and most importantly, the cost is reasonable (Chamot & El-Dinary, 1999; Cotton & Gresty, 2006; Huang, 2014).

Despite being used with greater frequency, this methodology is also subject to criticism. Many researchers (Egi, 2008; Gass & Mackey, 2000; Huang, 2014; Lyle, 2003) have expressed their concerns in regards to the validity of data gathered through VSR. The validity of this method has been challenged in four major areas: 1) timing of the VSR, 2) respondent's verbal-report abilities, 3) VSR facilitator's probing, and 4) reactivity. A detailed discussion on each point is provided below in order to better understand and counter these critiques.

One of the common critiques concerns the time lapse between the recorded event and the VSR session. Participants' ability to recall their thoughts depends on when this recall is conducted and how soon after the completed task it takes place. The time between the completion of the task and the start of the recall is significant in determining the usefulness of stimulated recall (Gass, 2001). Egi (2004) argued that recently acquired information is stored in short-term memory making immediate recall highly accurate; however, this ability to recall gradually decreases with time. To increase validity and minimize such a threat, Gass and Mackey (2000), Egi (2004), and Huang (2014) have all suggested that stimulated recall should be conducted immediately after task completion. To enhance reliability of the reported data,

participants in this study were asked to conduct VSR reflections immediately after the completion of the speaking task at hand.

The second concern regards respondent's verbal-report abilities. The process of accurately verbalizing and expressing thoughts may not be a simple task for everyone. As Huang (2014) pointed out, this method would not be sufficient for eliciting data for all respondents as their ability to express thought processes varies whether they have the same language proficiency or not. Furthermore, many have argued that verbal reports may not reflect participants' thought processes because participants may not recall what they were thinking (Bowles, 2008). To counter these limitations, Huang (2014) suggested that respondents should be given as much time as they need to verbalize their thoughts. In addition, Huang argued that it is necessary to consider giving participants the option to verbalize in whatever language comes naturally to them (e.g., First Language (L1), L2, or code switching). In the current study, participants were given an adequate amount of time to articulate their thoughts. However, it is noteworthy that both the reflection sessions and the self-reported data on strategy use were conducted exclusively in English. While this language choice may impact the quality and accuracy of the reported data, reflecting in TL may align with the objective of enhancing and developing speaking skills (Huang, 2012).

The third concern is the facilitator's probing. The procedure of conducting the recall session can greatly influence the validity and reliability of the data obtained. The prompts that are given by the facilitator to the participant during the session can influence the participants' answers (e.g., asking leading questions) (Gass & Mackey, 2002). McKay (2006) pointed out that this method can elicit inaccurate information because of researcher effect. Participants' recall within a VSR session could be influenced by what they think suitable or desired by the

researcher. Therefore, this procedure should be carefully designed, and the facilitator should be asked to follow consistent and careful protocol by asking non-leading questions. In the present study, non-leading reflective questions were used to guide participants in the reflection sessions. This protocol was established and followed throughout the study period to ensure consistency and eliminate possible biases.

Reactivity, which has been identified by Egi (2008) as an issue, refers to the potential negative or positive effects that VSR may have on participants' task performance. That is, reactivity may cause participants to become more aware of the cognitive processes and strategic behaviours, which may in turn change participants' behaviours when performing subsequent tasks. Many researchers have expressed their doubts that reactivity is a major issue, given that participants are unable to produce anything above their current proficiency level (Huang, 2013b). The present study, however, is an attempt to see if reactivity could result in a positive change in participants' performance of subsequent tasks.

2.2.3 Reflection

The importance of reflective practice to enhance learning has been widely acknowledged since the publication of Schön's (1983) seminal work, *the Reflective Practitioner*. Though the notion of reflection itself dates back to the pioneering work of Dewey (1933, 1938), who wrote about the concept of reflective learning. Dewey (1933) defined reflection as "active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends" (p. 9). In his view, meaningful learning does not merely result from experiencing events; instead, it is the conscious realization of an experience that renders it meaningful. As Huang (2021a) puts it, "Reflection is generated through reconstructing an experience-that is, working through the factors that

play a role in understanding and interpreting an experience, and then making sense of the new information" (p.10).

As described by Huang (2010), reflection can be characterized as the act of looking back at a previous experience and thinking about it, reviewing it, contemplating it, assessing it, and extracting insights that can inform future actions. According to Clarà (2015), reflection is "a thinking process which gives coherence to a situation which is initially incoherent and unclear" (p. 263). The main purpose of reflection is to identify the points from a past learning experience that need more attention and/or improvement and then make an informed decision on how to address them. As Rogers (2001) argued, "ultimately, the intent of reflection is to integrate the understanding gained into one's experience in order to enable better choices and actions in the future as well to enhance one's overall effectiveness" (p. 41).

Over the years, research has supported the value of reflection in a variety of fields such as teacher's development, nursing, distance learning, and L2 learning (e.g., Alemi & Tajeddin, 2020; Farrell, 1999b, 2013, 2015b; Gan, 2021; Huang, 2010, 2012; Pierson, 1998; Tsui, 2020).

In the context of language learning, the importance of reflection as a pedagogical tool has been recognized by many teachers and teacher-educators in the field of applied linguistics and SLA. According to Huang (2021a):

> In learning an additional language, reflection accomplishes its role through enhancing a metacognitive approach, which learners develop by attending to and monitoring the processes of learning, and in which they are asked to examine their experience or their written, oral, or video reflections, and to evaluate their further actions in relation to past experience in order to deepen learning (p. 49).

Indeed, research has suggested that providing opportunities for language learners to reflect on their language skills and performance on tasks would enhance learners' understanding of their own abilities, strengths, and limitations (e.g., Donato & MacCormick, 1994; Huang, 2010, 2012). This understanding is crucial for the development of metacognitive awareness and self-monitoring skills needed to maximize learning. Through the use of appropriate meditation tools, learners could move beyond the surface layer of reflection to discover deeper meanings, which could potentially lead to a shift in the learner's approach to learning (Mezirow, 1990).

Schön (1983) classified reflection into two types: reflection-in-action (i.e., the action of thinking while doing), and reflection-on-action (i.e., the act of consciously thinking and reviewing what one had done). Rogers (2001) pointed out that the benefits of reflection could potentially be maximized if individuals are fully engaged in the reflection process. To better understand and analyze the quality and the depth of reflection, different models and frameworks have been proposed in the fields of learning and education (e.g., Kember et al., 1999; Kember et al., 2000; Mezirow, 1991). Drawing from Mezirow's (1991) work, who wrote extensively about the subject of reflective thinking as an essential part of his model of transformative learning for adults, Kember et al. (2000) developed an instrument to assess different levels of reflective thinking.

In Kember et al. (2000), reflective thinking includes four categories: *habitual actions, understanding, reflection,* and *critical reflection*. Habitual actions refer to individuals' "way of dealing with similar cases [that] becomes quite routine" (p. 384). In this level, the learner's reflection concerns describing basically what has happened, with no attempts to assess the effectiveness of an experience. *Understanding* describes the state of "understanding without relating to other situations" (p. 384), or for this study, to the task at hand. The learner's reflection

at this point shows an understanding of an experience but no attempts to link such an experience to other situations or applications. *Reflection*, as Boyd and Fales (1983) defined it, is "the process of internally examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective" (p. 100, as cited in Kember et al., 2000). In this level, the learner links an experience to practical applications. Finally, *critical reflection* describes "a higher level of reflective thinking in which individuals may reach/experience "a perspective transformation" (p. 385). Reflection at this point shows evidence of change in the learner's beliefs or assumptions.

Building on the revised Bloom's taxonomy (see Anderson et al., 2013), Huang (2013a, 2017) suggested helping learners explore deeper levels of reflection through encouraging them to think critically about a specific learning episode by following guiding prompts such as the ones presented in Table 1.

Table 1

Guided Reflection Prompts

Remembering	What did I do to prepare for the speaking task? What did I do during the speaking task?
Understanding	What was important about what I learned today?
Applying	In my future speaking, where could I use what I have learned today?
Analysing	What did I do differently this time? Did I see any patterns in what I did?
Evaluating	How well did I do? What have I learned about my strength and areas I can improve?
Creating	What should I do next? What steps should I take to overcome my speaking challenges?

Note. These prompts are sourced from Huang (2013a).

Following Huang's (2013a, 2017) approach, in the present study, guided reflective activities were implemented to enable participants to engage in deeper levels of reflection (see the Methods section for further details). Reflection data were analyzed using an inductive approach, following Huang (2019). The main themes were driven by a qualitative content analysis of the reflection data.

A number of studies have used reflection as a means of eliciting learners' strategic behaviours (e.g., Huang, 2010, 2012; Khatri, 2018). Through reflection, learners as well as teachers and researchers explore more about what is actually happening during a given learning experience. Reflection in L2 learning is used for a variety of purposes, among them raising learners' awareness of certain learning strategies, fostering a metacognitive awareness of learners' learning processes, and aiding learners in recognizing their behaviours developing a metacognitive awareness of learners' learning processes, and helping learners notice their behaviours (Feyton et al., 1999; Huang, 2004; Schmidt, 1990). Reflective activities can result in learners being more engaged in their own language learning and development (Donato & MacCormick, 1994). It can also help learners make informed choices about their own learning (Holec, 1981; Nunan, 1999). As described by Huang (2010), "a reflective learner is one who thinks back on what he/she has experienced and engages in purposeful thinking" (p. 246). The benefits of reflection can go beyond a single learning experience. Learners who engage in reflection as they continue the journey of learning L2 can make use of their previous learning experiences and set more effective and precise future goals than others, thus, actively and positively participating in their own language development.

Mediational means. To facilitate and foster reflective practices, several tools and techniques have been used in a variety of disciplines to mediate reflection (Huang, 2010). As

Rogers (2001) stressed “reflection is most likely to be facilitated with the use of deliberate and planned techniques” (p. 47). In the area of language teaching and learning, researchers have widely used several forms of reflective written modalities (e.g., diaries, journals, portfolios, online blogs, and weblogs) (e.g., Huang, 2010; Porto, 2007; Tajeddin & Aghababazadeh, 2018; Thorpe, 2004; Wade & Yarbrough, 1996). Researchers have also employed reflective verbal modalities (e.g., reflective dialogues, reflective group discussion, individual or pair/triadic technology-mediated reflections) (e.g., Huang, 2010, 2012, 2013a; 2017; Khatri, 2018).

It is true that reflection through writing, as literature suggests (e.g., Huang, 2004; Moon, 2006; Rogers, 2011), is the most commonly implemented form of reflection; however, research that explored reflection through speaking provided evidence of its many advantages. Verbal reflection provides opportunities to verbalize thought processes, encourages deep thinking about a learning experience, and involves one in the process of self-evaluation (Huang, 2021a). Studies that examined the use of verbal reflection have found that the modality has encouraged metacognitive and affective development (e.g., Huang 2012; Khatri, 2018). Interestingly, reflection by speaking could be seen as an expansion of one’s internal monologue, which is usually triggered when one reflects on his/her own experiences (Huang, 2021a). This reflection mode has been found to encourage the verbalizing of such internal speech, which in turn could contribute to speaking development (Huang, 2012; Huang et al., 2023).

In applied linguistics, several studies have examined various types of reflective activities. In their action research, Donato and MacCormick (1994) have investigated the development of language-learning strategies within sociocultural theory. The study was carried out in a French conversation class in which students were not provided with direct strategy instruction but were asked to engage in on-going reflection. Throughout the semester, participants were required to

create portfolios containing evidence of their language learning. A final meta-reflection was also collected from participants at the end of the semester. The findings suggest that participants gradually became more engaged in their learning and strategy use. They also became more aware of their strategies and goals through written reflections. As part of their initial portfolio entries submitted in early stages of the study, only three out of ten students submitted tape recordings as evidence of their speaking progress. Three months later, all ten participants submitted evidence of speaking practice outside of class by providing recordings or written summaries of their speaking activities. This gradual move to act on one's learning goals and take responsibility of one's own learning was achieved over a three-month period. This emphasizes that reflection, although beneficial, requires time and effort. Portfolios directed participants to be aware of their own strategic behaviours and served as a tool to regulate their own learning by taking conscious steps to speak the target language. Despite the fact that this study provided valuable findings regarding learners' effort to seek opportunities to speak the target language, it did not provide evidence or quantitative measures of increase in actual performance or learners' oral production.

In another study, Riley and Harsch (1999) looked at the use of LLS and the effect of guided reflection on the use of LLS in two different environments: English-as-a-second language (ESL) and English-as-a-foreign-language (EFL). Participants were asked to reflect on their use of strategies through a guided reflection journal. An EFL control group did not use journal reflections. The treatment groups (ESL and EFL) received regular feedback from the researchers on their reflective entries. The participants in both the treatment and control groups took the LLS survey at the beginning and at the end of the treatment. Findings suggested that participants in the ESL context used LLS more than the EFL group. Participants in both contexts perceived LLS to be useful. However, no statistical differences were found between the treatment group and the

control group regarding strategy use. Although reflections did not directly affect the results of the survey, the researchers indicated that reflections were helpful as reported by their participants. A modified version of the SILL survey [6](Oxford, 1990) was used as the main data collection method. Given the inherent limitation associated with such data collection method, the findings did not provide accurate or detailed information regarding participants' strategic behaviours in the investigated contexts. Despite using the guided reflection journals, these reflections were not conducted immediately or in relation to a specific task. Moreover, a number of problems may affect the results. Among these problems are the number of uncontrolled variables such as teaching methods, teachers' feedback, differences in proficiency levels, and amount of exposure to English among participants. Nevertheless, this study acknowledges the different language-learning needs of both types of learners in these contexts and highlights the positive impact of reflection among the different groups of learners.

Among the limited research that has examined individual verbal reflection, Huang (2012) on the speaking domain, and Khatri (2018) the reading domain. These studies involved EAL learners from different proficiency levels seeking to develop strategic behaviours and improve their academic speaking or reading skills. In these studies, learners' post-task individual verbal reflections were captured using digital voice recorders and the reflection activities took place immediately after task completion. Huang's (2012) and Khatri's (2018) findings suggested that engaging in verbal reflection facilitated the development of strategic behaviours and enable learners to identify and overcome various linguistic and affective challenges. Although such findings are promising, the modality of reflection may have an effect on the type and quality of

[6] A modified version of SILL, originally developed by Oxford (1989, 1990), was used with adaptations or revisions of the original instrument. These modifications were tailored to meet the specific goals of the study.

reported data (Huang, 2010). One could argue that examining other modalities of verbal reflection might yield different findings.

In summary, the above thorough examination of the methods employed to elicit and facilitate learners' development of strategic behaviours revealed that many LLS researchers recognize that there are methodological challenges. To date, the methodology for eliciting learner strategy use according to Macaro (2006) is "at an acceptable level of validity and reliability" (p. 321). Researchers have to make the most of the available methods and carefully select the instruments that best answer their research questions.

Furthermore, criticisms concerning research methods in the field of LLS have led many researchers to experiment with a combination of different elicitation methods to overcome the shortcomings of using a single method (Huang, 2014). Nevertheless, the validity of the available elicitation methods in capturing L2 strategies in different context and across tasks remains under debate.

2.3 An Overview of Previous Research on L2 Speaking Strategies

The majority of strategy research that has been conducted in the area of speaking in the last three decades includes: a) studies that explored the use of communication strategies (e.g., Nakatani, 2006, 2010; Zhou & Huang, 2018), b) studies that examined speaking strategies in test-taking contexts (e.g., Huang, 2013; Swain et al., 2009), and c) studies that investigated speaking strategies in learning/non-testing contexts (e.g., Huang, 2010, 2012).

From the various studies focusing specifically on communication strategies, Nakatani's (2006) work is among the most widely cited ones. Nakatani (2006) attempted to develop a speaking strategy inventory, known as the Oral Communication Strategy Inventory (OCSI), to asses EFL learners strategy use in communication. Nakatani used responses to an open-ended

questionnaire, which was first piloted and then administered to 400 high-and low-proficiency Japanese learners of English after completing a conversation task. In his instrument, communication strategies were divided into two types: strategies for coping with speaking problems and strategies for coping with listening problems. The first type includes eight strategy categories with 32 items, including *social-affective strategies, fluency-oriented strategies, negotiation of meaning, accuracy-oriented strategies, message reduction and alteration, non-verbal strategies, message abandonment*, and *tendency to think in English*. The second type includes seven strategy categories with 26 items for coping with listening problems, including *scanning, fluency maintenance, words dependence, gist dependence, inactivity, meaning negotiation while listening,* and *non-verbal strategies while listening.* Findings show that overall, high-proficiency learners reported more frequent use of some strategies, especially in the *social-affective, fluency-oriented,* and *negotiation of meaning* categories, than did low-proficiency learners. Interestingly, it has been found that while high-proficiency learners rely on strategies that involve using an alternative plan to achieve the communicative goal, low-proficiency learners rely more on message abandonment strategies for dealing with speaking problems. Since the publication of this study, the OCSI has been used extensively to investigate communication strategies in various contexts (e.g., Brown, 2013; Pawlak, 2015; Zhou & Huang, 2018). When investigating strategies, however, using a non-specific and non-context-specific questionnaire-based approach as the only data source could threaten the validity of research findings (Huang, 2014).

Using the OCSI, along with transcripts of recordings and retrospective protocols, Nakatani (2010) explored the effects of strategy training on learners' use of communication strategies when performing conversation tasks. Sixty-two Japanese EFL college students

participated in a 12-week long communicative based English course that involved strategy training. Findings revealed that training students to use strategies for negotiations of meaning and discourse maintaining contributed to the development of learners' communicative ability. Although such findings are interesting, the study only examined speaking strategies in relation to meaning negotiation and conversation flow maintenance, while other speaking strategies which might potentially boost speaking performance were overlooked.

Zhou and Huang (2018) examined the reported and observed communication strategies used by 12 Chinese EAL graduate students studying at a Canadian university after performing informal debate tasks. Participants were all graduate students majoring in either Electrical Engineering or Education. The following data collection methods were used to elicit participants' strategy use: the OCSI questionnaire adopted from Nakatani's (2006) classification of the speaking section, observation of video recorded data from the performances of the informal debate tasks, and participants' self-reported strategy use in the post-task recalls. Overall, the findings revealed a positive relationship between categories of communication strategy use and learners' speaking performance. Findings from the OCSI questionnaire indicated high use of nonverbal strategies, while message abandonment was among the least frequently used strategy category. Findings from the identified observed and reported communication strategies suggested high use of fluency- and accuracy-oriented strategies, whereas translation strategies were rarely used by participants. Zhou and Huang noticed that the observed and reported data findings did not corroborate the OCSI findings. They argued that using a non-task-specific questionnaire, like OCSI, might not be a sufficient instrument to capture some variations in strategy use across tasks. One strength of this study is that these

discrepancies in results highlight the importance of using multiple data resources when examining strategy use to compare and validate the findings.

One empirical study in the domain of L2 speaking assessment was conducted by Swain et al. (2009). The study explored the strategic behaviours associated with responding to the speaking section of the Internet-based Test of English as a Foreign Language (TOEFL iBT), which comprises two independent oral test tasks and four integrated oral test tasks. In their study, thirty Chinese EAL graduate and undergraduate students participated. All the participants engaged in verbal reports through stimulated recall immediately after performing each of the six tasks. The findings revealed that, for all test-takers, the reported strategic behaviours include five categories: *metacognitive, cognitive, communication, approach,* and *affective* strategies. Interestingly, the undergraduate group reported *communication* strategies more frequently, while the graduate group reported using significantly more *cognitive* and *affective* strategies than their undergraduate counterparts. However, the employment of these strategies did not lead to significant changes in oral production performance. It has also been found that the integrated tasks, compared to independent tasks, elicited a wider range of strategic behaviours, and that the more complex the task, the higher the frequency of reported strategy use.

Huang (2013b) assessed the strategic behaviours in performing the IELTS Speaking Test in simulated testing versus non-testing situations. In her study, Huang collected stimulated verbal report data from 40 Chinese-speaking EAL students at both intermediate and advanced levels. Data were elicited through immediate verbal reports, which were carried out in the participants' first language, and observation of participants' actual productions of the three IELTS speaking tasks. The results showed that participants in both testing and non-testing contexts reported mobilizing strategies from the six strategy categories: *approach, communication, cognitive,*

metacognitive, affective, and *social* strategies, with the categories of *metacognitive, communication,* and *affective* strategies being the top most frequently used. One interesting finding of this study is in relation to task type. Participants have reported using different strategies when responding to the three IELTS tasks, which involve both monologues and dialogues. This is not surprising since task type has been identified as one of the variables that could potentially affect the quantity and quality of strategy use (Macaro, 2006; Rossiter, 2003). Another interesting finding regarding strategy use and proficiency level, is that "more proficient L2 learners draw on a greater variety of strategies to accomplish the different language tasks at hand" (Huang, 2013b, p.7). Moreover, Huang pointed out that these findings suggest a need for further research "to examine test-takers'/learners' patterns of strategy use for the same and different tasks on multiple occasions" (p. 24).

In the learning context, Huang (2010) explored 20 intermediate level EAL learners' reported strategic behaviours and their oral production through different types of reflections. Task specific reflections were mediated by three modalities: individual written reflection using a language log, individual spoken reflection using a voice recorder, and group-spoken dialogues. After performing identical speaking tasks, participants were asked to immediately reflect on their strategy use. Findings indicate that the most frequently used strategies were *metacognitive, communication*, and *cognitive* strategies. Most interestingly, the reflection type seemed to play a role in participant's strategy use and selection. For instance, those who participated in group reflections reported using more *social* strategies than those who engaged in individual reflections. This study is considered to be the first in applied linguistics to examine how different modalities of reflection may affect L2 learners' reported strategy use and speaking development. The study highlighted the significance of the modality of reflection which seems, as findings

suggest, to have an effect on what participants selected to report. Members in the individual written reflection and the individual spoken reflection reported similar strategies. However, the individual-spoken reflection group reported more *approach* and *affective* strategies.

In an action research study, Huang (2012) experimented the use of individual oral reflection to facilitate 18 graduate Chinese-speaking EAL students' development of oral-language production. Participants were either at advanced or non-advanced proficiency levels in English and were all studying at a Canadian university in a variety of disciplines. For an eight-week study period, these participants were provided with digital voice recorders to record their thoughts after performing the weekly speaking task. Data collection involved both quantitative and qualitative methods. For the former, participants' weekly oral-language productions were recoded, participants' reported strategic behaviours were elicited from their weekly oral reflections, and pre-and post-speaking tests were conducted. As for the latter, the reflection data were used to conduct a qualitative analysis of participants reflections. For the oral production improvement findings, although not statistically significant, most participants scored higher in the post-test compared to their scores received in the pre-test. The qualitative analysis suggested that there are differences in the quality of reflection between advanced and non-advanced proficiency learners. The reflections made by the non-advanced group mainly focused on describing and identifying general goals, with no attempts to link previous actions and future performances. Huang argued, however, that reflection in the target language could possibly impact the quality of reflection for those with low proficiency levels. For the oral reflection results, participants in all proficiency levels used *metacognitive, cognitive,* and *affective* strategies the most. In this study, the high use of affective strategies is a significantly important finding, given that affective strategies are among the least reported

strategies in the literature. The fact that these participants reported such high frequencies of affective strategies suggests that the modality of oral reflection as a meditation tool could potentially enable participants to explore, report, and regulate such important strategies for the development of speaking performance.

To sum up, L2 speaking strategy researchers have identified many of the strategies used in both language-testing and language-learning contexts. In the language-testing area, the findings have indeed showed that test-takers use strategies to perform the given tests and that learners' strategic behaviours are integral to performing speaking tests (Huang, 2013b; Swain et al., 2009). Similarly in the language-learning context, it has been found that learners employ a wide range of strategies when responding to different tasks, and that learners' deployment of strategies can vary as tasks and contexts change (Huang, 2010; Macaro, 2006; Swain et al., 2009).

Despite the above existing efforts to explore and develop strategy use among L2 learners, limited attention has been given to a) exploring speaking strategies that EAL learners may employ when dealing with various aspects in the process of developing their oral language production in preparation for a standardized English test like IELTS, b) investigating the potential benefits of strategy awareness-raising via VSR and audio-recorded individual verbal reflection on developing task-specific speaking strategies, and c) using multiple elicitation methods to elicit EAL learners' strategy use. Even though much work has been done in applying multiple methods, to my knowledge, the present study is the first to investigate the development of task-specific strategic behaviours via two verbal modalities of reflection on multiple occasions (i.e., over a period of six weeks).

For the present study, two modalities of verbal reflection were employed to capture and facilitate the development of learners' strategic behaviours: VSR verbal reflections and audio-recorded verbal reflections. The purpose of using VSR in this study is twofold, as a data collection method to elicit strategy use, and as a mediated means for learners to develop and explore effective speaking strategies. Digital voice recorders were also used as tools to elicit strategy use data and provide a learner-centered, accessible means for learners to verbally reflect on strategic behaviours (Huang, 2010). Although VSR has been used in applied linguistics to examine strategic behaviours (e.g., Huang, 2013b), using VSR as a reflection tool by learners in L2 learning is yet to be explored. The second modality (i.e., audio-voice recorders) was selected to allow for comparisons between two different types of verbal reflection (Huang, 2010).

Studies that employed reflection in L2 learning contexts (e.g., Donato & MacCormick, 1994; Huang, 2010, 2012; Riley & Harsch, 1999) have pinpointed that many language learners are unfamiliar with reflective practices. Many researchers (e.g., Huang, 2014; Rogers, 2001) suggested that it would be beneficial to include familiarization runs or reflective activities in the classroom to enable learners to understand and embrace the idea of reflection. In the present study, weekly instructor-facilitated reflective group discussions were implemented to prepare and familiarize participants with ways to verbalize and reflect on their speaking performances before engaging in the individual post-task reflection sessions (see method section for details).

2.4 Research Questions

In light of the literature review above, this study intended to explore EAL learners' strategic behaviours and oral-language production through the use of weekly post-task reflective activities. These activities were implemented to help learners reflect on their oral-language production and strategy use immediately after performing a speaking task via: a) VSR individual

verbal reflection and b) audio-recorded individual verbal reflection. For the purpose of obtaining a fuller picture of learners' strategic behaviours, data were collected and analyzed from three different sources: weekly instructor-facilitated reflective group discussions, weekly reported strategies during individual verbal reflection sessions, and the researcher's observations of the recordings from participants' weekly performances. The study examined the development of participants' oral-language production by measuring their oral production before and after the study period, as well as assessing their weekly main task performances. In addition, participants' perceptions about engaging in verbal reflection were collected to gain knowledge about their reflection experience.

The present study sought to answer the following research questions:

Research Question 1: ***Overall Reported and Observed Strategy Use:*** *What strategic behaviours do EAL learners use when performing IELTS speaking tasks?*

Research Question 2: ***Reported and Observed Strategy Use vis-à-vis Task Type*****:** *What strategic behaviours do EAL speakers report during each of the three speaking tasks?*

Research Question 3: ***Elicitation Methods vis-à-vis Data Obtained:*** *What type of strategies are obtained through each elicitation method: observation, weekly instructor-facilitated reflective group discussions, and individual post-task reflections?*

Research Question 4: ***Modality of Reflection vis-à-vis Strategy Use:*** *Are there differences in reported and observed strategy use depending on the modalities of post-task reflection used by participants in the experimental groups A and B after performing the weekly main task (i.e., the post-task individual VSR reflection vs. the post-task individual audio-recorded reflection)?*

Research Question 5: *Oral Production.*

a) ***Strategy use vis-à-vis Weekly Oral Production Scores:*** *5a) What are the relationships between the reported and observed strategy use of the learners engaging in reflection and their weekly oral language production scores?*
b) ***Reflection vis-à-vis Production Improvement:*** *5b) Are there any differences in oral production between members of the reflective groups (i.e., groups A and B) versus the non-reflective group (i.e., group C), as measured by test scores?*

Research Question 6: ***Perception on Reflection:*** *What are the participants' perceptions about engaging in the reflective sessions as reported via the perception questionnaire?*

The answers to these questions aim to better understand EAL speakers' strategy use and to explore the development of strategic behaviours through guided reflection mediated via VSR and audio-recorded individual verbal reflections. Additionally, the questions seek to uncover the relationship between speaking strategy use and oral language production.

Chapter Three: Methods

This chapter describes the methods applied in the study. The first section, (Section 3.1), presents the participants' background characteristics. Section 3.2 describes the research setting, and Section 3.3 introduces the data collection methods and instruments. Section 3.4 lays out the course design, and Section 3.5 reports on the pilot study and explains the modifications made to the data collection procedures for the present main study. Finally, Section 3.6 describes the data analysis process, including data preparation, transcription, data coding, and statistical analyses.

3.1 Participants

Potential participants were invited to voluntarily participate in a free, non-credit speaking course over a six-week study period. Information about the study and invitations to join were posted in and around the University of Victoria, emailed to language schools, and circulated on Facebook via relevant groups and associations (see Appendix A). All recruitment activities were conducted in accordance with the University of Victoria's Ethics Board protocol (Approval Number [22-0060-01]).

Among the 32 learners who had expressed interest in participation, 24 candidates met the study's criteria: (a) were international EAL students; and (b) were at the intermediate proficiency level in English (as self-reported via responses in the background questionnaire and assessed by the pre-test). The 24 intermediate EAL students were randomly assigned to Groups A, B, and C, with a total of eight participants in each group.

The decision to recruit learners at the intermediate level was made for the following considerations: First, at this level, intermediate learners were expected to have gained sufficient oral proficiency needed to perform the speaking tasks required. Second, intermediate level language learners are more likely to employ a variety of learning strategies to accomplish

different tasks (Anderson, 2005; Huang, 2012). Third, it was anticipated that they would be able to verbalize their thought processes and report on their strategic behaviours during the assigned reflective activities in English to a level deemed acceptable.

As summarized in Table 2, the individuals who agreed to participate comprised of 17 female and 7 male participants. The participants' ages ranged from 21 to 33, with a mean average age of 25.66 (*SD* = 4.39). The average residency in English-speaking countries was 11.62 months at the time of the study (*SD* = 6.88). The participant came from a variety of disciplines, and were enrolled in graduate and undergraduate programs, though the majority (*n* = 15) were undergraduate students. The most common first language was Korean (*n* = 7), followed by Mandarin (*n = 6)*, Japanese (*n* = 4), Arabic (*n* = 3), Spanish (*n* = 2), and then one speaker each of Malayalam and Persian. The background questionnaire revealed that eight participants reported that they spent one to two hours a day speaking with English native speakers, and only one participant reported spending three to four hours a day, while the majority (*n* =15) of participants have indicated that they only spent less than an hour a day. Participants have reported an average 8.62 (*SD* = 1.76) of formal instruction in English, and their average age when started learning English was 12.04 (*SD* = 1.68). Finally, all participants self-reported that they were at the intermediate proficiency level in English at the time of the study. In addition, nine participants reported taking the IELTS English language proficiency test, and their reported most recent scores in speaking ranges between 5 and 5.5.

Table 2

Participant's Background Characteristics

Participants' characteristics	Experimental group A (n = 8)	Experimental group B (n = 8)	Comparison group C (n = 8)	Overall (n= 24)
Gender	Male = 3 Female = 5	Male = 2 Female = 6	Male = 2 Female = 6	Males = 7 Female = 17
Age	*M* = 25.62 Range = 22-32 *SD* = 4.77	*M* = 26.5 Range = 21-33 *SD* = 4.75	*M* = 24.87 Range = 21-32 *SD* = 4.01	*M* = 25.66 Range = 21-33 *SD.* = 4.39
Time spent in an English-speaking country (months)	*M* = 10.75 Range = 6-20 *SD* = 4.77	*M* = 11.12 Range = 6-24 *SD* = 6.55	*M* = 10.5 Range = 6-22 *SD* = 6.30	*M* = 11.62 Range = 6-24 *SD* = 6.88
Program of Study	Grad = 3 Undergrad = 5	Grad = 3 Undergrad = 5	Grad = 3 Undergrad = 5	Grad = 9 Undergrad = 15
First Language	Arabic (1); Japanese (1); Korean (3); Mandarin (2); Spanish (1)	Arabic (1); Japanese (1); Korean (2); Mandarin (2); Persian (1); Spanish (1)	Arabic(1); Japanese (2); Korean (2); Malayalam (1); Mandarin (2)	Arabic (3); Japanese (4); Korean (7); Malayalam (1); Mandarin (6); Persian (1); Spanish (2)
Time spent per day speaking English with fluent English speakers (hours)	*M* = 1.50 *SD* = .535 Less than an hour = 6 1-2 hours = 2	*M* = 1.25 *SD* = .463 Less than an hour = 4 1-2 hours = 3	*M* = 1.38 *SD* = .518 Less than an hour = 5 1-2 hours = 3 3-4 hours =1	*M* = 1.38 *SD* = .495 Less than an hour = 15 1-2 hours = 8 3-4 hours = 1
Formal instruction in English (years)	*M* = 8.5 *SD* = 1.92	*M* = 8.62 *SD* = 1.84	*M* = 8.75 *SD* = 1.75	*M* = 8.62 *SD* = 1.76
Age when started learning English	*M* = 12.37 Range = 9-13 *SD* = 1.40	*M* = 12.25 Range = 8-13 *SD* = 1.75	*M* = 11.5 Range = 8-13 *SD* = 1.92	*M* = 12.04 Range = 8-13 *SD* = 1.68

3.2 Research Setting

This study was conducted in an actual academic classroom environment at the University of Victoria, a mid-sized comprehensive university in British Columbia. The study design involved six weekly sessions. The duration of each class was a maximum of two hours. Lessons were given for the first 1.5 hours, and the last 30 minutes were devoted to post-task reflective activities for all three participant groups (see Section 3.3.2.7 for more details).

The weekly sessions were taught by a qualified English language instructor with a BA in Applied Linguistics from the University of Victoria and over three years of teaching experience. The same instructor taught all three classes to minimize possible differences that might arise due to different teaching styles. The instructor was repeatedly reminded to follow the same classroom procedures with all classes to ensure consistency. Thus, the three groups were exposed to the same teacher, materials, lesson plans, and tasks.

3.3 Data Collection Procedures and Instruments

The following sub-sections describe data collection procedures involved in the present study.

3.3.1 Ethics

Ethics guidelines were followed as per the institutional Ethics Board requirements. At the beginning of week one, consent forms were distributed to participants. The researcher explained the purpose of the research and provided information regarding the content of the course. Participants were informed of their right to withdraw from the study at any time. In the following weeks, on-going consents were obtained through collecting participants' initials (see Appendix A).

3.3.2 Instruments

The study utilized the following research instruments and data collection techniques:

3.3.2.1 Background Questionnaire. A questionnaire was given to participants at the beginning of week one. The purpose of this questionnaire was to collect participants' profiles (e.g., gender, age, first language, educational background, and current English proficiency level) and also to gather relevant information about language use and exposure (e.g., length of stay in English-speaking countries, number of hours per day speaking English, if taken a proficiency test report the score received) (see Appendix B).

3.3.2.2 Language Proficiency. In week one, each potential participant took a speaking test[7], which was approximately 11 to 14 minutes long (see Appendix C for a sample pre-test). In addition to asking participants to self-report their proficiency level in the background questionnaires, this procedure was taken to ensure that each participant met the selected proficiency criterion for the study. Two raters independently evaluated the recordings following the IELTS scoring rubric (i.e., overall scores range from band 4.5 to band 5.5 represented the intermediate proficiency level[8]). The post-test was conducted in week eight (see Appendix C for a sample post-test). Two different sets of the tests were assigned prior to the experiment for both the pre-and the post-tests. These sets were excluded from the topics used in the lesson plans.

3.3.2.3 Speaking Tasks. The study focused on task-specific strategies, therefore IELTS speaking tasks were chosen as the basis of the course. The IELTS speaking component consisted of three main tasks. During the course period, the lessons focused on one task per unit; that is,

[7] The pre-and post-tests were conducted using IELTS speaking materials and were assessed using the IELTS speaking rubric available online through the IELTS website. These tests were not considered official IELTS tests and were assessed by raters with relevant experience in assessing speaking tests.
[8] Based on the IELTS Speaking rubric (see Appendix D), English language proficiency is rated on a nine-band scale from 0 (when the test-taker does not speak at all) to 9 (proficient).

each task was introduced twice. After the first half of the course (Units 1–3), participants were again introduced to the tasks for a second round (Units 4–6). Participants preformed these specific task types throughout the experimental period. The following is a brief description of each task: IELTS speaking Task 1 involves a short conversation (3 to 4 minutes long) asking questions about a variety of everyday topics (e.g., hometown, family, work and life patterns, travel, studies, personal goals, hobbies, lifestyle, etc.). Throughout the course, participants practiced Task 1 in Unit 1 and Unit 4 using different topics. IELTS speaking Task 2 involves speaking about a particular topic for two minutes, with one minute given for preparation and note taking. The topic is usually presented on a task card with prompting questions, as shown in Figure 1. Participants practiced a set of Task 2 topics in Units 2 and Unit 5. IELTS speaking Task 3 involves a two-way discussion on a topic, usually developed from the topic previously discussed in Task 2. See Table 3 for a summary of the three tasks.

Figure 1

A Sample Task 2 Card

Describe a game you used to play in your childhood.

You could say:

- What type of game it was
- How you played it
- Who you played it with

Explain why this game had a special meaning to you.

Table 3

Summary of IELTS Tasks

	Task type	Preparation time	Task duration	Who is Involved
Task 1	Answer general questions on a variety of topics	No preparation time needed	3–4 minutes	Examiner/Instructor and Candidate/Participant

Task 2	To speak about a topic (individual long turn)	1 min.+ note-taking	2 minutes	Candidate/Participant (monologue)
Task 3	A long discussion on a topic (two-way discussion)	No preparation time given	3–4 minutes	Examiner/Instructor and Candidate/Participant

Note. An examiner or instructor is present during Task 2.

3.3.2.4 Pre-task Activity. During each unit, the instructor asked participants to practice the task in pairs. Each pair had to select a topic card from a box and rotate interviewer and interviewee positions.

3.3.2.5 The Weekly Instructor-Facilitated Reflective Group Discussions *(for experimental groups A and B only).* After the completion of the pre-task activity above, the instructor brought the class together and ask them to (a) share any challenges they had encountered while preforming the pre-task activity, and (b) reflect on their performance by asking them the reflective questions (see Appendix E for the reflective questions set). The purpose of this phase was, first, to give participants the opportunity to discuss the challenges they faced right after the completion of a speaking task; second, the instructor's led reflection phase enabled participants to practice reflection and prepared them for the following individual post-task reflective activity. In addition, these collected reflective comments served as a data source for eliciting self-reported strategy use.

3.3.2.6 The Weekly Main Task. In the main task, participants individually practiced the task with the instructor. The main task station was equipped with a table and two chairs to simulate the IELTS interview setting, and video and audio recording equipment. During each unit, the instructor randomly selected the order of participants by pulling their names from a box. Participants' weekly oral production data were collected through the recordings of the main task performances and then were assessed independently by two raters. This procedure was taken to measure oral production improvement over time and to examine participants' performance in

relation to their reported strategy use. Furthermore, these recordings were another data source for observing participants' strategy use.

3.3.2.7 Post-task Activities. After performing the main task, participants were asked to engage in a post-task activity. For the experimental groups A and B, participants were asked to participate in verbal reflections, while participants in group C were asked to participate in non-reflective activities. In this phase, participant in groups A and B were given the opportunity to speak about their speaking experience immediately after task completion through the use of two modalities of reflection. This step of immediate retrospective reflection, as literature suggested, would allow for more accurate retrieval of participants' thought processes (Bowles, 2010; Ericsson & Simon, 1993; Gass & Mackey, 2000, 2012; Jourdenais, 2001).

During these weekly post-task activities, the procedures for each group were implemented as the following:

a. VSR Verbal Reflection (Group A). After performing the main task, participants in experimental group A engaged in a post-task VSR reflection session. The weekly stimulated recall sessions involved using the video recordings of participants' oral production in the main task. This was done by asking participants to move to the reflection station and engage in an individual VSR verbal recall. Each participant played the video recording of their speaking performance and reflected on their strategy use during the performance of the main task. Participants were given instructions on how to conduct an individual stimulated recall session and were asked to follow the guided reflection instructions (see Appendix F).

b. Audio-Recorded Verbal Reflection (Group B). After performing the main task, participants in experimental group B reflected on their performance by recording their thoughts via an audio voice-recorder. The reflection stations were equipped with audio recorders for each

participant and guiding questions written on 3x5 cards as prompts. Participants were asked to immediately audio record their thoughts about their performance of the task by orally responding to the guiding questions on the cards. These reflective cards provided a regular pattern for the weekly verbal reflections (see Appendix G).

c. Non-Reflective Activities (Group C). After performing the main task, participants in the comparison group C were asked to individually answer exercises related to idiomatic expressions. These exercises were in reading or written forms (see Appendix H for samples). The rationale for including these activities was to ensure that these participants would not be engaged in any specific reflection on strategy use or spoken language after task completion.

3.3.2.8 Anonymous Perceptions Questionnaire. A final anonymous questionnaire was designed to gather information about participants' perceptions of the reflection experience (see Appendix I). Participants were asked to fill in the questionnaire at the end of the study. The purpose of the questionnaire was to enable participants to evaluate the reflection experience, and they were encouraged to elaborate on their answers as much as possible. It was also used to generally elicit participants' views/opinions, and to see whether they thought they would be willing to continue engaging in reflection in their future learning experiences. Table 4 presents the overall data collection procedures.

Table 4

Overall Data Collection Procedures

<table>
<tr><th>Week 1</th><th>Week 2</th><th>Week 3</th><th>Wek 4</th><th>Week 5</th><th>Week 6</th><th>Week 7</th><th>Week 8</th></tr>
<tr><td>Pre-study</td><td>Unit 1</td><td>Unit 2</td><td>Unit 3</td><td>Unit 4</td><td>Unit 5</td><td>Unit6</td><td>Post-study</td></tr>
<tr><td>consent forms

background questionnaire

pre-test</td><td colspan="6">Experimental period
Each class meet once a week for 2 hours
Group A: Instruction–1.5 hrs. → VSR verbal reflection-30 min.
Group B: Instruction–1.5 hrs. → Audio-recorded verbal reflection–30 min.
Group C: Instruction–1.5 hrs. → Idiomatic activities –30 min.</td><td>post-test

perception questionnaire (for groups A and B only)</td></tr>
</table>

3.4 Study Design

The present study involved a pre-study meeting, a six-unit speaking course, and a post-study meeting. A brief summary is provided below:

Pre-study Meeting (Administrative Procedures and Course Overview). After obtaining participants' consent to participate in the study, they were asked to fill out the background questionnaire. This was followed by an introduction to the course. The introduction included a brief outline of the course content. Participants were then asked to individually perform a pre-test with the instructor.

Units 1 and 4 (IELTS Task 1). The first and the fourth units focused on IELTS speaking Task 1. The unit started with participants watching a video clip of an intermediate test taker as an example of their current level (available online)[9]. This was followed by an introduction to Task 1. The instructor then introduced a pre-task activity where participants worked in pairs and practiced the task amongst themselves. The instructor asked each pair to randomly select a topic by pulling an envelope from a box. Each envelope contained questions on a selected topic. Pairs

[9] URL: https://www.youtube.com/watch?v=XlHtPM8uBl4

then took turns practicing the task. When the time was up, the instructor stepped in and engaged participants -from the experimental groups A and B- in the instructor-facilitated reflective group discussions by asking them to share any challenges at the lexical, phrasal, or discourse levels. This was followed by the group reflection which involved asking reflective questions that focused on what participants had done and what they would do differently next time (i.e., before, during, and after the task). The participants were then asked to perform the main task. After the main task was completed, it was followed immediately by the post-task reflection (for groups A and B). For participants in group C, once they were done practicing the pre-task and main task, they were asked to move back to their chairs and answer the weekly idiomatic exercises. In Unit 4, the focus was on different topics. The instructor played a video clip of an IELTS test-taker that represents the target level that participants were trying to achieve (available online)[10]. The clip was different from the one introduced in the first unit. This was followed by the same sequence of a pre-task, the instructor-facilitated reflective group discussions (for groups A and B only), the main task, and the post-task activity; reflective for groups A and B, and non-reflective for group C.

Units 2 and 5 (IELTS Task 2). The second and the fifth units followed the same classroom procedures as Units 1 and 4. Task 2 involved speaking about a specific topic for two minutes. As a pre-task activity, the instructor asked participants to work in pairs and gave each pair "a task card" (see Figure 1). Participants were given one-minute preparation time. In this one minute, participants brainstormed for ideas and took notes to help them answer the question on the card. Once the time was up, the instructor asked participants to switch chairs and practice speaking for two minutes with a different participant from the one they had previously worked

[10] URL: https://www.youtube.com/watch?v=w5zBUSu-EpU

with. This was followed by the instructor-facilitated reflective group discussions (for groups A and B only), the main task, and finally, the post-task activity.

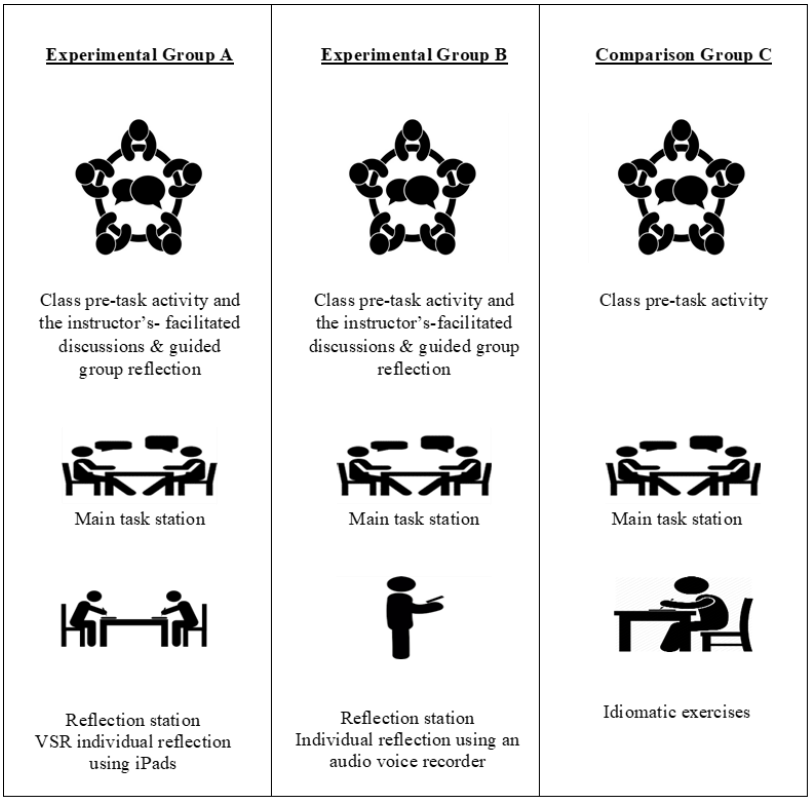
Units 3 and 6 (IELTS Task 3). The third and the sixth units were consistent with the same classroom procedures established at the beginning of the course. During the pre-task activity, participants practiced Task 3 by having them individually access their emails through smartphones and listening to their recordings from Task 2. The recordings were sent to them prior to the session by the instructor via the email. The instructor then asked them to generate three questions related to their topics. When participants were done, they worked in pairs, swapped questions, and asked each other the questions they had generated. The next step was the instructor-facilitated reflective group discussions (for groups A and B only), where participants shared challenges and strategies. Then, participants individually performed the main task. This was followed by the post-task activity.

Post-study Meeting (post-test & perception questionnaire). Participants were asked to individually perform the post-test. After test completion, participants from groups A and B were asked to fill in the perception questionnaire.

Figure 2 below illustrates the design of the study. For a sample lesson plan, see Appendix J.

Figure 2

Classroom Activities and Stations



3.5 The Pilot Study Phase

The study was piloted twice prior to the start of the main study. The feasibility of the study design was evaluated by Pilot 1, which involved testing the procedures and materials. For pilot study 1[11], I focused solely on implementing VSR verbal reflections, following the proposed lesson plans and classroom procedures.

This study had two groups of intermediate-level EAL participants: six Saudi and six Chinese graduate students studying in Victoria, Canada. Participants were grouped by first

[11] Pilot study 1 was supported by a grant from the Social Sciences and Humanities Research Council of Canada (SSHRC) awarded to the researcher's supervisor. The instructor who taught the lessons in this study was paid for his hours by the grant. This study was reviewed, assessed, and approved by the researcher's supervisor and the candidacy committee members.

language background. The data collection included the elicitation of strategy use as observed and reported via the instructor-facilitated reflective group discussions, the post-task VSR pair reflections, and the video recordings of oral performances before and after the study period. For the data analysis, the study examined the strategies observed and reported through reflections and measured the oral production improvement as determined by the pre-and post-test scores. However, the weekly oral production data were not assessed, and no correlation analysis was conducted due to time and scope limitations.

For the purpose of improving the outcomes of the main study, some modifications to data collection and analysis were made.

1) Post-task VSR reflection: For the main study, participants in group A were asked to conduct the post-task reflections individually, not in pairs. This decision was made after consulting the supervisor and the committee members and was taken to a) eliminate any biases that might arise due to pair interactions, and b) allow for cross comparisons between the experimental groups A and B.
2) Instrument modifications: Some modifications were made to reflect the changes made to the post-task reflections. The instructions for the activity were slightly modified to guide participants on how to conduct individual VSR reflections. Furthermore, some modifications were made to the instructor-facilitated reflective group discussions phase. The questions were modified to specifically ask participants about what they did before, while, and after the task. In order to establish consistency, a set of questions was provided for the instructor to follow each week (see Appendix E) to guide the group reflection phase.

3) Weekly oral production data: Participants' oral production data were collected via video recordings for data analysis. The data were used to determine the correlations between participants' oral production scores and their strategy use over time, in addition to the data obtained to measure their oral production improvement via the pre-and post-tests.

Based on the results and the modifications from pilot study (1), pilot study (2) involved the implementation of the current proposed design that included three groups of participants (i.e., experimental groups A and B, and the comparison group C). Pilot 2 was conducted to familiarize the instructor with the lesson plans and procedural aspects for each group. During this trial run of the study, I jotted down any observations for refinements. Once the lesson was over, the instructor and I sat down to discuss areas for improvement and to talk about any challenges or limitations. One significant point was the need to revise the group discussion phase to ensure that participants had the opportunity to openly share their challenges and experiences. This was crucial because it allowed for a more thorough understanding of their difficulties and familiarized them with the practice of reflection before transitioning to the guided reflective questions, thereby enriching the overall reflection process and addressing specific issues more effectively.

The instructor was also advised to use the white board during the group discussion phase and write down the points, challenges, or strategies provided by participants. Furthermore, during the post-task individual reflection phase, it was clear that, initially, some participants needed more guidance. Thus, the instructor was asked to monitor participants while engaging in these activities and offer assistance if needed.

3.6 Data Coding and Analysis

3.6.1 Data Preparation, Transcription, and Coding

Following the institution's ethics guidelines, code names were used to safeguard participants' anonymity. These code names were used throughout the study to refer to participants during data analysis, results reporting, and discussion. Participant from group A were renamed as 001a-008a, participants from group B were renamed as 009b-0016b, and participants from group C as 0017c-0024c.

The collected data (i.e., data gathered from the participants' weekly oral productions during the main tasks, participants' verbal reports during the instructor-facilitated reflective group discussions, the participants' post-task verbal reflections, the participants' speaking performances during the pre-and post-speaking tests, and perception questionnaires answers) were organized and labelled. In total, there were 108 audio clips of class discussions and post-task reflections, 140 video files of weekly oral productions, 47 audio and video clips of pre- and post-speaking tests, and 16 completed perception questionnaires.

To address the research questions for this study, the verbal reflections (i.e., data gathered from the instructor-facilitated reflective group discussions, and the experimental groups post-task reflections) were fully transcribed for data coding. The researcher watched all video clips of the weekly oral productions of the main tasks and noted down any observable strategies. The transcribed and observed data were coded using an empirically grounded taxonomy of strategic behaviours as a starting point (see Huang, 2013). The coding scheme has six major categories: *approach, communication, cognitive, metacognitive, affective,* and *social*. In addition, new individual strategies were added and defined when a new strategy was observed or reported during the process of data coding. Definitions and examples of all the strategies found in the data

are provided in Appendix K. The data coding stage included coding strategies reported by participants in the post-task reflections as well as strategies observed during participants' weekly oral productions; that is, the observable strategic behaviours that were not reported by participants during the post-task reflections were added in order to provide a fuller picture of participants' strategy use. Coding both self-reported and observed strategies also helped to verify and double-check whether participants actually employed the strategies they mentioned in their reflections. Reflection data were qualitatively analysed using an inductive content analysis approach (Huang, 2019) to explore driven themes and levels of reflection. Reflection data were qualitatively analyzed using an inductive content analysis approach to explore emergent themes and levels of reflection (Huang, 2019).

3.6.2 Inter-Coder Reliability

For reliability measures, I independently coded 100% of the data. Additionally, 50% of the data, randomly selected from the dataset, were independently coded by a second coder who holds a BA in Applied Linguistics and has relevant experience in qualitative data coding and LLS research.

Once both coders completed the coding, they met to discuss and check for agreement. During the meeting, some modifications were made upon re-examination. These disagreements in coding are illustrated below:

a) *Addition of missed strategies,* which refers to the modification of adding any extra or missed strategies that were not coded initially.

   Excerpt 1: "during this task I just try to remember some collocation words (…)[12] I always hesitate between "take exam" or "have exam" and worry about making mistake

[12] (...) is a symbol used in transcribing the oral data and means short hesitation or pauses for three to five seconds.

(…) I have to figure out which one is right so I was working on that in my mind (…) also like while speaking I focus on the grammar it is like I still don't do that like automatically I have to make effort"

[004a, Task1, Unit 1].

For one coder, only one strategy was assigned to the above reflection, *analysing linguistic choices,* which was defined in the coding scheme (see Appendix K) as "learner analysing different linguistic choices for the response" after re-examination, the strategy, *attending to oral production,* "i.e., learner directing attention to or concentrating on a specific aspect of a task" was identified as an additional reported strategy since the participant's reflection revealed that he was also consciously focusing on grammar accuracy during his speaking performance.

The strategy in the reflection in excerpt 2 was missed by one coder. In the second round, the strategy *asking the teacher/interviewer to repeat questions,* which was defined as "learner asking the teacher/interviewer questions in order to formulate his/her response" was identified and coded. The participant in the below reflection explicitly reported that he asked for the question to be repeated in order to prepare his response.

Excerpt 2: "I tried to prepare my answer this time by asking [the instructor] for repeating the question in order to have a moment to think of what to say"

[0013b, Task1, Unit 4].

b) *Change of coded strategies,* which refers to the modification of re-coding a previously coded strategy as a different strategy.

One of the strategies coded for the reflection in excerpt 3 was *pausing to formulate speech* "i.e., learner taking pauses in order to formulate a response." However, after further re-examination of both the participant's reflection and his actual performance in the task, it was

clear that it was not about forming responses, but more about concentrating on the clarity of oral production. Therefore, we decided to re-code it as *attending to oral production*, along with the strategy of *evaluating strategies* "i.e., learner evaluating the strategies used to perform the task" coded initially.

> *Excerpt 3:* "when I spoke I wanted to speak clearly and loudly but you know I sometimes speak fast so when I spoke not clearly then I pause and I speak the word clearly and that is a good part I think for me to do it (…) yeah it worked"
>
> [009b, Task2, Unit 2].

c) *Deletion of previously identified strategies,* which refers to the decision to delete a previously coded strategy upon re-examination.

In excerpt 4, two strategies were coded *recalling vocabulary* "i.e., learner recalling vocabulary" and *identifying problems* "i.e., learner identifying problems in performing a task". After further discussions with the second coder, the strategy *recalling vocabulary* was deleted since the participant's reflection only revealed that his insufficient vocabulary was an issue during his performance.

> *Excerpt 4:* "during the task I had to say "I don't know the word" and I guess if you don't know the vocabulary that's a problem in speaking test (…) I think that's my issue today vocabulary"
>
> [004a, Task1, Unit 1].

d) *Redefining and recoding original individual strategies,* which refers to the process of revisiting and refining the definitions of original strategies to better align them with the specific purposes reported by participants.

The reported strategies in Excerpts 5 and 6 were initially coded under the strategy of *slowing down*, defined as "the learner slowing down the speed of delivery to formulate speech;" however one coder argued that some participants have used this strategy for different purposes, for instance 001a slowed down in order to generate ideas, while 0013b reported that he slowed down to fill time with no intention to generate new ideas. To more accurately reflect these distinct purposes, a decision was made to recode the original *slowing down* strategy into two strategies to better reflect the purpose of use: "*slowing down to generate ideas*," defined as "the learner slowing down the speed of delivery in order to generate ideas," and "*slowing down to fill time*," defined as "the learner slowing down the speed of delivery in order to fill time."

Excerpt 5: "I tried to speak slowly so I can think of what I'm gonna say next" [001a, Task2, Unit 2].

Excerpt 6: "I was trying to slow down my pace because I realize I finished my notes no more points in the note so I tried to buy some time and not going fast" [0013b, Task2, Unit 2].

The inter-coder reliability was then conducted by calculating the number of agreements divided by the total number of coding decisions (Swain et al., 2009), and the agreement percentage was relatively high 87%. All disagreements in coding decisions were discussed by the coders until 100% agreement was reached.

3.6.3 Oral Production Assessment and Inter-Rater Reliability

The pre- and post-tests were rated independently by two experienced raters, who have relevant experience in rating speaking tests. The raters used the IELTS rubric (public version available on the IELTS website, see Appendix K) when evaluating the recordings of both tests.

The same raters also rated the weekly oral productions following the same procedures used to assess the pre-and post-tests. To eliminate any biases, all clips were randomized before the rating process. The interrater reliability of the pre-test ratings, post-test ratings, and the weekly oral production data was assessed using Spearman's rho coefficient. The correlation coefficient results for the pre-test ratings, $rs = 0.428$, $p < 0.050$, and for the post-test, $r_s = 0.859$, $p < 0.001$, both confirm high reliability. The results of the correlation analysis conducted to assess the interrater reliability of the weekly oral production assessment are as follows: Week 1, $rs = 0.759$, $p < 0.001$; Week 2, $rs = 0.809$, $p < 0.001$; Week 3, $rs = 0.825$, $p < 0.001$; Week 4, $rs = 0.802$, $p < 0.001$; Week 5, $rs = 0.902$, $p < 0.001$; and Week 6, $rs = 0.876$, $p < 0.001$, demonstrating strong positive correlations between the ratings provided by the two assigned raters. The raters then met to check for agreement; any disagreements in ratings were discussed and resolved to achieve 100% agreement. This process ensured consistency and reliability in the rating, which was crucial for accurately analyzing oral production changes among participant groups.

3.6.4 Perception Questionnaire Data

For the perceptions questionnaire, participants in groups A and B filled in the perception questionnaire immediately after performing the post-test in week eight. Qualitative content analysis was used to analyze questionnaire data (Miles, Huberman, & Saldana, 2014). To do so, questionnaire items were labelled and made ready for content analysis. Participants' answers to the questionnaire items were categorized by common themes. The total number of coded items was 92. After coding all the questionnaire data, I returned to the data after six weeks and recoded all questionnaire items in order to achieve consistency and measure intra- coder reliability (Mackey & Gass, 2016; Revesz, 2012). After the second round of coding, the calculation was

manually conducted by calculating the number of agreements divided by the total number of coding decisions (Swain et al., 2009). The intra-coder reliability was 91%.

3.6.5 Statistical Analysis

For the purpose of preforming statistical analysis, the programs Microsoft Office Excel 2016 and IBM SPSS (Statistical Package for the Social Sciences) Version 29 were used. Before conducting any statistical analysis, a Shapiro-Wilk test was performed to explore the normality of data distribution (Roever & Phakiti, 2017). This test is commonly used to determine whether data are normally or not normally distributed. For this test, the null hypothesis indicates that data are normally distributed. When the *p*-value is less than .05, the null hypothesis is rejected (i.e., the data are not normally distributed), and when the *p*-value is greater than .05, the null hypothesis is retained (i.e., the data are normally distributed).

Table 5 presents the Shapiro-Wilk test results for major data sets, including overall strategy-use frequency, approach strategies frequency, communication strategies frequency, cognitive strategies frequency, metacognitive strategies frequency, affective strategies frequency, and social strategies frequency, as elicited via three methods, namely, observation, individual reflection, and group reflection.

Table 5

Normality Tests for Strategy-Use frequency

Variables		**Shapiro-Wilk test**	
	Statistics	*df*	*Sig.*
Overall Strategy-use frequency	.943	16	.384
Approach	*Observed*	16	NA
	Individual reflection	16	.089
	Group reflection	16	.029**
	Total		**.002***
Communication	*Observed*	16	.131
	Individual reflection	16	.040**

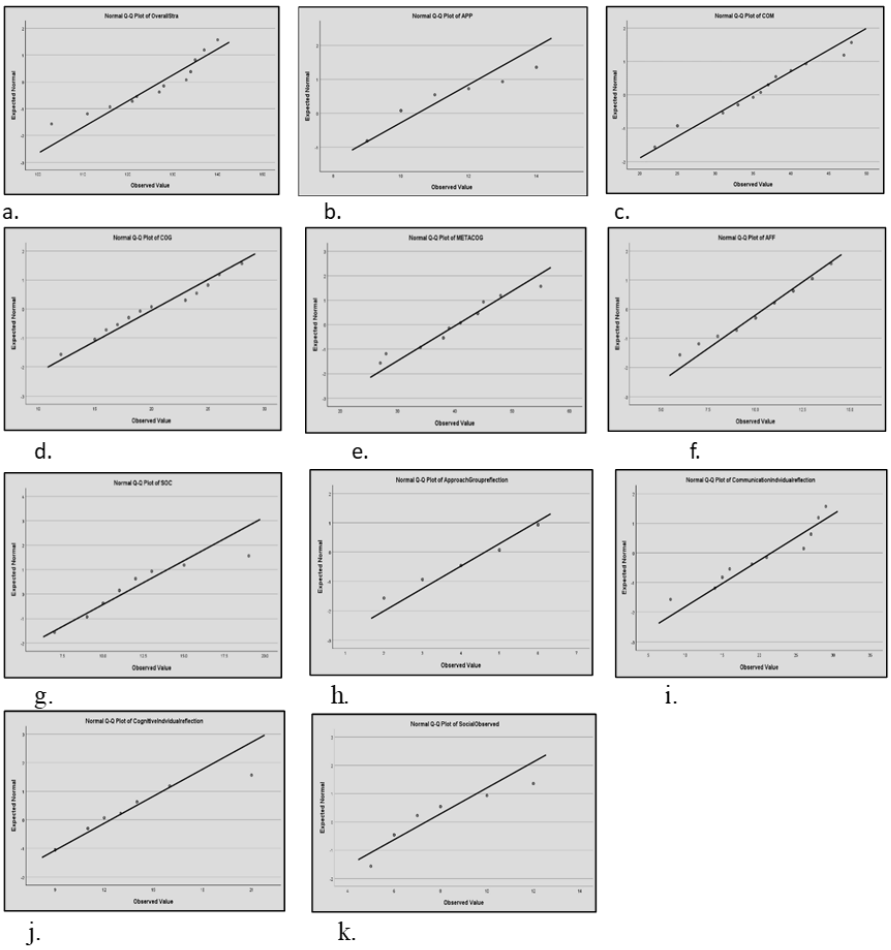
	Group reflection	16	.727
	Total		**.575**
Cognitive	*Observed*	16	.001**
	Individual reflection	16	.025**
	Group reflection	16	.056
	Total		**.625**
Metacognitive	*Observed*	16	NA
	Individual reflection	16	.738
	Group reflection	16	.232
	Total		**.461**
Affective	*Observed*	16	NA
	Individual reflection	16	.076
	Group reflection	16	.256
	Total		**.744**
Social	*Observed*	16	.001**
	Individual reflection	16	.065
	Group reflection	16	.218
	Total		**.030***

Note. $n = 16$. **= Significant at $p < .05$, 2-tailed; NA = not applicable, as these strategies are not observable.

To better illustrate the normality test results, Q-Q plots for the total of each independent variable are provided in Figure 3. When a data set is produced from a normally distributed population, the points lie along the 45-degree reference line.

Figure 3

Q-Q Plots for Normality Tests of Overall strategy-use Frequency and Frequencies of each Strategy Category



a. Overall strategy-use frequency
b. Approach strategies frequency
c. Communication strategies frequency
d. Cognitive strategies frequency
e. Metacognitive strategies frequency
f. Affective strategies frequency
g. Social strategies frequency
h. Approach frequency during group reflection
i. Communication frequency during individual reflection
j. Cognitive frequency during individual reflection
k. Social frequency in observed data

Based on the results of the Shapiro-Wilk normality tests provided in Table 5, there are several instances where the assumption of normality is violated, particularly in the case of the *approach* and *social* variables, as indicated by the obtained p-values (i.e., p=002, and p=030, respectively) and illustrated in Figure 3. Notably, the subsets of data elicited via observation,

individual reflection, and group reflection demonstrate deviations from normality across multiple variables, including *approach, communication, cognitive*, and *social*. For instance, in the case of the *communication* variable, one subset of data (i.e., the individual reflection data) shows a significant departure from normality (p=040). Likewise, in the *cognitive* variable, both observed and individual reflection data sets exhibit statistically significant departures from normality (i.e., p=001 and p=025, respectively). However, the test indicates no significant departure from normality for the following variables: *overall strategy-use frequency, metacognitive*, and *affective*; thus, data for these variables were normally distributed.

Given the relatively small sample size and the mixed normality in the data, non-parametric statistical tests were chosen to answer the research questions (see Field, 2018; Nunan & Bailey, 2009; Pett, 2016).

To examine strategy use, descriptive statistics were provided for the overall reported and observed strategy use, the reported and observed strategies for each of the three speaking tasks, and strategy use frequencies elicited by each elicitation method. The strategy frequencies and percentages for each group and each strategy category were calculated by Microsoft Office Excel 2016. In addition, the top-five individual strategies for each group and the top-three individual strategies for each strategy category were identified.

IBM SPSS Version 29 was also used to carry out Kolmogorov-Smirnov two sample tests for the differences between the experimental groups, and a Kruskal-Wallis test for the three groups analysis (i.e., groups A, B, and C). The Kruskal-Wallis was conducted to understand whether there was a difference in participants' performances after the six-week course period. Spearman Correlation Coefficients (Spearman's rho tests) were preformed to assess the

association between the weekly oral language production scores and the reported and observed strategy use between the groups that engaged in weekly verbal post-task reflections.

Lastly, the themes identified from the questionnaire data were analyzed and the frequency of common themes was calculated using Microsoft Office Excel 2016.

Chapter Four: Results

This chapter presents the results of the main study. The first section, (Section 4.1), provides an overview of the reported speaking challenges. Following this, each of the research questions is addressed in Sections 4.2 to 4.7.

4.1 Reported Challenges during the Weekly Reflective Group Discussions

Before presenting the results on the reported and observed strategic behaviours, this section presents an overview of the challenges reported by participants during the instructor-facilitated reflective group discussion phase. This phase was added to the lesson plan to enable participants to engage in retrospective discussions about the types of difficulties they faced while speaking. Participants verbally reported the challenges they encountered each week while performing the speaking tasks. These discussions were helpful in guiding participants' selection, experimentation, inclusion, or exclusion of particular strategies for the purpose of tackling some of these challenges.

The themes that emerged from these reflective discussions are classified by categories as follows:

4.1.1 Lexical Challenges

During the reflective group discussions, participants repeatedly reported that their inefficient lexical repertoire was one of the major challenges that hindered their speaking performance. Among the lexical challenges that participants shared are the following: lack of vocabulary (e.g., "*in my brain I have complex ideas but I don't have the words to express them"* (001a, Task 1, Unit 4), and "*I don't have enough vocabulary to say for these questions"* (0015b, Task 1, Unit 1); limited word choice and expressions (e.g., "*I couldn't express myself properly because I have few expressions like I use the same words over and over*" (005, Task 2, Unit 2*)*,

and "*for me words!*[13] *I think I know while speaking that the words I'm using are not all fitting the context I mean I know when I misuse words but I have to say something"* (007a, Task 3, Unit 3); and difficulty recalling previously learned vocabulary (e.g., "*also forgetting vocabulary like I remember the words in my language but the English one doesn't come up*" (001a, Task 3, Unit 3), and "*I learn many many vocabulary but when I speak I don't remember (…) just gone*" (003a, Task 3, Unit 3).

4.1.2 Grammatical Challenges

Along with lexical difficulties, participants regularly noted that maintaining grammar accuracy was a significant challenge that affected their speaking performance. During these discussions, participants identified several grammatical issues they faced while performing the tasks. Among these reported issues are: difficulty applying tense markers (e.g., *I think I struggle with grammar I don't use the right form all the time I say "has""had" I don't know which exactly right and then always making mistakes*" (008a, Task 1, Unit 4), and "*when answering some questions you need to say something about the past like a personal story or memory and for me the past tense is actually challenging I know I make more grammar mistakes like that*" (0014b, Task 1, Unit 4); hesitation to use complex sentences (e.g., "*I want to make sentences more advanced sentences but I was thinking (…) yeah I want but didn't do"*(006a, Task 2, Unit 5), and "*I wanted to show my grammar I wanted to make complex structures but I was not sure*" (008a, Task 3, Unit 3); difficulty selecting appropriate collocation words (e.g., *collocation words are a big big problem as well I said that before (…) like "have lunch or take lunch" or "make dinner or do dinner" sometimes confusing to me* " (004a, Task 3, Unit 3); choosing the appropriate preposition (e.g., "*its awkward like when I want to use a preposition I have self*

[13] ! is a symbol used in transcribing oral data and means surprising intonation.

doubts what! which one "in" "on" never get it right" (005a, Task 2, Unit 2); and choosing suitable transition words to connect sentences or ideas (e.g., "*also connectors to connect a sentence to next sentence like in writing we learned to use "therefore" "however" but in speaking it sounds like (…) you know not natural*" (0010b, Task 3, Unit 3).

4.1.3 Discourse Challenges

Over the six-week study period, participants reported that background knowledge about certain topics was an important factor influencing their speaking performances. For some participants, their insufficient knowledge about some topics posed challenges, as illustrated in the following comments: "*the topics are new for me like I never practice speaking this topic I just freeze no ideas!*" (0012b, Task 1, Unit 4), "*topics are challenging like if I read about it before class I can speak and speak but if it is not something I prepare like today! difficult*" (0014b, Task 1, Unit 4), and **"***today also I have another challenge I have no knowledge of the topic before if I had a good background of the topic that's gonna to help me answer the questions*" (004a, Task 1, Unit 4).

Some participants reported that topic familiarity was another factor that influenced their speaking performance both positively for instance: "*I realized that when I choose to speak about something I know really well like "my mom" I can speak more because the ideas are there I don't need to make lots of effort*" (007a, Task 2, Unit 2), and negatively: "*for me if I know the topic very well its even harder I have so much to say and I just couldn't focus on specific point no focus just jumping points its way more challenging*" (005a, Task 2, Unit 2), and "*I didn't like the topic I don't have things to say it is not interesting topic to me (…) yeah couldn't go far with this topic*" (008a, Task 1, Unit 4).

In addition to content knowledge and topic familiarity, participants also shared that they faced challenges associated with initiating and expanding their responses. Many participants found it challenging to find ideas instantly: "*finding content right away is challenging*" (001a, Task 1, Unit 1), and "*its hard it is always hard to start immediately with answer I need time like to think to find something to say*" (0014b, Task 1, Unit 4). Some participants also commented on the difficulties they encountered in finding details to expand on their responses, as illustrated in the following comments: "*my answers are very short I wanted to make sentences longer but couldn't I just don't have the skill*" (008a, Task 3, Unit 3), "*I want to speak more but it was hard to think of more ideas so I was like stuck*" (006a, Task 2, Unit 5), and "*the key is keep adding details but it is you know complicated because I need to think of ideas and find words to express what's in my brain (…) yeah too many things happening*" (0011b, Task 1, Unit 4). For a few participants, establishing connections between the questions and their personal experiences was somehow challenging: "*this was difficult for me because I have no experience I can relate to*" (0013b, Task 2, Unit 2), and "*the topic! oh my god like I don't have personal experience with playing sports and I discover I'm not creative with making up things*" (006a, Task 2, Unit 5).

4.1.4 Pronunciation Challenges

When reflecting on spoken production, it is not surprising to notice that language learners typically acknowledge their challenges with pronunciation and articulation (Derwing & Munro, 2005; Foote et al., 2011). Throughout these reflective discussions, pronunciation difficulties were a recurring theme. The reported challenges included the following aspects: inaccurate pronunciation (e.g., "*pronunciation is an issue for me like I have to repeat the words sometimes so I can be understood"* (007a, Task 1, Unit 4), "*I know about my pronunciation problems but there is noting I can do about my pronunciation"* (005a, Task 1, Unit 4), and *"I think I know lots*

of vocabulary but I don't now how to pronounce them correctly like when I read and write I can use that vocabulary but when I speak I avoid them" (003a, Task 1, Unit 4); articulation challenges related to differences in the sound systems between English and the participant's first language (e.g., "*I always make a mistake in words with the sound "p" you know its difficult for me even after trying to learn and memorize words to make differentiation between "p" and "b" (…) yeah still my issue*" (004a, Task 3, Unit 6), and "*some words are always problematic for me like anything with 's' because we pronounce "s" different for example "stage" "system" I will say "z" the Spanish***[14] way*" (007a, Task 2, Unit 5). A few references were also made to issues related to participant's L1 perceived accent (e.g., "*I speak words with a heavy Korean*** accent so it is hard to understand me*" (003a, Task 1, Unit 4) and "*I have a terrible accent very obvious ***Persian accent and that's not good in a test you know*" (0010b, Task 3, Unit 3).

4.1.5 Affective Challenges

During these weekly group discussions, some participants made references to the affective challenges that influenced their speaking performances. Interestingly, in the incidents where participants referred to affect, it appeared that positive and negative emotions were not happening in isolation but were triggered by one of the other identified challenges (i.e., lexical, grammatical, discourse, or pronunciation). For some participants, grammatical challenges triggered negative emotions such as frustration and embarrassment, as illustrated in these comments: "*it is embarrassing I still do mistakes after all the time I spend studying grammar*" (004a, Task 3, Unit 3) and "*grammar is the hardest thing to fix because even if you practice with others no one will correct you so you keep making the same mistakes and you feel stupid*" (011b, Task 2, Unit 5). Negative emotions were also triggered when participants felt they lacked the

[14] (***) is a symbol used in transcribing oral data to refer to the participant's first language.

necessary vocabulary to carry on the conversation: "*I feel upset! I always don't have many words to go on*" (008a, Task 3, Unit 3). Several participants reported feeling positive about their speaking performance when familiar with the topic or the task: "*I feel good like more confident when I spoke about something I know well and I have lots to say*" (009b, Task 2, Unit 2), and "*when I know the topic I relax and can focus on vocab and grammar*" (0010b, Task 3, Unit 3). A few references were also made to some negative emotions associated with pronunciation challenges, such as feeling less confident when speaking: "*I felt low like my confidence was getting lose because of my wrong pronunciation*" (003a, Task 2, Unit 2), and "*my challenge is always pronunciation I don't feel confident about my pronunciation*" (0010b, Task 2, Unit 5).

Now that these reflections have established the context regarding the challenges associated with performing the IELTS speaking tasks, the following sections address the results of the six research questions.

4.2 Research Question 1

Overall Reported and Observed Strategy Use: What strategic behaviours do EAL learners use when performing IELTS speaking tasks?

Results of the reported and observed strategy use show that participants employed a wide variety of speaking strategies over the six-week study period. The frequency of strategy use was analyzed by both individual strategies and by strategy categories. Overall, 2,038 instances of strategy use were identified. Participants used all six speaking strategy categories (*approach*, *cognitive*, *communication*, *metacognitive*, *affective*, and *social*) across all tasks. As presented in Table 6, findings show that among the strategies used, 31.70% were *metacognitive* strategies, 27.18 % *communication* strategies, 15.90 % *cognitive* strategies, followed by 8.78% *social*, 8.24% *approach*, and 8.19% *affective* strategies.

Table 6

Reported and Observed Strategy Use Categorized by Strategy Category

	APP	COM	COG	META	AFF	SOC
M	10.5	34.63	20.25	40.38	10.44	11.19
Std. Dev.	1.78	7.72	4.69	7.02	2.19	2.78
Sum	168	554	324	646	167	179
Range	5	26	16	28	8	12
% of Total	8.24%	27.18%	15.90%	31.70%	8.19%	8.78%

Note. APP = approach strategies, COM = communication strategies, COG = cognitive strategies, META = metacognitive strategies, AFF = affective strategies, SOC = social strategies.

For the individual strategies, the analysis showed that 84 different individual strategies were used. Table 7 shows the frequencies and percentages of the 84 unique individual strategies used by all participants.

Table 7

Frequencies and Percentages of Individual Strategies Use

Individual strategy	**Total**	***M***	**Range**	***SD***	**% to category total**	**% to total frequencies**
Approach Strategies	**168**	**10.5**	**5**	**1.78**	**100%**	**8.24%**
Developing reasons	29	1.81	4	0.75	17.26%	1.42%
Generating choices	13	0.81	2	1.65	7.74%	0.64%
Generating ideas	47	2.93	6	1.12	27.98%	2.31%
Identifying task format	27	1.68	4	1.13	16.07%	1.32%
Identifying task purpose	18	1.12	2	1.18	10.71%	0.88%
Making choices	20	1.25	4	0.73	11.90%	0.98%
Recalling questions	8	0.5	2	0.61	4.76%	0.39%
Recalling what one has said	6	0.37	2	1.27	3.57%	0.29%
Communication Strategies	**554**	**34.62**	**26**	**7.72**	**100%**	**27.18%**
Abandoning	20	1.25	4	1.34	3.61%	0.98%
Approximating	21	1.31	4	1.01	3.79%	1.03%
Avoiding	20	1.25	5	1.48	3.61%	0.98%
Borrowing	12	0.75	3	0.93	2.17%	0.59%
Elaborating to clarify meaning	22	1.37	5	1.31	3.97%	1.08%
Elaborating to fill time	19	1.18	3	0.91	3.43%	0.93%
Elaborating to meet requirements	22	1.37	5	1.5	3.97%	1.08%
Guessing	12	0.75	2	0.85	2.17%	0.59%
Linking	82	5.12	10	2.60	14.80%	4.02%

Paraphrasing	29	1.81	4	1.10	5.23%	1.42%
Pausing to formulate speech	15	0.93	3	0.92	2.71%	0.74%
Pausing to generate ideas	39	2.43	5	1.45	7.04%	1.91%
Pausing to make choices	16	1	4	1.03	2.89%	0.79%
Referring to notes	23	1.43	3	1.09	4.15%	1.13%
Referring to questions	15	0.93	3	0.92	2.71%	0.74%
Repeating to fill time	7	0.43	3	0.81	1.26%	0.34%
Repeating to clarify meaning	12	0.75	3	0.85	2.17%	0.59%
Reviewing notes	27	1.68	4	1.07	4.87%	1.32%
Simplifying language	23	1.43	4	1.15	4.15%	1.13%
Slowing down to generate ideas	25	1.56	5	1.41	4.51%	1.23%
Slowing down to fill time	6	0.37	2	0.71	1.08%	0.29%
Stalling to fill time	9	0.56	3	0.81	1.62%	0.44%
Thinking ahead	25	1.56	5	1.59	4.51%	1.23%
Using body language to clarify meaning	12	0.75	4	1.34	2.17%	0.59%
Using L1	10	0.62	3	1.02	1.81%	0.49%
Using keywords	24	1.5	4	0.96	4.33%	1.18%
Using L2 to organise thoughts	7	0.43	2	0.62	1.26%	0.34%
Cognitive Strategies	**324**	**20.25**	**16**	**4.69**	**100%**	**15.90%**
Analysing linguistic choices	12	0.75	3	0.85	3.70%	0.59%
Analysing questions	8	0.5	2	0.63	2.47%	0.39%
Anticipating problems	18	1.12	3	0.80	5.56%	0.88%
Anticipating questions	4	0.25	2	0.57	1.23%	0.20%
Anticipating rating criteria	11	0.68	2	0.70	3.40%	0.54%
Attending to oral production	55	3.43	7	2.39	16.98%	2.70%
Attending to task requirements	9	0.56	1	0.51	2.78%	0.44%
Using imagination	17	1.06	5	1.48	5.25%	0.83%
Inferring	4	0.25	1	0.44	1.23%	0.20%
Memorising	17	1.06	3	0.99	5.25%	0.83%
Organising thoughts	23	1.43	4	1.15	7.10%	1.13%
Outlining	6	0.37	1	0.5	1.85%	0.29%
Recalling vocabulary	106	6.62	6	1.66	32.72%	5.20%
Translating	25	1.56	4	1.50	7.72%	1.23%
Using intuition	9	0.56	3	0.81	2.78%	0.44%
Metacognitive Strategies	**646**	**40.37**	**28**	**7.02**	**100%**	**31.70%**
Evaluating language skills	14	0.87	4	1.14	2.17%	0.69%
Evaluating affect	35	2.18	4	1.16	5.42%	1.72%
Evaluating language production	51	3.18	5	1.79	7.89%	2.50%
Evaluating mental process	23	1.43	5	1.67	3.56%	1.13%
Evaluating performance	67	4.18	5	1.79	10.37%	3.29%
Evaluating strategies	47	2.93	8	2.32	7.28%	2.31%
Evaluating task	49	3.06	7	1.87	7.59%	2.40%
Generating goals	89	5.56	8	2.27	13.78%	4.37%

Generating future solutions	29	1.81	4	1.42	4.49%	1.42%
Generating future strategies	28	1.75	5	1.84	4.33%	1.37%
Self-evaluation of personal strengths/weaknesses	38	2.37	7	1.85	5.88%	1.86%
Setting goals	23	1.43	3	1.09	3.56%	1.13%
Identifying problems	99	6.18	9	2.07	15.33%	4.86%
Monitoring body language	4	0.25	2	0.68	0.62%	0.20%
Monitoring the teacher/interviewer feedback	4	0.25	1	0.44	0.62%	0.20%
Monitoring time	12	0.75	2	0.68	1.86%	0.59%
Planning	8	0.5	2	0.81	1.24%	0.39%
Self-monitoring	2	0.12	1	0.34	0.31%	0.10%
Self-correction	24	1.5	3	0.89	3.72%	1.18%
Affective Strategies	**167**	**10.35**	**8**	**2.19**	**100%**	**8.19%**
Fearing judgement	5	0.31	2	0.70	2.99%	0.25%
Justifying affective state	14	0.87	2	1.36	8.38%	0.69%
Justifying performance	39	2.43	7	1.99	23.35%	1.91%
Lowering anxiety	41	2.56	5	1.36	24.55%	2.01%
Monitoring affective state	29	1.81	5	1.32	17.37%	1.42%
Overriding affective state	20	1.25	3	1	11.98%	0.98%
Engaging in positive self-talk	19	1.18	2	0.83	11.38%	0.93%
Social strategies	**179**	**11.19**	**12**	**2.78**	**100%**	**8.78%**
Asking the teacher/interviewer questions to direct conversation	6	0.37	1	0.5	3.35%	0.29%
Asking the teacher/interviewer to repeat questions	3	0.18	1	0.40	1.68%	0.15%
Creating a positive impression	16	1	3	1.03	8.94%	0.79%
Practicing with others	11	0.68	5	1.30	6.15%	0.54%
Seeking clarification	59	3.68	5	1.49	32.96%	2.89%
Seeking help	36	2.25	6	1.73	20.11%	1.77%
Seeking confirmation	37	2.31	5	1.35	20.67%	1.82%
Seeking social interaction	11	0.68	2	0.79	6.15%	0.54%

Note. $N = 16$. Among the 84 individual strategies, 57.36% were reported in participants' reflections (31.55% for group A, and 25.81% for group B); 9.91% were observed from video files; 32.68% were reported during group discussions.

Overall, as Table 7 shows, the top ten most used individual strategies were: *recalling vocabulary* (COG; 5.20%), *identifying problems* (META; 4.86%), *generating goals* (META; 4.37%), *linking* (COM; 4.02%), *evaluating performance* (META; 3.29%), *seeking clarification* (SOC; 2.89%), *attending to oral production* (COG; 2.70 %), *evaluating language production* (META; 2.50%), *evaluating task* (META; 2.40%), and *generating ideas* (APP; 2.31%).

As seen in Table 7, the top individual strategies with the highest percentage in each strategy category were: *generating ideas* (APP; 27.98%), *linking* (COM; 14.80%), *recalling vocabulary* (COG; 32.72%), *identifying problems* (META; 15.33%), *lowering anxiety* (AFF; 24.55%), *seeking clarification* (SOC; 32.96%). Furthermore, the five most used individual strategies in each strategy category can be seen in Table 8.

Table 8

Five Most Identified Individual Strategies in Each Strategy Category

Strategy category	Most Used Individual Strategies
Approach *Orienting oneself to the speaking task*	Generating ideas (27.98%), developing reasons (17.26%), identifying task format (16.07%), making choices (11.90%), identifying task purpose (10.71%)
Communication *Conscious planning for solving communication problems to reach a communicative goal*	Linking (14.80%), pausing to generate ideas (7.04%), paraphrasing (5.23%), reviewing notes (4.87%), slowing down to generate ideas (4.51%)
Cognitive *Manipulating the target language for understanding and producing language*	Recalling vocabulary (32.22%), attending to oral production (16.98%), translating (7.72%), organising thoughts (7.10%), anticipating problems (5.56%)
Metacognitive *Involving organizing, planning, and evaluating*	Identifying problems (15.33%), generating goals (13.78%), evaluating performance (10.30%), evaluating language production (10.37%), evaluating task (7.59%)
Affective *Involving self-talk or mental control over affect*	Lowering anxiety (24.55%), Justifying performance (23.35%), monitoring affective state (17.37%), overriding affective state (11.98%), engaging in positive self-talk (11.38%)
Social *Interacting with others to perform the task*	Seeking clarification (32.96%), seeking confirmation (20.67%), seeking help (20.11%), creating positive impression (8.94%), seeking social interaction (6.15%)

To understand the correlations among the six strategy categories Spearman's rho test was conducted (see Table 9).

Table 9

Correlation Coefficients among Speaking Strategy Categories

Strategy Categories	**APP**	**COM**	**COG**	**META**	**AFF**	**SOC**
APP	1					
COM	**.499***	1				
COG	-.149	-.451	1			
META	.210	-.115	-.010	1		
AFF	-.149	-.136	.270	.147	1	
SOC	.118	.064	**-.552***	-.111	-.432	1

Note. APP = approach strategies, COM = communication strategies, COG = cognitive strategies, META = metacognitive strategies, AFF = affective strategies, SOC = social strategies. *= Significant at $p < .05$, 2-tailed. Spearman's rho test. $N = 16$. * Correlation is significant at $p < .05$.

The result in Table 9 shows that there were two significant correlations. One is a significantly positive relationship between the *approach* and *communication* strategy categories. This correlation suggests that, overall, participants who applied more approach strategies tended to apply more communication strategies. The second significant correlation was negative between the *cognitive* and *social* categories. This negative correlation indicates that those who applied more cognitive strategies tend to apply fewer social strategies.

4.3 Research Question 2

Reported and Observed Strategy Use vis-à-vis Task Type*: *What strategic behaviours do EAL speakers report during each of the three speaking tasks?

Descriptive statistics drawn from the analysis of both the reflection data and observations of the weekly main task performances reveal that participants used a variety of strategies in response to each task type. Table 10 shows the reported and observed strategies categorized by task type. Figure 4 illustrates the reported and observed strategies in each of the three tasks.

Overall, *metacognitive*, *communication*, and *cognitive* strategies were the top employed strategy categories in all three tasks. However, as presented in Figure 4, some variations in the use of strategies are evident. For instance, findings show high use of *communication* strategies (*n* = 230 instances) during the performance of Task 2, while *social* strategies were the least frequently used (*n* = 25 instances only). However, during the performance of Task 3, there was a notable increase in the use of both *cognitive* (*n* = 112) and *social* (*n* = 85) strategies.

Table 10

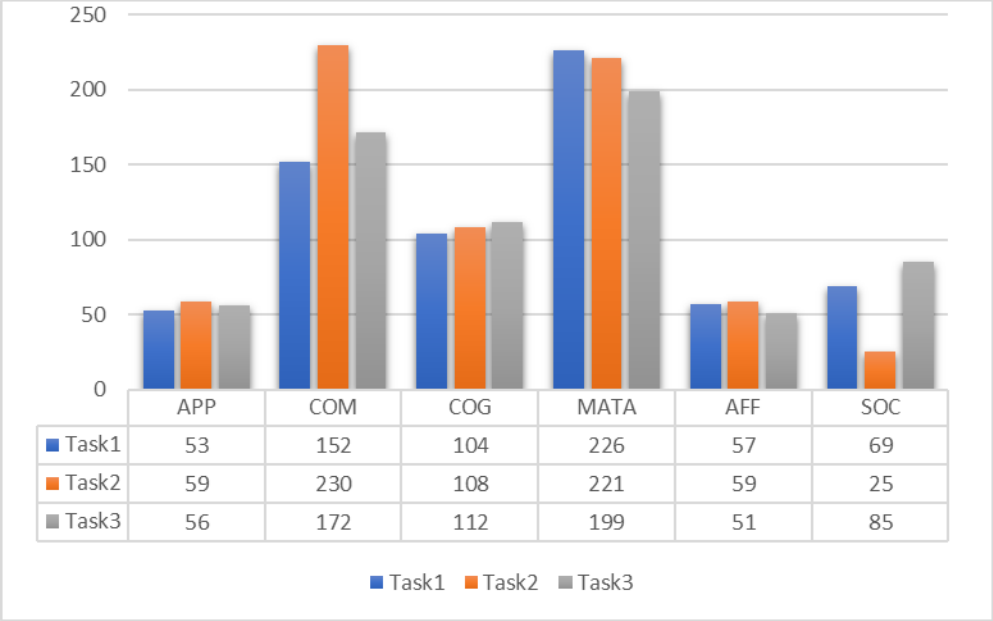
Reported and Observed Strategy Use Categorized by Task Type

Category	Task	*M*	*SD*	Sum	Max	Min
APP	Task 1	1.65	0.60	53	3	1
	Task 2	1.84	0.80	59	4	1
	Task 3	1.75	0.50	56	3	1
COM	Task 1	4.75	1.58	152	9	3
	Task 2	7.18	2.20	230	12	4
	Task 3	5.37	1.51	172	8	3
COG	Task 1	3.25	1.10	104	6	1
	Task 2	3.37	1.36	108	7	1
	Task 3	3.5	1.13	112	5	1
META	Task 1	7.06	2.10	226	11	3
	Task 2	6.90	2.31	221	13	2
	Task 3	6.21	1.62	199	9	3
AFF	Task 1	1.78	0.75	57	4	1
	Task 2	1.84	0.62	59	3	1
	Task 3	1.59	0.55	51	2	0
SOC	Task 1	2.15	0.88	69	4	0
	Task 2	0.78	0.70	25	3	0
	Task 3	2.65	1.03	85	6	1

Note. APP = approach strategies, COM = communication strategies, COG = cognitive strategies, META = metacognitive strategies, AFF = affective strategies, SOC = social strategies.

Figure 4

Reported and Observed Strategies in Each of the Three Tasks



In addition, Table 11 presents the top individual strategies in each strategy category by task. The results demonstrate that the selection of individual strategies may change in response to task requirements.

Table 11

Top three Individual Strategies in Each Strategy Category by Task

Task	Individual Strategies
Task 1	Generating ideas, developing reasons, identifying task format (APP) Linking, pausing to generate ideas, simplifying language (COM) Recalling vocabulary, attending to oral production, translating (COG) Generating goals, identifying problems, evaluating performance (METACOG) Justifying performance, lowering anxiety, overriding affective state (AFF) Seeking clarification, seeking help, seeking confirmation (SOC)
Task 2	Identifying task format, developing reasons, making choices (APP) Linking, reviewing notes, referring to notes (COM) Recalling vocabulary, attending to oral production, organising thoughts (COG) Identifying problems, evaluating performance, evaluating strategies (METACOG) Lowering anxiety, justifying performance, monitoring affective state (AFF)

	Seeking confirmation, creating a positive impression, seeking clarification (SOC)
Task 3	Generating ideas, developing reasons, generating choices (APP) Linking, elaborating to clarify meaning, pausing to generate ideas (COM) Recalling vocabulary, attending to oral production, anticipating problems (COG) Identifying problems, generating goals, evaluating language production (METACOG) Lowering anxiety, justifying performance, engaging in positive self-talk (AFF) Seeking clarification, seeking help, seeking confirmation (SOC)

Note. APP = approach strategies, COM = communication strategies, COG = cognitive strategies, META = metacognitive strategies, AFF = affective strategies, SOC = social strategies.

4.4 Research Question 3

Elicitation Methods vis-à-vis Data Obtained: What type of strategies are obtained through each elicitation method: observation, weekly instructor-facilitated reflective group discussions, and individual post-task reflections?

In terms of the elicitation methods, most of the strategies reported in this study were elicited during the individual post-task reflections (57.36%). This is followed by the strategies reported through the weekly instructor-facilitated reflective group discussions, which count for 32.73% of the overall reported strategies. Lastly, 9.91% of strategy use was elicited from the observation of participants' weekly oral performances (see Figure 5). In addition, Table 12 shows the overall strategy-use frequencies for each elicitation method.

Figure 5

Percentage of Data Obtained by Each Elicitation Method

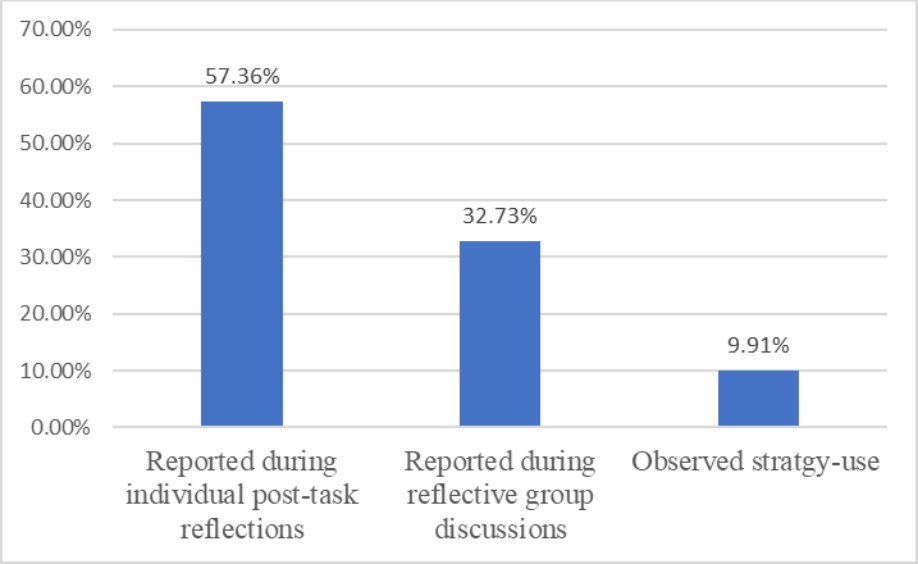


Table 12

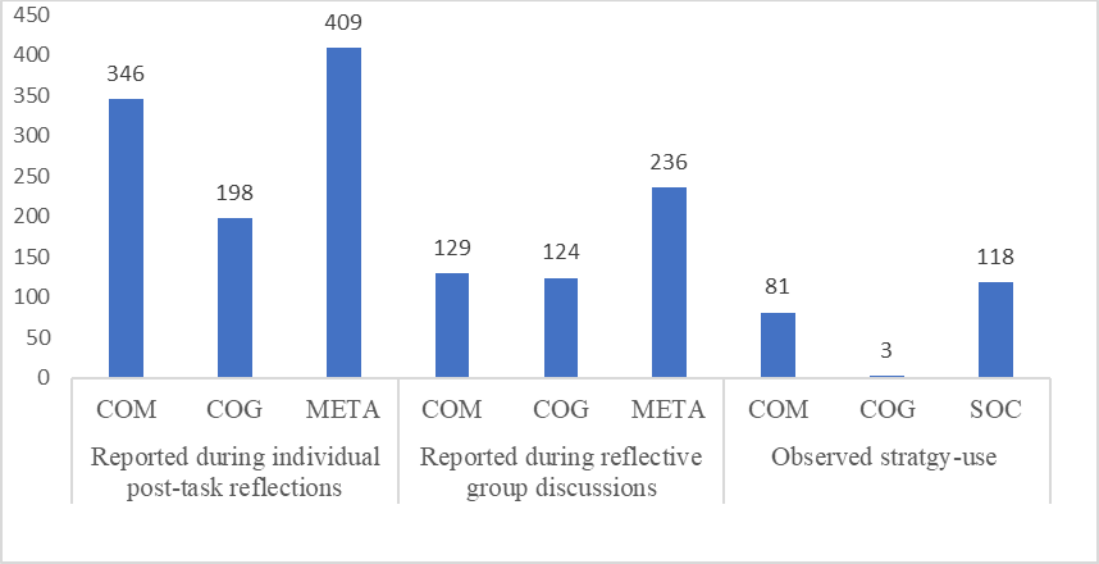
Descriptive Statistics for Overall Strategy-use Frequencies by Elicitation Methods

Elicitation method	*n*	*Min*	*Max*	*Range*	*M*	*SD*
Observation	16	8	21	13	12.62	3.48
Reflective group discussions	16	35	53	18	41.68	5.23
Individual post-task reflections	16	52	87	35	73.06	9.98

In terms of strategy categories emerging from each elicitation method, data obtained through the individual post-task reflections revealed that *metacognitive* (*n* = 409), *communication* (*n* = 346), and *cognitive* strategies (*n* =198) were the top used strategy categories. For the data that emerged from the instructors-facilitated reflective group discussions, results show that the top reported strategy categories are *metacognitive* (*n* = 236), *communication* (*n* = 129), and *cognitive* (*n* = 124). Findings also show that the top strategy categories elicited through observation were *social* (*n* = 118), *communication* (*n* = 81), and low frequencies of *cognitive* strategies (only three occurrences) (see Figure 6).

Figure 6

Top Three Reported and Observed Strategy Categories in Each Elicitation Method



As seen in Figure 6, each elicitation method appears to elicit slightly different strategy categories. The individual post-task reflections elicited *metacognitive* and *communication* strategy categories the most. On the other hand, the *social* strategy category came first in the data obtained through observation. Data obtained from the instructor-facilitated reflective group discussions revealed high use of *metacognitive* strategies, with both the *communication* and *cognitive* categories reported with similar frequencies.

4.5 Research Question 4

Modality of Reflection vis-à-vis Strategy Use: Are there differences in reported and observed strategy use depending on the modalities of post-task reflection used by participants in the experimental groups A and B after performing the weekly main task (i.e., the post-task individual VSR reflection vs. the post-task individual audio-recorded reflection)?

4.5.1 Quantitative Findings

First, the descriptive statistics are presented to gain an overall understanding of the strategy use of participants in the experimental groups A and B (see Table 13). The strategy-use frequencies included both participants' reported strategy use from their individual post-task reflection sessions and the observed strategy use from the video clip files of their weekly oral production performances.

Table 13

Descriptive Statistics for Strategy-use Frequencies by Participants in Experimental Groups

Participant groups	***n***	***Min***	***Max***	***Range***	***M***	***SD***
Group A (VSR verbal reflection)	8	72	87	15	80.50	5.55
Group B (Audio-recorded verbal reflection)	8	52	78	26	65.62	7.52

The frequencies of strategy-use according to the six strategy categories between participant groups are shown in Table 14. Both groups appeared to have used *metacognitive* and *communication* strategies the most, followed by *cognitive* and *social* strategies. The *approach* strategy category was fifth for group A, whereas the *affective* strategy category was fifth for group B.

Table 14

Reported and Observed Strategy Use Categorized by Strategy Category for the Experimental Groups

Group/Strategy category	APP	COM	COG	META	AFF	SOC
Group A (VSR verbal reflection)	7.69%	35.28%	13.26%	27.72%	6.90%	9.15%
Group B (Audio-recorded verbal reflection)	5.83%	26.09%	16.37%	32.41%	7.78%	11.51%

Note. APP = approach strategies; COM = communication strategies; COG = cognitive strategies; META = metacognitive strategies; AFF = affective strategies; SOC = social strategies.

A two-sample Kolmogorov–Smirnov test was conducted, and the test results indicated that members of group A reported more use of *approach* and *communication* strategies than members of group B, with the *communication* category found to be statistically significantly different (K-S $z = 1.750$, $p = 004$). The results also revealed that the distributions of *metacognitive* and *cognitive, affective,* and *social* strategies variables between the two groups were not statistically significant ($p > .05$).

As for differences in relation to the individual strategies used, the two groups used a variety of individual strategies with some slightly different variations. Based on the reported and observed strategy use, group A used 82 types of individual strategies, including four individual strategies reported only by members in this group. These strategies include one communication strategy, *using body language to clarify meaning*; two metacognitive strategies, *monitoring body language* and *monitoring teacher's/ interviewer's feedback;* and one social strategy, *asking the teacher/interviewer questions to direct conversation.* Group B used 80 types of individual strategies, with two strategies reported only by members in this group. These two strategies include one metacognitive strategy, *self-monitoring*, and one social strategy, *asking the teacher/interviewer to repeat questions.*

The top-five most frequently used individual strategies by each participant group are presented in Table 15, together with their percentages in relation to the related category totals and of the groups totals.

Table 15

Top-5 Reported and Observed Individual Strategies for the Participant Groups A and B

Group	Top-5 Individual Strategies	% in relation to Category Total	% in relation to Group Total
Group A (VSR verbal reflection)	META: Identifying problems	17.27%	5.36%
	COM: Linking	17.03%	5.17%
	COG: Recalling vocabulary	36.11%	4.89%
	META: Generating goals	11.82%	3.67%
	META: Evaluating performance	10.30%	3.20%
Group B (Audio-recorded verbal reflection)	COG: Recalling vocabulary	30.00%	5.54%
	META: Generating goals	15.82%	5.13%
	META: Identifying problems	13.29%	4.31%
	META: Evaluating performance	10.44%	3.39%
	COG: Attending to oral production	17.22%	3.18%

Note. APP = approach strategies; COM = communication strategies; COG = cognitive strategies; META = metacognitive strategies; AFF = affective strategies; SOC = social strategies.

Table 16 shows that the two experimental groups applied the same top-five individual strategies, except for *linking*, which was used by group A, and *attending to oral production, which was* used by group B. The top individual strategy for group A was *identifying problems,* a metacognitive strategy, which was ranked third for group B (group A = 5.36%, group B = 4.31%). However, the top individual strategy for group B was *recalling vocabulary,* a cognitive strategy, which was ranked third for group A (group A = 4.89%, group B = 5.54%). Furthermore, *generating goals*, a metacognitive strategy was ranked second for group B but fourth for group A (group A = 3.67%, group B = 5.13%). Lastly, the metacognitive strategy, *evaluating performance,* ranked fourth for group B but fifth for group A (group A =

3.20%, group B = 3.39%). Furthermore, Table 16 presents the top-three individual strategies in each strategy category for the two groups, with their percentages in relation to the group totals.

Table 16

Top-three Individual Strategies within Each Strategy Category for Groups A and B

Strategy Category	**Group A** (VSR verbal reflection)	**Group B** (Audio-recorded verbal reflection)
APP	**generating ideas** (2.44%), developing reasons (1.69%), making choices (1.13%)	**generating ideas** (2.16%), identifying task format (1.54%), developing reasons (1.13%)
COM	**linking** (5.17**%),** pausing to generate ideas (2.07%), elaborating to meet requirements (1.60%)	**linking** (2.77**%),** pausing to generate ideas (1.75%), slowing down to generate ideas (1.54%)
COG	**recalling vocabulary** (4.89%), attending to oral production (2.26%), organising thoughts (1.32%)	**recalling vocabulary** (5.54%), attending to oral production (3.18%), translating (1.33%)
META	identifying problems (5.36%), generating goals (3.67%), evaluating performance (3.20%)	generating goals (5.13%), identifying problems (4.31%), evaluating performance (3.39%)
AFF	lowering anxiety (1.97%), justifying performance (1.60%), justifying affective state (1.22%)	justifying performance (2.26%) lowering anxiety (2.05%), monitoring affective state (1.85%)
SCO	**seeking clarification** (2.82%), seeking help (1.69%), seeking confirmation (1.60%)	**seeking clarification** (2.98%), seeking confirmation (1.95%), seeking help (1.85%)

Note. APP = approach strategies; COM = communication strategies; COG = cognitive strategies; META = metacognitive strategies; AFF = affective strategies; SOC = social strategies.

Both groups showed the same top individual approach, communication, cognitive, and social strategies: *generating ideas*, *linking*, *recalling vocabulary*, and *seeking clarification*. The top individual strategy in the metacognitive category was *identifying problems* for group A and *generating goals* for group B. The top individual affective strategy for group A was *lowering anxiety*, and for group B, it was *justifying performance*.

4.5.2 Examining Individual Verbal Reflection Data

In addition to the above quantitative analysis, the study also involved qualitative content analysis of reflection data, following analyses in the literature such as those of Huang (2012, 2017, 2019). In Sections 4.5.2.1 and 4.5.2.2, excerpts from learners' post-task individual verbal reflections, selected from weeks 2 through 6, are presented as examples of participants' engagement in the reflection process.

4.5.2.1 Reflection Mediated by VSR. As mentioned earlier, participants in group A were asked to verbally reflect on their weekly task performances mediated by VSR. In the early stages of the course, these participants were adapting to the new concept of retrospective reflection. Since all of these participants had never used VSR before, it was noticeable that initially, they were more occupied with watching themselves on the video recording than focusing on recalling their thought processes. As they got familiar with the activity, the quality of reflection gradually moved from describing *habitual actions* and *understanding* to deeper levels of reflection. Excerpts 7-16 are examples.

In Excerpt 7, 002a evaluated her speaking performance in week 2. She acknowledged that her performance lacked organization and struggled to expand her answer. She realized that these issues made her speaking "not smooth" and "hard to follow." In her reflection, she mentioned that she would practice how to "find more things to say and … add details to go on." In the subsequent post-task reflection session (Excerpt 8), 002a reflected on her action to expand on her answer when she ran out of ideas -while describing a specific individual- by alternatively thinking of the descriptions of familiar people to her in order to help her quickly generate ideas and elaborate on her response.

Excerpt 7: "I feel that I was not organized just speaking with what thing I come up with any idea that comes I just speak speak with no organize (…) also it was hard to add to my answer I pause a lot because I don't have enough content to add to my answer so my speaking was not smooth and hard to follow yeah because I don't know what to say (…) so for next time I need to practice like how to find more things to say and like add details to go on" [002a, Task 2, Unit 2].

Excerpt 8: "so like here what I wanted to say about the character of this respected person was over so so this time I tried to think really fast of the people close to me like my family my friends so I can find more things (…) yeah more descriptions to expand my answer yeah it actually helped me keep on going" [002a, Task 2, Unit 5].

Another interesting example is presented in excerpts 9 and 10. In Excerpt 9, 004a reflected on his speaking performance in week 2. He first identified challenges and pinpointed what he thought was missing "preparation." He realized that he needed to do more preparation and expand his knowledge about everyday topics in order to be able to "build and extend" his answers. He then generated ways to be better prepared for next time. In the subsequent post-task reflection session (Excerpt 10**)**, 004a reflected on his thought processes and emotional state while answering the question. To maintain fluency, he tried to link his response to a personal experience and to include additional details to avoid making "pauses like last time."

Excerpt 9: "I think the difficult thing was continuing to talk (…) I think preparation is what I am missing if I have knowledge like a little bit about many topics just a little bit information about ten or so topics I can build and extend my answer (…) so for next time I have to read about topic the common topics this is a kind of preparation I need it" [004a, Task 2, Unit 2].

Excerpt 10: "I was thinking here this is a tough question I like try to think of words and I was a bit nervous (…) but then I I try to go back in my memory and I remembered my my experience and also I was trying to fake some details I was not very sure but I don't want to make pauses like last time" [004a, Task 3, Unit 3].

Excerpts 11 and 12 are from another participant. In Excerpt 11, 006a selected a moment in the video and reflected on the time when she lost her concentration and paused multiple times. She then decided that she needed to practice ways to maintain fluency and avoid long pauses. In the subsequent post-task reflection session (Excerpt 12**)**, 006a shared that she experimented with a new approach by using filler words to help her generate ideas for her responses.

Excerpt 11: "this part here like (…) I was just frozen I lost the way and it was hard to get back to what I'm saying so I said ummm ummm a lot (…) I need to work on this I mean to focus and practice like I should say something when I lose my way not just stop" [006a, Task2, Unit 2].

Excerpt 12: "today I didn't understand some questions but I don't want to make pauses like last week I try to to say something even though like say some expressions I learned like "this is interesting question" or "I never thought this" and that's good to help me think about the question also (…) I watched IELTS videos and see how they answer questions and copy some of their expressions to to use when I don't have something to say" [006a, Task 3, Unit 3].

Excerpts 13 and 14 present another example illustrating the process of evaluating performance. In excerpt 13, 007a expressed that she wanted to "challenge herself" to use a broader range of vocabulary (e.g., synonyms and idioms); however, she did not specify what actions she would take to do so. In the subsequent post-task reflection session (Excerpt 14), she

again identified vocabulary as an area that needed further attention. Interestingly, she shared that while performing, she modified her action by shifting her attention from trying to recall or look for an appropriate vocabulary to focusing on simplifying her language and the flow of "a natural conversation."

> *Excerpt 13:* "it was ok but umm I want to try to challenge myself with using better vocabulary like not better but more synonyms idioms phrasal verbs and just try to introduce some colloquial words to make my English sound better" [007a, Task 2, Unit 2].
>
> *Excerpt 14:* "now I think because I notice more like I'm more aware about the kind of mistakes that I need to improve or maybe the areas I need to improve like my vocabulary (…) this time when I like have a kind of trouble with vocabulary I mean I couldn't figure out the vocabulary that was difficult to remember I just decided to make easier for me by following a natural conversation and focus on some areas that could be easier for me with my limited vocabulary" [007a, Task 3, Unit 3].

In Excerpt 15, through reflecting on his performance, 008a noticed that he did not pay attention to grammar accuracy; instead, his focus was on expressing his opinion. He then generated a goal to study grammar, in particular the past tense. In the subsequent week (Excerpt 16), he reflected on the way he monitored his speech for grammar accuracy. He shared that he would self-correct himself when he noticed a mistake and "return back to the sentence and restart it and fix it the second time." He then positively evaluated this strategy and hypothesized that it could lead to better performances in the future.

> *Excerpt 15:* **"**grammar this time was hard I mean everything was past but I just talk I usually just want to convey my opinion like I'm not really good at grammar past present

these things but I should study past talking past tense sentences I will study yeah" [008a, Task 3, Unit 3].

Excerpt 16: "when I was speaking last time I missed up the grammar but today it was the first time I am caring I was caring about the grammar now and then umm and then when I notice I just return back to the sentence and restart it and fix it the second time yeah but before I didn't use to do that I just go on (…) I think if I keep doing that I will speak more properly I will speak better in grammar" [008a, Task 1, Unit 4].

4.5.2.2 Reflection Mediated by Audio Voice Reorders. Participants in group B were asked to reflect verbally on their weekly task performances mediated by audio voice recorders. These participants were provided with reflection questions as prompts. At first, many of the recorded reflections were general and brief. As sessions progressed, the quality of the recorded reflective entries touched on deeper levels of reflection, and the reflections focused more on identifying issues, affects, and action modifications. Excerpts 17-26 are examples.

In Excerpt 17, 009b reflected on his performance in week 2. He first mentioned that he needed to work on using a variety of vocabulary to enhance his performance. He also noticed that he was very nervous and that the nervousness had affected his performance and made his speaking "clumsy." He then generated a general goal, which was to practice speaking. However, he did not provide a specific plan for dealing with the identified issues. In the subsequent week (Excerpt 18), he followed up on his reflection from last week and mentioned that he "was not nervous" this time, which had positively affected his performance. He also shared that he speaks better when he remains calm and is familiar with the topic.

*Excerpt 17: "*I need to speak I need to use various words rather than using simple and limit vocabularies also I was nervous I don't need to be nervous sometimes I get very

nervous nervous is make me speak clumsy so practice practice practice I think this is a good way to overcome my speaking challenges" [009b, Task 2, Unit 2].

Excerpt 18: "last time I was very nervous so it was not effective I spoke unclearly but this time I was not nervous so it was effective I can speak clearly so I learned two things first thing is I should not be nervous the second thing is if I know the topic very well I can speak more clearly" [009b, Task 3, Unit 3].

In Excerpt 19, 0010b reflected on her actions when she deliberately imagined herself as a native speaker. Even though she suspected that there were grammatical and pronunciation errors, she thought that acting like a native speaker had helped her feel "comfortable and relaxed." However, she did not generate any solutions or actions to address the linguistic errors. In the subsequent week (Excerpt 20), she described her approach to preparing herself for the task by practicing speaking in front of the mirror, and this preparation enhanced her confidence and relaxation levels. She mentioned that being relaxed could enhance her speaking performance.

*Excerpt 19: "*today I try to speak like a native and just imagine that I'm a native although I had some terrible pronunciation and grammar mistake but I think it helps me to be comfortable and relaxed" [0010b, Task 1, Unit 4].

Excerpt 20: "I prepare myself I speak and speak and speak with myself in front of the mirror it makes me more confident and relaxed today and when I am relaxed I speak better" [0010b, Task 2, Unit 5].

Another example is illustrated in Excerpts 21 and 22, 0012b reflected positively on her performance. She first mentioned that she "did [her] duty this time" and performed better than her last time. She described that she monitored her oral production, and when she spotted a mistake, she would "correct it immediately". She identified that using the correct tense was one

of the challenges she needed to work on; however, other than a general intention to work on tense, there were no specific goals on how to overcome such a challenge. In the subsequent week, her reflection revealed that she still regarded tense as an issue. She also stated that she still used the same self-correction strategy while speaking.

> *Excerpt 21:"*umm I think I did my duty this time well I think I spoke more correctly than last time because I tried to catch if I speak wrong sentence I catch it and revise and correct it immediately except tense I should care of my tense my sentence I need to work on tense" [0012b, Unit 2, Task 2].
>
> *Excerpt 22:* "when I speak I tried to watch my tense I did not watch my sentences my tense in my sentence last class so sometime when I have to use the past I use present or when I have to use present I use the past tense but this time I I tried to watch and think about my tense and correct my sentence" [0012b, Task 2, Unit 5].

In Excerpt 23, 0013b reflected on his note-taking techniques in week 2. He described that he wrote down a couple of points that were "general" and "not organized." He mentioned that the notes were not very helpful and made him "confused." He then generated a solution for next time, which was to practice organizing and structuring the notes. In the subsequent post-task reflection session (Excerpt 24), he followed up on his last reflection regarding his plan to take specific and structured notes before performing task 2. He then positively evaluated his modified action by stating that it was "a good idea."

> *Excerpt 23:* "I tried to make like a set of points that like would talk about them so I put like about five six points like general points I can choose from when I don't have like something to say what I mean that I put like more points so I can spend the two minutes talking about them but it was not organized so I was looking at them and got confused

(…) next time I will organize the points like structure not just random but it needs practice" [0013b, Task 2, Unit 2].

Excerpt 24: "Today I was trying to follow the instruction that I made in the notes I think it's a good idea to have to organize your points and structure your ideas like in different sections not general points like specific and follow them" [0013b, Task 2, Unit 5].

Excerpts 25 and 26 are from another participant. In her post-task reflection (Excerpt 25), 0014b reflected on her habitual actions regarding her general approach, which was "aim[ing] to make a right sentence." She realized that this habit negatively affected her speech delivery and emotional state. She hypothesized that paying attention to vocabulary range and maintaining fluency is more important than "focus[ing] on grammar." She generated a general intention to practice speaking with the goal of "keep[ing] the conversation going." She followed up on her previous reflection in a subsequent task (Excerpt 26). She positively reflected on her modified action to shift her focus from grammar accuracy to content and fluency. She shared that this strategy would influence her emotional state and make her "less nervous" and "say more things."

*Excerpt 25: "*I notice when I speak I tend (…) aim to make a right sentence using correct grammar especially grammar and then I get slow and nervous (…) but focus on grammar is not that important using various vocabularies and keep going the speaking so want to practice I will try to keep the conversation going and not worry about grammar" [0014b, Task 3, Unit 3].

*Excerpt 26: "*as I mentioned before I tried to make a right sentence grammatically, but now I just try to keep the conversation going with focusing about the topic and about the questions and worry less about my grammar at this stage yeah it's very good for me to be less nervous and that make me say more things" [0014b, Task 3, Unit 6].

4.6 Research Question 5

4.6.1 Strategy Use vis-à-vis Weekly Oral Production Scores

This section addresses research question 5a): *What are the relationships between the reported and observed strategy use of the learners engaging in reflection and their weekly oral language production scores?*

In order to identify the associations among strategy use variables and weekly oral production scores variables, Spearman's rho tests were conducted. The results address correlations in relation to the overall strategy-use frequencies, strategy category-use frequencies, individual strategies, and the weekly oral production scores. First, the correlation was conducted to examine the relationship between the reported and observed strategy use by overall strategy-use frequencies and the weekly oral production scores. As shown in Table 17, overall, the correlation coefficients between overall strategy-use frequencies and performance scores were generally low and not statistically significant ($p > 0.05$). These findings imply that changes in strategy-use frequencies do not necessarily lead to corresponding increases or decreases in performance scores.

Furthermore, when considering the two groups, A and B, the correlation coefficients generally did not reach statistical significance for most cases.

Table 17

Correlations between Strategy-use Frequencies and the Weekly Performance Scores (Overall and by groups)

			Overall Strategy-use Frequencies
Performance Scores Week 1 (Task 1)	**Overall**	Correlation Coefficient	.225
		Sig. (2-tailed)	.341
	Group A (n = 8)	Correlation Coefficient	.669
		Sig. (2-tailed)	.070

	Group B	Correlation Coefficient	-.013
	(*n* = 8)	*Sig.* (2-tailed)	.976
	Overall	Correlation Coefficient	009
Performance Scores		*Sig.* (2-tailed)	.973
Week 2	Group A	Correlation Coefficient	-.503
(Task 2)	(*n* = 8)	*Sig.* (2-tailed)	.203
	Group B	Correlation Coefficient	.325
	(*n* = 8)	*Sig.* (2-tailed)	.432
	Overall	Correlation Coefficient	-.012
Performance Scores		*Sig.* (2-tailed)	.964
Week 3	Group A	Correlation Coefficient	-.025
(Task 3)	(*n* = 8)	*Sig.* (2-tailed)	.953
	Group B	Correlation Coefficient	-.062
	(*n* = 8)	*Sig.* (2-tailed)	.884
	Overall	Correlation Coefficient	.218
Performance Scores		*Sig.* (2-tailed)	.417
Week 4	Group A	Correlation Coefficient	.086
(Task 1)	(*n* = 8)	Sig. (2-tailed)	.840
	Group B	Correlation Coefficient	.302
	(*n* = 8)	*Sig.* (2-tailed)	.467
	Overall	Correlation Coefficient	.217
Performance Scores		*Sig.* (2-tailed)	.419
Week 5	Group A	Correlation Coefficient	.156
(Task 2)	(*n* = 8)	*Sig.* (2-tailed)	.565
	Group B	Correlation Coefficient	.388
	(*n* = 8)	*Sig.* (2-tailed)	.343
	Overall	Correlation Coefficient	.113
Performance Scores		*Sig.* (2-tailed)	.677
Week 6	Group A	Correlation Coefficient	. 146
(Task 3)	(*n* = 8)	*Sig.* (2-tailed)	.731
	Group B	Correlation Coefficient	.116
	(*n* = 8)	*Sig.* (2-tailed)	.785

Note. Spearman's rho test. *n* = 16; group A = engaged in VSR verbal reflection, and group B = engaged in audio tape-recorded verbal reflection.

Second, the correlation was conducted to examine the relationship between the reported and observed strategy use by strategy category and the weekly oral production scores (see Table 18). Overall, the results from the category-use frequencies showed that none of the correlations reach statistical significance in Weeks 1, 2 ,3, and 4. For Week 5, results indicated that of all the six strategy categories, only the category of *cognitive* strategies correlated positively at a significant level with performance scores (r_s = .616, p = .011). Results also showed that the

metacognitive category was found to be significantly positively correlated with performance scores in Week 6 (r_s = .713, p = .002). Only two categories among the participant groups showed a statistically significant correlation with performance scores. In group B, there was a negative association between the *communication* category and performance scores in Week 1 (rs = -.749, p = .033). Similarly, in group A, negative associations were found between the social category and performance scores in Week 4 (rs = -.732, p = .039).

Table 18

Correlations between Category-use Frequencies and the Weekly Performance Scores (Overall and by groups)

			APP	COM	COG	META	AFF	SOC
Performance Scores Week 1 (Task 1)	Overall	Correlation Coefficient	.220	-.220	.395	.073	.203	.083
		Sig. (2-tailed)	.413	.413	.130	.787	.451	.759
	Group A (n = 8)	Correlation Coefficient	.354	.116	.616	-.052	-.297	-.081
		Sig. (2-tailed)	.390	.784	.104	.903	.475	.850
	Group B (n = 8)	Correlation Coefficient	.214	**-.749**	.170	.299	.676	.305
		Sig. (2-tailed)	.611	**.033****	.688	.471	.066	.463
Performance Scores Week 2 (Task 2)	Overall	Correlation Coefficient	.036	-.061	.455	-.110	-.295	.303
		Sig. (2-tailed)	.896	.822	.077	.685	.268	.254
	Group A (n = 8)	Correlation Coefficient	-.233	-.109	.311	-.623	-.346	.067
		Sig. (2-tailed)	.579	.797	.454	.099	.401	.875
	Group B (n = 8)	Correlation Coefficient	.257	-.501	.688	.317	-.222	.631
		Sig. (2-tailed)	.540	.206	.060	.444	.597	.093
Performance Scores Week 3	Overall	Correlation Coefficient	-.402	.266	.196	.254	.194	-.318
		Sig. (2-tailed)	.123	.319	.467	.342	.472	.231

(Task 3)	Group A	Correlation Coefficient	-.557	.675	.287	-.006	.340	-.698
	(*n* = 8)	Sig. (2-tailed)	.152	.066	.491	.988	.410	.054
	Group B	Correlation Coefficient	-.312	-.088	.167	.511	.118	-.057
	(*n* = 8)	Sig. (2-tailed)	.452	.837	.693	.195	.781	.894
Performance Scores Week 4 (Task 1)	Overall	Correlation Coefficient	.264	.217	.189	.340	-.246	-.291
		Sig. (2-tailed)	.323	.419	.483	.197	.359	.274
	Group A	Correlation Coefficient	.338	.520	-.094	.322	-.302	**-.732**
	(*n* = 8)	Sig. (2-tailed)	.413	.186	.825	.437	.467	**.039****
	Group B	Correlation Coefficient	.254	.075	.403	.304	-.169	.101
	(*n* = 8)	Sig. (2-tailed)	.545	.859	.323	.464	.689	.811
Performance Scores Week 5 (Task 2)	Overall	Correlation Coefficient	-.049	-.475	**.616**	.130	-.018	-.423
		Sig. (2-tailed)	.856	.063	**.011****	.632	.948	.103
	Group A	Correlation Coefficient	-.049	-.627	.696	.323	-.410	-.363
	(*n* = 8)		.908	.096	.055	.436	.314	.377
	Group B	Correlation Coefficient	-.116	-.449	.580	-.111	.425	-.650
	(*n* = 8)	Sig. (2-tailed)	.784	.264	.132	.793	.294	.081
Performance Scores Week 6 (Task 3)	Overall	Correlation Coefficient	-.066	-.041	-.437	**.713**	-.204	-.361
		Sig. (2-tailed)	.808	.881	.091	**.002****	.448	.169
	Group A	Correlation Coefficient	-.135	.411	-.322	.663	-.351	-.240
	(*n* = 8)		.750	.312	.436	.073	.394	.567
	Group B	Correlation Coefficient	.176	-.361	-.608	.822	-.134	-.366
	(*n* = 8)	Sig. (2-tailed)	.677	.380	.110	.012	.751	.372

Note. Spearman's rho test. *n* = 16; group A = engaged in VSR verbal reflection, and group B = engaged in audio tape-recorded verbal reflection. ** = Significant at $p < .05$, 2-tailed.

Then, correlation tests were conducted to examine the relationship between the individual strategies and the weekly oral production scores. Overall, 12 individual strategies were significantly correlated with performance scores (as shown in Table 19). Among these, a total of eight individual strategies were found to be positively correlated with performance scores. Specifically, in the approach strategy category, *generating ideas* was positively correlated with oral production scores in Week 1. Within the cognitive strategy category, *recalling vocabulary* in Week 2 and *attending to oral production* in Week 5 were positively correlated with performance. Regarding communication strategies, *elaborating to clarify meaning* in Week 3 and *approximating* in Week 4 were also positively correlated with oral production scores. In the metacognitive strategy category, *evaluating performance* in Week 3, *evaluating language production*, and *generating goals* in Week 6 were positively correlated with oral production scores. On the other hand, negative correlations were observed with the affective strategy of *justifying performance* in Week 2. Additionally, the communication strategies of *avoiding* in Week 3 and *reviewing notes* in Week 5, as well as the social strategy of *seeking clarification* in Week 4, were negatively correlated with oral production scores.

Table 19

Significant Correlations Between Individual Strategies and the Weekly performance Scores

Performance Scores	Strategy Category	Individual Strategy	Correlation Coefficient	Direction of Correlation
Week 1	Approach	*Generating ideas*	$r_s = .507$, $p = .045$**	Positive
Week 2	Cognitive	*Recalling vocabulary*	$r_s = .707$, $p = .050$**	Positive
	Affective	*Justifying performance*	$r_s = -.679$, $p = .004$**	Negative
Week 3	Communication	*Avoiding*	$r_s = -.563$, $p = .023$**	Negative

	Communication	*Elaborating to clarify meaning*	r_s = .618, p = .011**	Positive
	Metacognitive	*Evaluating performance*	rs = .502, p = .048**	Positive
Week 4	Communication	*Approximating*	rs = .518, p = .040**	Positive
	Social	*Seeking clarification*	r_s = -.706, p = .002**	Negative
Week 5	Communication	*Reviewing notes*	r_s = -.663, p =.005**	Negative
	Cognitive	*Attending to oral production*	r_s = 762, p = .001**	Positive
Week 6	Metacognitive	*Evaluating language production*	r_s =.661, p = .005**	Positive
	Metacognitive	*Generating goals*	r_s =.737, p = .001**	Positive

Note. Spearman's rho test. n = 16. ** = Significant at p < .05, 2-tailed.

Further analysis examined the relationship between the frequency of strategy-use, the frequency of strategy category-use, and weekly oral production scores across the four sub-scores (i.e., *fluency and coherence, lexical resource, grammar and accuracy, and pronunciation*). Table 20 presents only significant correlations.

First, no significant correlations were found between the overall frequencies of strategy use and any of the four sub-scores. Regarding strategy category-use frequencies, the results revealed that out of all six strategy categories, only the category of *Affective* strategies correlated positively at a significant level with group B's *fluency and coherence* sub-scores in Week 1. In Week 2, the category of *communication* strategies correlated negatively with group B's *fluency and coherence* sub-scores. In Week 3, the category of *metacognitive* strategies correlated positively with group A's *fluency and coherence* sub-scores. However, no significant correlations were found between any of the six strategy categories and *fluency and coherence* sub-scores in Weeks 4, 5, and 6. In Week 1, significant positive correlations were also found

between the category of *Affective* strategies and group B's *pronunciation* sub-scores. The results also revealed that of all the six strategy categories, only the category of *metacognitive* strategies correlated positively with *grammar and accuracy* sub-scores in Week 6.

Regarding the relationship between strategy category-use frequencies and *lexical resource* sub-scores, the results showed no significant correlations between any of the strategy categories and *lexical resource* sub-scores.

Table 20

Significant Correlations between Strategy Category-Use Frequencies and Sub-scores

Performance Sub-Scores	Group/ Overall	Strategy Category	Correlation Coefficient
Fluency & Coherence Sub-scores Week 1	Group B	Affective	$r_s = .733^{*}$, $p = .039$**
Pronunciation Sub-scores Week 1	Group B	Affective	$r_s = .743^{*}$, $p = .035$**
Fluency & Coherence Sub-scores Week 2	Group B	Communication	$r_s = -.794^{*}$, $p = .019$**
Fluency & Coherence Sub-scores Week 3	Group A	Metacognitive	$rs = .730^{*}$, $p = .040$**
Grammar & Accuracy Sub-scores Week 6	Overall	Metacognitive	$r_s = .537^{*}$, $p = .032$**

Note. Spearman's rho test. $n = 16$; group A $n = 8$, and group B $n = 8$. **= Significant at $p < .05$, 2-tailed.

4.6.2 Reflection vis-à-vis Oral Production Improvement

This section addresses research question 5b)*: Are there any difference in oral production between members of the reflective groups (i.e., group A and B) versus the non-reflective group (i.e., group C), as measured by test scores?*

A Kruskal-Wallis test, a non-parametric alternative of the one-way ANOVA, was performed to examine the differences in oral production scores among the three participant groups after the six-week study period. The test showed a statistically significant difference in the post-test scores across the three participant groups, $\chi 2 = 6.080$, $p = 0.048$. Pairwise comparisons were subsequently conducted to further examine the differences between participant groups. The pairwise comparisons showed significant differences between groups C and B ($p = 0.021$). As for the differences between groups C and A, the results did not reach statistical significance ($p=0.056$), although the margins were relatively close to significance. Interestingly, the differences between groups A and B were not statistically significant ($p=0.692$).

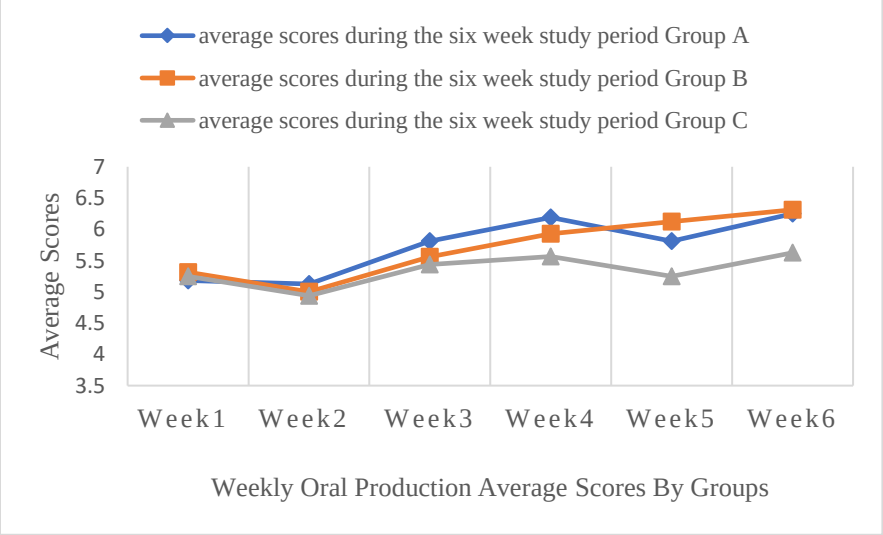
In Week 1, the standard deviation of the scores across the three groups was $SD = 0.066$, with a variance of 0.004. This indicates minimal variability in oral production scores between the groups. However, when examining the changes in mean scores of the weekly oral language performances over the six weeks, the results revealed that from Week 2 to Week 6, the average mean scores of groups A and B were consistently higher than those of group C (see Figure 7). Participants from these two groups exhibited patterns of progress over the study period. Group A's average score started at $M = 5.18$ in Week one (Task 1) and increased to $M = 6.18$ in Week four (Task 1). In Week two (Task 2), their average score was at $M = 5.12$ and increased to $M = 5.81$ in Week five (Task 2), and their average score was at $M = 5.81$ in Week three (Task 3) and increased to $M = 6.25$ in Week six (Task 3).

Similarly, group B's average score started at *M* = 5.31 in Week one (Task 1) and increased to *M* = 5.93 in Week four (Task 1); their average score was at *M* = 5 in Week two (Task 2) and increased to *M* = 6.12 in Week five (Task 2); and was at *M* = 5.56 in Week three (Task 3) and increased to *M* = 6.31 in Week six (Task 3).

Interestingly, group C members showed some increase in their mean score values over time. Their average score started at *M* = 5.25 in Week one (Task 1) and increased to *M* = 5.56 in Week four (Task 1); in Week two (Task 2), their average score was at *M* = 4.93 and increased to *M* = 5.25 in Week five (Task 2); and was at *M* = 5.43 in Week three (Task 3) and increased to *M* = 5.62 in Week six (Task 3).

Figure 7

Weekly Oral Production Mean Scores by Groups



4.7 Research Question 6

What are the participants' perceptions about engaging in the reflective sessions as reported via the perception questionnaire?

Content analysis of the perception questionnaire showed that many participants in the experimental groups A and B have reported that they found the reflection sessions helpful. Many

participants commented positively on their experience, providing detailed answers and supporting examples. Several participants have also shared some interesting views on their experience regarding individual guided reflections. The following section presents the key common themes that emerged from analyzing participants' answers. This is followed by addressing the issues raised by participants regarding their views on the experience.

4.7.1 Common Themes

Seven common themes were identified and coded based on participants' answers*: build confidence, experiment with new strategies, identify effective strategies, learn from peers, notice and identify speaking problems, seek opportunities to practice speaking, and set specific goals.* Figure 8 shows the frequency of occurrence of each theme in participants' answers, and examples of each theme are provided in Table 21.

Figure 8

The Frequency of Themes Found in Participants' Answers

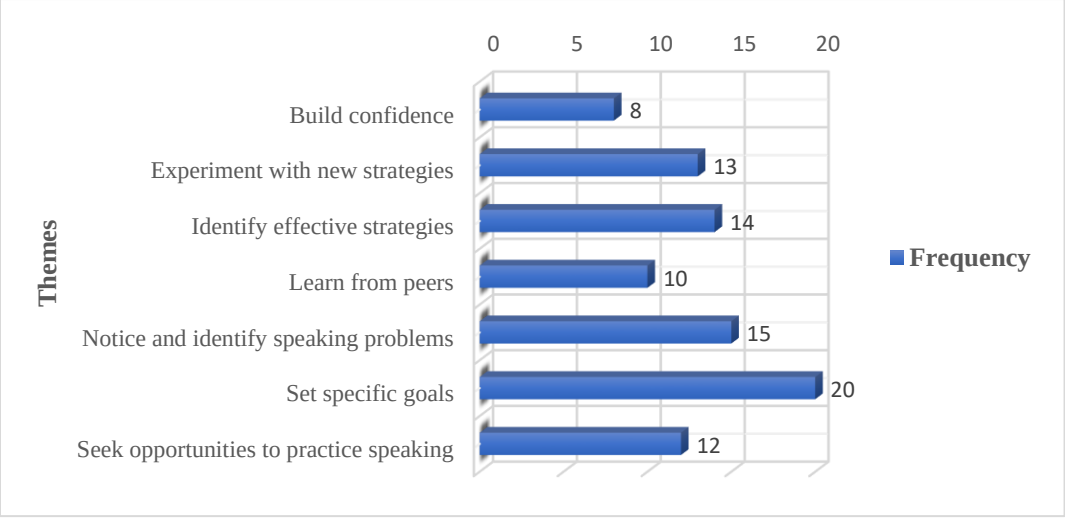


Table 21

Examples of Each Theme

Themes	Examples
Build confidence	"doing this make me feel better and it increases my confidence level" *(an anonymous participant, Group A)* "I feel less anxious less burden speaking to others I guess I have more confidence because I know my strong points" *(an anonymous participant, Group A)* "another thing I became more confident about my speaking I started to talk more for example I started talking to my landlord and neighbours but before I didn't because I get so nervous and I feel I could miss things up" *(an anonymous participant, Group A)* "First of all, it gave me a strong confidence to speak and persuade me to not to be shy in class and outside. I learned that my accent is not an embarrassing issue, I can speak fluently with my Persian*** accent" *(an anonymous participant, Group B)*
Experiment with new strategies	"before I tend to worry more about making grammatically correct sentences but now I just focus on the flow and how to keep the conversation going and that's something I never focus on before" *(an anonymous participant, Group A)* "I tried to memorize new vocabulary in the past and it didn't work but I changed my method in this class by trying understand totally the meaning of the words in the genuine context" *(an anonymous participant, Group A)* "I also tried new techniques such as how to answer questions properly for example giving longer answers instead of short and trying to engage the person in the conversation and also how to buy time" *(an anonymous participant, Group B)* "In first attempts doing the two minutes speech I didn't use the one minute effectively like I didn't write anything useful in my notes I guess I felt its too short to think of anything and when I start to speak it was horrible but then in the next attempt I tried to use it by brainstorm for specific key star points as fast as I can" *(an anonymous participant, Group B)*
Identify effective strategies	"I choose answer to the topic with what is more familiar to me. For example, I realize I can talk better if I give an example or familiar experience related to the topic" *(an anonymous participant, Group A)* "I prepared for the tasks in terms of mindset I am more relaxed as time goes. I notice that being relaxed help me to speak more easily and focus on the conversation" *(an anonymous participant, Group B)* "when I have some difficulties during the conversations, I tried an effective way for example, I don't know some words to express a specific

	idea in my thinking, I tried to explain it using other words and describe that idea instead of getting stuck because of vocabulary shortage" *(an anonymous participant, Group A)*
Learn from peers	"This class helped me because I am not good at organization so I really learned from the other students. I listen to their speeches and learn new expressions and use them" *(an anonymous participant, Group B)* "I learned a lot from the group talk after the exercise. Everyone share their ideas and the difficult parts and gave suggestions on how to create answers" *(an anonymous participant, Group B)* "I always focus on my partner in the class exercise I kind of borrow from the expressions and words it is very refreshing because it gets me thinking about ways to improve my speaking" *(an anonymous participant, Group A)*
Notice and identify speaking problems	"It is engaging and helped me to spot specific problems like grammar and wrong preposition use in my speaking" *(an anonymous participant, Group A)* "Before I didn't know about my weak points I know now what should I do change" *(an anonymous participant, Group A)* "It helped me a lot to see how limited is my knowledge on general topics. I freeze if I don't know about the topic" *(an anonymous participant, Group A)* "I can notice my habits while speaking. I, for example, repeat the same words over and over like "so…so…so" I realize I don't use different transition words to connect sentences" *(an anonymous participant, Group A)* "I notice I spoke too fast and that's make speaking unclear" *(an anonymous participant, Group B)*
Set specific goals	"when I did the speaking I noticed I needed to work on my pronunciation so I started to practice pronunciation to improve my speaking performance" *(an anonymous participant, Group A)* **"**I realized that I speak with no specific organization so I started learning how to organize my thoughts before and during the conversation" *(an anonymous participant, Group A)* "I figured out my weaknesses so I know what I need, what I have to study more specifically than before. For example, I focused on two goals one building vocabulary and two expanding my answers" *(an anonymous participant, Group A)* "I found that I need to train myself on making sentences. I tried to read and watch everything in English about different topics because if I have more information I can answer these type of questions" *(an anonymous participant, Group A)*

	"for example, when I realize I don't have vocabularies about some topics, I go home after the task and study vocabulary about these topics" *(an anonymous participant, Group B)*
Seek opportunities to practice speaking	"the most important thing is I started creating many opportunities to interact with others using English" *(an anonymous participant, Group B)* "I think that this activity made me motivated to go to the conversation club and practice speaking more than before" *(an anonymous participant, Group A)* "now I start conversations with strangers because I want to use the vocabulary I learned before I don't talk to any one outside my circle maybe only order coffee and use the same sentences everyday that's way I have limited things when I speak" *(an anonymous participant, Group B)* "I actually avoid speaking for I couldn't bear my terrible English but I attend here and I start practice my speaking more even outside class" *(an anonymous participant, Group B)*

Note. (***) is a symbol used in transcribing oral data to refer to the participant's first language.

4.7.2 Reflections on the Experience of Reflection

The second notable sub-finding that emerged from the perception questionnaire is as interesting as the positive views previously discussed. In addition to the comments covered earlier, some participants shared instructive views on their reflection experience.

Interestingly, six participants explicitly expressed the realization that reflection demands time and effort. The following excerpts are examples:

> *Excerpt 27:* "I do like the reflection part but I think six sessions are not enough … it would be more useful it should be longer I mean the course to see big difference because we just started to feel some improvement" (an anonymous participant, Group A).
>
> *Excerpt 28:* "… but very helpful if you keep doing it for a longer period maybe" (an anonymous participant, Group A).
>
> *Excerpt 29:* "It helps but for me it's not sufficient there are many areas I need to improve still" (an anonymous participant, Group B).

In total, five participants admitted that they did not put in the required effort or follow up on their reflection. The following excerpts illustrate this point:

> *Excerpt 30:* "To be honest, I didn't work hard enough to overcome my issues. I only explored my areas that need improvement. I feel I didn't improve in an efficient way" (an anonymous participant, Group A).
>
> *Excerpt 31:* "Every week I say I will practice but I don't find time to do it" (an anonymous participant, Group A).
>
> *Excerpt 32:* "It is true that I know that I need to revise grammar and practice more but I don't have time to study" (an anonymous participant, Group B).

Another interesting point raised by participants was about the structure of reflection. Five participants have expressed that having to answer the same guiding questions every session was "repetitive" and "annoying":

> *Excerpt 33:* "Every week is refreshing but most of the questions that we answer in class like 'what's your strengths? and what areas you want to improve?' are repetitive and much done" (an anonymous participant, Group A).
>
> *Excerpt 34:* "Although I know that reflection is important it is kind of annoying to answer almost the same questions every time" (an anonymous participant, Group B).

Participants also shared that they felt some discomfort during the reflection sessions. Specifically, four participants mentioned experiencing this discomfort. As the excerpts below illustrate, this discomfort was a notable part of their experience:

Excerpt 35: “Reflection time was a bit stressful. It pressures me to work on my speaking and ask to put a plan. It was meaningful for me but again it felt like pressure” (an anonymous participant, Group B).

Excerpt 36: “It helps me to realize my limitations but it was frustrating every time because I felt I did not improve my speaking level than last time” (an anonymous participant, Group A).

Excerpt 37: “Reflection made me notice how I spoke and my errors but it can be tough and make me tired to be honest because I need to think about my issues” (an anonymous participant, Group B).

Chapter Five: Discussion

Chapter five first summarizes the major findings of the present study, including a summary of the challenges participants faced, which were crucial in understanding the context and application of the strategies discussed. In Section 5.1, the study's key findings are presented and discussed according to the research questions (1, 2, 3, and 4). Section 5.2 answers research question 5, focusing on oral production improvement. Finally, Section 5.3 addresses research question 6, discussing participants' perceptions of the reflection experience.

In investigating the speaking strategies used by 24 intermediate EAL learners during IELTS speaking tasks, the findings revealed that participants employed a diverse array of strategies, consistent with previous studies. These strategies spanned six categories- *approach, cognitive, communication, metacognitive, affective,* and *social*-including 84 distinct individual strategies and 2,038 total strategies across all data sources. The study offers valuable insights into the cognitive processes and strategic behaviours of participants, highlighting the variety of strategies they used to tackle tasks, manage linguistic and communication challenges, interact with interlocutors, and regulate emotions during the speaking tasks.

The study focused on developing task-specific strategic behaviours for completing IELTS speaking tasks. Data collection involved weekly instructor-facilitated reflective group discussions, reported strategies during individual verbal reflection sessions, and the researcher's observations of participants' weekly performances.

The challenges voiced by participants during the instructor-led reflective group discussions are consistent with challenges typically reported by L2 learners when performing communicative speaking tasks. Several studies in SLA and applied linguistics have found that issues related to vocabulary size, syntactic accuracy and complexity, lack of content knowledge,

fluency, and affects are among the most dominant speaking challenges facing language learners (e.g., Douglas, 2016; Garret & Young, 2009; Williams, 1991, 2001; Zeungler, 1993; Zhou & Huang, 2018). In this study, participants' reflective discussions on challenges indicated that they were able to identify the difficulties they faced when performing IELTS speaking tasks. Throughout the experimental period, and beyond merely identifying these challenges, some participants also discussed various strategies they employed to overcome them. The findings revealed that many participants actively engaged in strategic behaviours tailored to address their specific difficulties. Looking back at the top used individual strategies during the six-week period, the most frequently used strategies included *recalling vocabulary*, *identifying problems*, *generating goals, linking ideas, evaluating performance, seeking clarification, attending to oral production*, and *generating ideas*. These strategies closely aligned with the challenges participants identified, such as vocabulary limitations, syntactic accuracy issues, and content knowledge challenges. For example, the frequent use of strategies like *recalling vocabulary*, *generating ideas,* and *linking* suggests that participants were consciously working to mitigate vocabulary-related challenges. Similarly, the use of strategies like *attending to oral production* and *evaluating performance* reflects their efforts to monitor and address difficulties with syntactic accuracy and overall task performance. These findings underscored the participants' ability to strategically navigate the challenges they encountered during the IELTS speaking tasks, demonstrating a clear connection between the difficulties they faced and the strategies they employed to overcome them.

The analysis of reflection data and observations yielded interesting findings about how participants utilize different strategies to meet various task demands. This highlighted the

adaptive nature of their approach to speaking tasks, as they employed a diverse range of strategies to address the specific requirements and challenges of each task.

The results from the data elicitation methods shed light on each method's crucial role in capturing participants' strategic behaviours. Each elicitation method (i.e., observation, weekly instructor-facilitated reflective group discussions, and individual post-task reflections) contributes uniquely to the understanding of participants' speaking strategies, with variations in both quantity and depth of data.

The quantitative and qualitative findings provide a comprehensive overview of the strategy use among participants in experimental groups A and B, highlighting both similarities and differences in their strategic behaviours. Both groups predominantly utilized *metacognitive* and *communication* strategies. This indicates a shared emphasis on planning, evaluating, and ensuring successful communication during speaking tasks.

Despite some differences in individual strategies, both groups consistently employed similar top strategies across *approach, communication, cognitive*, and *social* categories. Group-specific variations were observed in *metacognitive* and *affective* strategies. Group A, for instance, focused on identifying problems and lowering anxiety, reflecting a proactive approach to problem-solving and emotion regulation. In contrast, group B prioritized generating goals and justifying performance, indicating a focus on goal-oriented behaviour and self-assessment.

The study assessed participants' oral-language production before and after the study period, alongside their weekly task performances. Analysis of the differences in test scores between participant groups highlighted statistically significant differences between experimental group B and non-experimental group C, indicating the potential effects of individual verbal reflection on oral language improvement. Additionally, correlation analyses were conducted to

explore associations among various variables, including strategy-use frequencies, strategy category-use frequencies, and weekly oral production scores. The results revealed informative findings regarding some significant positive and negative relationships among different variables.

Finally, participants' perceptions of engaging in verbal reflection were collected to understand their reflection experience. Overall, the content analysis of the perception questionnaire responses revealed positive feedback. It also brought to light some key aspects to be considered when refining the structure and implementation of reflection activities in order to enhance learners' understanding, motivation, and active involvement in the reflection experience.

5.1 Discussion of Key Findings

The key findings are organized as follows: first, a discussion is presented on the findings of the overall reported and observed strategy use (Section 5.1.1), followed by (Section 5.1.2), which discusses the results on the reported and observed strategy use vis-à-vis task type. Next, Section (5.1.3) provides a discussion on the findings from each elicitation method. (Section 5.1.4) discusses on the modality of reflection vis-à-vis strategy use.

5.1.1 Overall Reported and Observed Strategy Use

Overall, the reported and observed strategy use results are consistent with research findings in applied linguistics in which *metacognitive* strategies were the most frequently reported and observed strategies, followed by *communication* and *cognitive* strategies (Huang, 2010; Swain et al., 2009). Notably, in this study, *social, approach,* and *affective* strategies shared fairly even percentages, with overall frequency use of 8.78%, 8.24 %, and 8.19%, respectively, as shown in Table 6. Whereas affective strategies have been among the most reported in previous

studies (e.g., Huang 2012, 2013b), these were the least frequently used in the present study. It is interesting to note that although affective strategies used to control and manage emotions are found to be an important component in self-regulated learning (Hadwin, 2008; Oxford, 2010), it could be that participants were under less pressure in this study, which was situated in a learning "non-credit" and "non-testing" context. It could also be that participants were not accustomed to verbally reflecting on their emotions in TL. Despite being among the least reported in this study, the use of affective strategies such as *lowering anxiety, justifying performance, monitoring affective state*, as shown in Table 7, indicates that the focus on these affective strategies, in particular, could be an attempt to address emotions that might affect performance, given that previous research has shown that affect has significant implications for cognitive processes (Meinhardt & Perkrun, 2003; Perkun et al., 2002). Negative emotions, for instance, could require cognitive resources and could possibly shift a learner's attention to the source of the emotion and away from the task at hand.

As presented in Table 7, among the top ten overall used individual strategies, five were in the *metacognitive* strategy category, two were in the *cognitive* strategy category, and one each was in the *approach, communication, and social* categories. Non fell into the *affective* category. Within each strategy category, the results of the five most frequently used individual strategies in the *metacognitive, communication, approach,* and *affective* categories, as shown in Table 8, were similar to the most used ones previously identified in the literature (e.g., Huang, 2010). Similar to findings generated from a study by Huang (2013b), *seeking clarification* was the most frequently used individual strategy in the *social* category. Huang (2013b) pointed out that the frequent usage of such social strategies when performing the IELTS speaking tasks could be due to the format nature of the first and the third tasks. Most strikingly, in this study, the results from

the overall most used individual strategies show that the top most used one (i.e., *recalling vocabulary*) belongs to the *cognitive* strategy category.

Another interesting finding concerns the correlations among the six strategy categories, as shown in Table 9. A significant positive correlation was found between *approach* and *communication* strategy categories. This suggests that participants who employed more *approach* strategies, such as *developing reasons, making choices,* or *identifying task purpose* to initiate their speaking, also tended to use more *communication* strategies, such as *paraphrasing, slowing down*, and *elaborating* on their ideas. This positive association highlighted the interdependence between proactive planning and effective communication, suggesting that strategic preparation may facilitate clear and coherent speech.

Another significant correlation observed was negative, between *cognitive* and *social* strategy categories. This suggests that individuals who relied more on *cognitive* strategies, such as *recalling vocabulary, organising thoughts,* and *anticipating problems*, tended to employ fewer *social* strategies, such as *seeking clarification, seeking help*, or *seeking social interaction*. This negative association suggests a trade-off between cognitive engagement and social interaction, implying that individuals may prioritize cognitive processing over social engagement or vice versa during their performance of speaking tasks. It could be that the cognitive load used when focusing on cognitive strategies takes one's attention away from resorting to social strategies to overcome communication issues.

5.1.2 Reported and Observed Strategy Use vis-à-vis Task Type

The results of the reported and observed strategy use in the three task types (i.e., Task 1, Task 2, and Task 3) suggest that the implementations of these strategies were proportionally different in each task, as shown in Table 10. These results corroborate findings from previous

studies that strategy use differs in response to the demands of different tasks (Cohen & Olshtain, 1993; Huang, 2013b). Several researchers have tapped into the effects of tasks on performance and strategy use (Anderson, 2005; Huang, 2010, 2013b; Macaro, 2006; Swain et al., 2009). Figure 4 illustrates that across the three tasks, *metacognitive* and *communication* strategies were used the most during the performance of Task 1. Task 2 results showed a higher usage of *communication* strategies. One could argue that this reflects the nature of Task 2 (i.e., a two-minute monologue, which may demand participants to rely on *communication* strategies, such as *referring to notes*, *linking, paraphrasing, elaborating,* and *simplifying* in order to overcome linguistic problems. Interestingly, Task 3 seemed to elicit a high use of *social* strategies along with *cognitive* and *communication* strategies. Looking closely at the use of *social* strategies in each task, it is clear that the nature of Task 1 and Task 3 (i.e., involving a two-way interaction with an interlocutor) triggered the use of *social* strategies (Huang, 2013b). In contrast, participants rarely selected these strategies during Task 2.

The top three individual strategies by task, as shown in Table 11, indicate that individual strategies used in each task were slightly different and that participants' selection of individual strategies seemed to change in response to task demands. In this study, for instance, in Task 1 and Task 3, the most used individual strategy in the *approach* category was *generating ideas*, while in Task 2, it was *identifying task format.* The second most used individual strategy in the *communication* category was *pausing to generate ideas* for Task 1, *reviewing notes* for Task 2, and *elaborating to clarify meaning* for Task 3. As noted by Huang (2010), "changing task demands may bring about a variation in learners' selection and orchestration of strategies" (p. 255). Consistent Huang's (2010) observation, Huang (2013b) found that participants reported using strategies differently across the three IELTS speaking tasks, both during testing and non-

testing situations. This variability suggests that the effectiveness and application of strategies may vary depending on the task and context.

5.1.3 Elicitation Methods vis-à-vis Data Obtained

As recommended by recent research on learners' strategy use (e.g., Huang, 2021; Zhou & Huang, 2018), this study employed multiple data sources to a) better capture and understand learners' strategic behaviours, and b) be able to verify and cross-validate the findings.

As expected when researching strategy use, the observation data, as presented in Figure 5, yielded limited yet valuable information (only 9.91% of all strategies used). It is well established in LLS literature that observation alone would not fully capture most of the strategic behaviours learners employ (Rubin, 1981; Huang, 2014). Based on the frequency counts in Table 12, observation yielded the least data among the elicitation methods. However, in this study, observation provided valuable clues about learners' strategic behaviours and was also used to strengthen and cross-validate the data gathered from the post-task reflections. Findings, as presented in Figure 6, show that *social* and *communication* strategies were the most observed strategy categories. In fact, most *social* strategies (e.g., *seeking clarification*, *seeking help*) and some *communication* strategies (e.g., *reviewing notes*, *repeating*, *referring to questions*, and *slowing down*) could be easily identified through observation.

In addition to observation, data gathered from the weekly instructor-facilitated reflective group discussions provided further insights into participants' strategy use. The strategies reported during these reflective discussions, which represent 32.73% of the data, have shed light on participants' strategic behaviours and brought participants' attention to their challenges and learning needs. It also helped participants get used to engaging in reflective practices throughout the course. In this study, group reflections triggered participants to report *metacognitive*

strategies the most (see Figure 6). This is in line with the findings generated from Huang's (2010) study, which found that engaging in group verbal reflections elicited high use of *metacognitive* strategies.

The third elicitation method was the post-task individual verbal reflections, which, as findings suggest, brought rich insight into participants' strategic behaviours, representing 57.36% of all strategies used. The results from the two modalities of verbal reflection combined have elicited high use of *metacognitive* and *communication* strategies, as seen in Figure 5. Interestingly, previous research that employed different types of post-performance reflections also showed that *metacognitive* strategies were the highest of all strategies participants used (e.g., Huang, 2010, 2012).

In sum, the findings from these different data sources were not surprising. Previous research on learners' strategy use has shown that immediate retrospective verbal reports can elicit rich data (e.g., Huang, 2013b, 2014). Although one should keep in mind that verbal reports are incomplete (Ellis, 1994) and alone would not fully capture all strategies employed by learners, findings in this study support the claim that the use of verbal reports could elicit informative data regarding learners' strategy use (Macaro, 2006).

5.1.4 Modality of Reflection vis-à-vis Strategy Use

As for the overall strategy-use frequencies, as shown in Table 13, participants in group A reported slightly more strategies than participants in group B. As for the frequencies of strategy use according to the six strategy categories for the two participant groups, the results revealed that members of group A (i.e., the VSR verbal reflection group) reported significantly more use of *communication* strategies than members of group B (i.e., the audio-recorded verbal reflection group). The results are consistent with findings from Huang's (2010) study that using different

strategies may be associated with using different modalities of reflection. One of the possible reasons for reporting higher communication strategies could be a result of engaging in reflection mediated by VSR. Members of group A had the advantage of re-watching their performances, and thus were able to spot/notice more communication strategic behaviours. One could argue then that the modality of reflection used by group A allowed participants to reflect on strategic behaviours that would not be retrieved or elicited, to the same extent, by the other available elicitation methods (see Huang, 2021a).

Interestingly, as shown in Table 14, members of group B reported using higher percentages of *metacognitive, cognitive, affective,* and *social* strategies than members of group A, though there were small percentage differences. This finding partially aligns with Huang's (2012) study, which discovered that using individual verbal reflection mediated by audio recorders helped learners explore effective variables associated with their speaking development. As Huang (2021b) stated, "spoken reflection facilitated identifying more complex or underlying thoughts and feelings that arose in dealing with the online nature of speaking. Such reflection may help learners explore the links between their internal intentions and external actions" (p. 88).

The results regarding the variety of strategies used revealed that both groups employed a wide range of individual strategies (84 individual strategies in total). The most noticeable point regarding individual strategy use was that group A employed relatively more individual strategies than group B. Among these strategies, four were unique (i.e., *using body language to clarify meaning, monitoring body language, monitoring teacher's/ interviewer's feedback,* and *asking the teacher/interviewer questions to direct conversation).* Again, this

finding supports the possibility that VSR as a modality of reflection may have allowed learners to reflect on specific strategic behaviours that would have otherwise gone unnoticed.

Interestingly, two individual strategies were employed only by group B (i.e., self-monitoring and asking the teacher/interviewer to repeat questions). This is consistent with prior research (e.g., Huang, 2012; Khatri, 2018), which revealed that engaging in audio-recorded verbal reflection provided language learners with opportunities to recall and notice their strategic behaviours.

In addition, the findings revealed similarities in the top-five reported and observed individual strategies by the two experimental groups, as presented in Table 15. Similarly, findings from the three top individual strategies in each strategy category, as shown in Table 16, revealed that participants in both groups employed the same top individual strategies in four strategy categories (i.e., APP: *generating ideas;* COM*: linking;* COG*: recalling vocabulary;* and SOC: *seeking clarification*). A noteworthy observation, consistent with Huang's (2010) findings on intermediate EAL learners, is that despite employing different modalities of reflection, there were notable similarities in the usage of strategies across various categories.

Qualitative Findings. An overview of the qualitative content analysis of data generated from the verbal reflections provided insights into participants' reflective-thinking practices. The excerpts provided in Sections 4.5.2.1 and 4.5.2.2 illustrated that participants from the experimental groups actively engaged in the reflection process. Consistent with findings from Huang (2012), participants' reflections in this study varied in quality and depth. While some participants' reflection entries showed levels of thinking necessary for perspective transformation (Kember et al., 2000; Mezirow, 1991), some participants' reflections tended to focus on identifying general goals with rare attempts to link previous experiences to future

situations when reflecting on their performance. Some participants explicitly stated that they modified their actions based on identified issues during the reflection sessions (e.g., modifying note-taking techniques, learning/practicing using filler words to maintain fluency, simplifying language, paying attention to content, monitoring affective state, etc.). On the other hand, some participants did not go beyond surface levels of reflection and continued to provide general/unspecific goals to deal with challenges (e.g., "practice, practice, practice," "read about general topics," and "work on tense").

Nevertheless, using individual verbal modalities, as illustrated by the excerpts from the study participants, prompted learners to revisit a learning episode, enabling a focused examination of the situation and its associated emotions and feelings (Husu et al., 2008), contributing to a deeper understanding of their speaking challenges and learning needs. Allas et al. (2017) pointed out that immediate oral reflection facilitates comprehending practical experiences. The current study's findings are also consistent with previous research in applied linguistics that has investigated verbal reflection modalities. Huang (2010, 2012) and Khatri (2018) have explored the efficacy of oral reflection in EAL learning contexts, further supporting the notion that verbal reflection can enhance language development. Moreover, the findings align with Mantle's (2007) research, which, although not centered on language learners, emphasized the efficacy of verbal modality in facilitating detailed critical reflection.

5.2 Oral Language Production Findings

5.2.1 Strategy use vis-à-vis Weekly Oral Production Scores

Looking first at the correlational results, the findings of no significant correlations between overall strategy-use frequencies and the weekly performance scores were not very surprising (see Table 17). Previous studies observed similar findings about language learners'

strategy use and language production or test scores (e.g., Huang, 2010, 2013; Swain et al., 2009). Although some researchers have supported the claim that improved performance could be linked to learners' reported strategy use (e.g., Cohen et al, 1996; Cohen & Macaro, 2007; O'Malley & Chamot, 1990), some argued that such a link could not be easily drawn (Huang, 2010; Swain et al., 2009). This implies that the effectiveness of strategies may not simply be about the frequency of use, but it could rather be about how appropriate these strategies are to the context and the task at hand (Huang, 2010, 2013; Swain et al., 2009).

Although the strategy-use frequencies did not significantly correlate with participants' performance scores, the results from the category-use frequencies, shown in Table 18, revealed that *cognitive* and *metacognitive* strategy categories were positively associated with performance scores in Week 5 for the former and Week 6 for the latter. The positive correlation coefficient between the use of *cognitive* strategies and performance scores in Week 5 suggests that the more *cognitive* strategies participants used, the higher scores they might have achieved. In Week 5, participants performed Task 2 for the second round. A possible explanation would be that using and selecting appropriate *cognitive* strategies such as *recalling vocabulary, attending to oral production,* and *attending to task requirement* during the two-minute long turn have enhanced performance quality. In Week 6, the *metacognitive* strategy category was the only category positively correlated with performance scores. As supported by the LLS literature (e.g., Huang, 2010, 2012, 2013; Swain et al., 2009), the implementation of *metacognitive* strategies such as *planning*, *attention, analysis*, and *evaluation* is often associated with enhanced performance. However, this correlation should be carefully interpreted, as it might not always be the case due to the complexity of factors influencing learning and task performance outcomes.

At the group level, two negative associations were found. The first negative correlation was between the *social* category and group A performance scores in Week 4. This finding suggests that those who used more *social* strategies tended to receive lower scores. The second negative correlation was between the *communication* category and group B performance scores in Week 1. This result implies that those who used more *communication* strategies tended to receive lower scores. In Weeks 1 and 4, participants performed Task 1 (i.e., a two-way conversation with an interlocutor), and such a task triggered the use of *social* and *communication* strategies. It could be that the selection of some *social* strategies (e.g., *seeking help* or *asking for repetition*) for group A, and some *communication* strategies (e.g., *pausing to generate ideas* or *slowing down*) for group B during the performance of Task 1 correlated with a decline in participants' performance quality. However, it is important to note that this correlation does not necessarily imply causation.

As for the relationship between the individual strategies and the weekly oral production scores, the findings show positive correlations between the following eight individual strategies and the weekly oral production scores: *generating ideas* (Week 1), *recalling vocabulary* (Week 2), *elaborating to clarify meaning* and *evaluating performance* (Week 3), *approximating* (Week 4), *attending to oral production* (Week 5), *evaluating language production* and *generating goals* (Week 6), as shown in Table 19. These correlations may suggest increasing complexity. This finding aligns with Swain et al.'s (2009) observation that some individual strategies were positively associated with language performance, although the positive correlation does not necessarily indicate a critical or direct impact.

In this study, however, performance scores also showed significant negative correlations with certain individual strategies, namely, *justifying performance* (Week 2), *avoiding* (Week 3),

seeking clarification (Week 4), *and reviewing notes* (Week 5). The possible reason for the negative correlations found between these four individual strategies and participants' performance scores may be that the frequent use of, for instance, *seeking clarification* or *reviewing notes* may slow down speaking and could negatively affect performance since applying such strategies might indicate underlying issues, such as gaps in knowledge or time management challenges, which could contribute to lower performance scores.

The findings from the analysis of correlations between individual strategies and weekly performance scores shed light on the importance of considering the use of specific strategies and language performance. As seen in Table 19, some individual strategies have been found to be positively correlated with task performance, such as *generating ideas* (Task 1), *recalling vocabulary* (Task 2), and *elaborating to clarify meaning* (Task 3). In contrast, some individual strategies have been found to be negatively correlated with task performance, such as *seeking clarification* (Task 1), *reviewing notes* (Task 2), and *avoiding* (Task 3). These findings highlight the dynamic relationship between strategy use and performance, which may vary depending on the context and task requirements. These insights can inform language learning pedagogy by guiding the selection and implementation of effective strategies to enhance oral production proficiency.

It is worth noting that all significant correlations, by category and by individual strategies, found in this study may only capture a fraction of the overall picture. One should also be careful when interpreting correlational findings since correlation does not necessarily mean causation. Future studies aiming for a deeper comprehension of the correlational relationships between strategy use and language performance would benefit from a larger sample size.

The results of the correlational analysis, as shown in Table 20, provided valuable insights into the relationship between strategy-use frequencies, strategy category-use frequencies, and weekly oral production scores across the following sub-scores: fluency and coherence, grammar and accuracy, and pronunciation.

When examining the overall frequencies of strategy use, no significant correlations were found with any of the four sub-scores. This suggests that the strategy use frequencies may not directly impact specific aspects of oral production performance (Huang, 2010, 2013; Swain et al., 2009). However, delving deeper into strategy category-use frequencies yielded interesting findings. Notably, the category of *affective* strategies demonstrated a significant positive correlation with group B's *fluency and coherence* sub-scores in Week 1, indicating that the emotional and motivational aspects of language learning might influence fluency and coherence positively during early stages of assessment. Emotional factors such as confidence, anxiety, and enthusiasm, as well as motivational factors such as interest in the language and perceived importance of the assessment, can affect how learners express themselves orally in a fluent and coherent manner (Dörnyei, 2005; MacIntyre et al., 1998). Moreover, affective strategies, such as self-encouragement, positive self-talk, and relaxation techniques, have been shown to alleviate the negative impact of anxiety on language performance (Gregersen & Horwitz, 2002).

Furthermore, the analysis identified significant positive correlations between the category of *affective* strategies and group B's *pronunciation* sub-scores in Week 1, suggesting the potential influence of affective factors on pronunciation performance. This finding suggests that learners' emotions and attitudes may play role in shaping their pronunciation performance during language assessments. Affective strategies, which involve managing emotions, can influence learners' confidence, anxiety levels, and overall affective states, thereby impacting their

pronunciation accuracy. This finding is supported by numerous research in SLA, which demonstrated the impact of affective factors on pronunciation performance. Derwing and Munro (2015) explored the role of anxiety in second language pronunciation. They found that learners with lower levels of anxiety tended to demonstrate better pronunciation compared to those with higher anxiety levels. Furthermore, Gregersen and Horwitz (2002) investigated the relationship between affective strategies and language learning outcomes. They found that learners who actively employed affective strategies, such as positive self-talk and relaxation techniques, were better able to manage anxiety and enhance various aspects of their language performance.

On the other hand, the category of *communication* strategies correlated negatively with group B's *fluency and coherence* sub-scores in Week 2, suggesting that certain communication strategies might impede fluency and coherence in oral production during the performance of particular tasks. In Week 2, participants performed Task 2, which involved speaking about a specific topic for two minutes. This finding suggests that learners may select communication strategies that negatively influence their fluency and coherence levels during oral production tasks in specific contexts. While *communication* strategies are typically intended to facilitate language use and interaction, the negative correlation observed with *fluency and coherence* sub-scores in Week 2 implies that some strategies may hinder the smooth flow and logical organization of speech. For example, learners may rely heavily on communication strategies such as reviewing notes, translating, or slowing down during the task, disrupting the natural flow of communication and leading to disjointed speech. Similarly, overuse of repair strategies, such as frequent self-corrections or repetitions, may interrupt the coherence of discourse by drawing attention away from the content of the response.

Research in the field of language learning and teaching provides insights into the impact of communication strategies on oral production. For example, Nakatani and Goh's (2007) study investigated the effects of different communication strategies on learners' oral fluency and accuracy. They found that learners who relied excessively on compensatory strategies, such as circumlocution or paraphrasing, tended to exhibit lower levels of fluency compared to those who employed more direct communication techniques. Additionally, the use of avoidance strategies, such as topic avoidance, has been associated with reduced fluency and coherence in oral communication (Kormos & Dénes, 2004). Learners who avoid challenging topics or struggle to express themselves in specific topics may experience difficulties maintaining coherence and fluency in their speech.

Another noteworthy correlation emerged in Week 3, suggesting a positive correlation between the category of *metacognitive* strategies and group A's *fluency and coherence* sub-scores. This correlation highlights the importance of metacognitive awareness and self-regulation in boosting oral production skills. This finding is in line with ample research in the field of language learning and teaching, which provides evidence of the positive impact of metacognitive strategies on oral production skills (e.g., Cohen, 2011; Oxford, 2011; Vandergrift & Goh, 2012, to name a few).

Interestingly, the category of *metacognitive* strategies demonstrated a significant positive correlation with *grammar and accuracy* sub-scores in Week 6, emphasizing the role of metacognitive processes in promoting grammatical accuracy. Empirical evidence in the field of LLS (e.g., Oxford, 1990; Schmidt, 1990, 1994) suggests that as learners engage in deliberate planning, monitoring, and evaluating of their language output, they can enhance their grammatical accuracy and overall proficiency.

In summary, these findings shed light on the complex and multifaceted nature of speaking strategies, with certain categories demonstrating differential effects on specific aspects of oral production performance across different tasks. Further research exploring the underlying mechanisms driving these relationships could provide valuable insights for language educators and learners alike.

5.2.2 Reflection vis-à-vis Oral Production Improvement

The findings from the Kruskal-Wallis test indicated a statistically significant difference in the post-test scores across the three participant groups, $\chi 2 = 6.080$, $p = 0.048$. Then, the pairwise comparisons revealed that the results were significant between groups B and C ($p = 0.021$), indicating that participants who engaged in audio-recorded verbal reflections demonstrated higher post-test scores compared to those in the non-reflective group, group C. On the other hand, the observed differences between groups A and C in terms of their oral production scores did not quite meet the threshold for statistical significance ($p = 0.056$). Although these findings did not reach conventional levels of significance, they hint at a potential meaningful difference, prompting further examination and consideration in future research endeavours.

Most strikingly, the lack of significant differences between group A, who engaged in VSR verbal reflections, and group B, who engaged in audio-recorded verbal reflection ($p = 0.692$), suggests that, in this particular study, the type of reflection modality did not significantly impact the process. It may imply that the underlying mechanisms of reflection, such as self-awareness, metacognition, and goal setting, were activated similarly regardless of the verbal modality used (Huang, 2010). Both modalities (i.e., VSR and audio-recorders) functioned as mediating means to enhance participants' metacognitive awareness. Through the employment of

these verbal modalities, participants were provided with avenues to retrospectively engage with their learning processes (Huang, 2021b).

For group A, they may have benefited from the repeated exposure to their weekly performances. One significant advantage of VSR is its ability to offer learners a visual representation of their speaking performances, allowing for a more comprehensive examination of linguistic expressions, errors, non-verbal cues, interactions, and overall communicative effectiveness. By observing themselves in action, learners may have gained insights into their language use, identified areas for improvement, and made targeted adjustments to their speaking. This process aligns with the principles of self-regulated learning, wherein learners actively monitor, evaluate, and adjust their learning strategies based on reflection (Zimmerman, 2000). However, it may have partially distracted some participants, particularly if they found it overwhelming, as demonstrated in a few excerpts in this study. It may have also led learners to focus excessively on visual aspects, such as physical appearance or gestures, rather than the content or quality of their speaking performance (Sweller et al., 2011). This heightened attention to visual elements might detract from their ability to engage in deeper levels of reflection, potentially undermining improvement.

For group B, the fact that these participants performed statistically significantly better than the non-reflective group (i.e., group C) suggests that, to some learners, reflecting verbally on performance by responding to guided reflection prompts allowed for deeper levels of reflection without the potential distractions that visual stimulation may introduce, thereby enhancing learning outcomes. This is in line with Huang's (2012) research, which solely focused on one modality--audio recorded verbal reflections--and found that it contributed to the learner's oral production improvement.

One could validly argue that the improvement observed in participants' speaking might not solely be attributed to individual verbal reflections; rather, it could be due to natural development over time or general learning effects. However, it is plausible to suggest that employing metacognitive strategies, as the quantitative and qualitative analyses indicated, contributed to speaking development. This assumption is backed by ample research supporting the notion that metacognitive processes play a crucial role in regulating learning and improving performance (e.g., Dunlosky & Metcalfe, 2009; Hogan et al., 199).

One should also be careful when interpreting these results. Further investigation may be warranted to explore potential differences in the experiences and outcomes associated with different reflection modalities, as well as their long-term impact on language learning and proficiency. Additionally, qualitative research methods could provide insights into the experiences and perceptions of learners regarding their engagement with different reflection modalities. Nonetheless, these mediating means provided a platform for learners to confront and navigate challenges encountered in performing speaking tasks, fostering a heightened awareness of both linguistic and affective aspects of oral language production.

Throughout the study period, groups A and B steadily increased their average scores for the weekly main task performances, as shown in Figure 7. For instance, group A improved their average score in performing Task 2 from $M = 5.12$ in Week two to $M = 5.81$ in Week five. Likewise, group B improved their average score in performing Task 3 from $M = 5.56$ in Week three to $M = 6.31$, indicating a noticeable improvement in performance in the subsequent tasks.

Notably, the findings presented in Figure 7 illustrated that, during the study period, group C participants' average scores were slightly increasing as well. Interestingly, these participants were not given any opportunities to reflect after they performed each task. For example, their

average score started at *M* = 5.25 in Week one (Task 1) and increased to *M* = 5.56 in Week four (Task 1); and their average score was at *M* = 5.43 in Week three (Task 3) and increased to *M* = 5.62 in Week six (Task 3). It is essential to recognize that reflection is inherent to human cognition and may occur internally even in the absence of explicit prompts for reflection "since reflection is an integral part of human existence" (Huang, 2010, p. 255). Thus, it is plausible to argue that these participants may have engaged in some level of personal or internal reflection despite the lack of structured reflection tasks. This internal process may manifest differently across participants but is nonetheless present to varying degrees (Smallwood & Schooler, 2015). Therefore, the absence of explicit reflection opportunities does not necessarily equate to the absence of reflection altogether. Moreover, considering the complexity of L2 speaking, EAL learners are expected to employ many strategies to navigate speaking tasks (Gass & Mackey, 2016). These strategies can range from cognitive processes such as memory retrieval and language planning to social and affective strategies like seeking clarification or managing anxiety (Oxford, 1990).

5.3 Perceptions on the Reflection Experience

5.3.1 Emerging Themes

As the examples in Table 21 illustrate, findings from the qualitative content analysis indicate that many participants had a positive perception of their reflection experience. Although it may not always be accurate, learners' perception significantly influences language learning (Huang, 2010). In answering the questionnaire, participants commented on their reflection experience, weekly oral performances, and the changes they made in order to tackle the difficulties they encountered during the experimental period. While filling out the questionnaire, participants were encouraged to elaborate on their answers by providing examples and insights

from their experiences. All participants demonstrated a clear ability to reflect on their thought processes. The responses provided by many of them showed that they noticed some of their behaviours and made informed changes to the way they handled the tasks (Huang, 2012).

The top four themes, illustrated in Figure 8, present an overview of the themes in terms of frequency and suggest valuable insights into how participants viewed and reacted to their reflection experience. The theme "*set specific goals*" was the most frequently occurring theme in participants' responses. Many participants have reported that they set goals after noticing specific issues during their performances, as seen in the following examples: "*when I did the speaking I noticed I needed to work on my pronunciation so I started to practice pronunciation to improve my speaking performance;*" *I figured out my weaknesses so I know what I need, what I have to study more specifically than before for example, I focused on two goals one building vocabulary and two expanding my answers;* " and "*for example, when I realize I don't have vocabularies about some topics, I go home after the task and study vocabulary about these topics."*

The frequent occurrence of the "set specific goals" theme highlights a significant aspect of the reflection process, which is, participants actively used reflection to identify areas for improvement and then set targeted goals to address these issues. This indicates that the reflection process was effective in prompting learners to recognize their weaknesses and take actionable steps toward improvement. By setting specific goals, participants not only addressed immediate concerns but also engaged in deliberate practice, which could enhance their overall performance. However, this finding also suggests that while participants were capable of setting goals, there might have been variability in how effectively these goals were implemented and followed through. For instance, the examples showed that participants were aware of their areas for

improvement but might have faced challenges in consistently applying their goals. This underscores the importance of setting goals and support in place to ensure that these goals are pursued effectively (Zimmerman, 2002). Additionally, the focus on vocabulary and pronunciation reveals specific areas where participants felt they needed improvement, which could inform future iterations of the reflection process. Tailoring the reflection prompts to address these common areas of concern might enhance the overall effectiveness of the reflection practice (Huang, 2021a).

The second most frequently occurring theme was "*notice and identify speaking problems*." Many participants considered that the most important element of their reflection experience was that they could notice their problems. Many participants noticed issues such as grammar accuracy, limited exposure to common topics, word choice, and speaking pace. The following examples are typical of the comments made on this theme: "*It is engaging and helped me to spot specific problems like grammar and wrong preposition use in my speaking;*" "*It helped me a lot to see how limited is my knowledge on general topics. I freeze if I don't know about the topic*," "*I can notice my habits while speaking. I, for example, repeat the same words over and over like "so…so…so" I realize I don't use different transition words to connect sentences;"* and *"I notice I spoke too fast and that's make speaking unclear*."

This increased awareness of their speaking issues is crucial, as it enables learners to address both specific language errors and broader knowledge gaps (Schön, 1983). Identifying habitual problems, such as the repetitive use of transition words, allows for targeted improvements in fluency and coherence (Locke & Latham, 2002). While recognizing these issues is a valuable step, learners need to use this information to develop practical strategies for improvement. Incorporating targeted practice and feedback based on these identified problems

can enhance the effectiveness of the reflection process and support more meaningful language development (Huang, 2012, 2021a; Moon, 2004; Zimmerman, 2002).

The third most frequently occurring theme was "*experimenting with new strategies*." Many participants explicitly stated that they modified previous actions in order to achieve their goals, for example: "*before I tend to worry more about making grammatically correct sentences but now I just focus on the flow and how to keep the conversation going and that's something I never focus on before,*" and "*I tried to memorize new vocabulary in the past and it didn't work but I changed my method in this class by trying understand totally the meaning of the words in the genuine context.*" Other participants provided examples of how they changed the way they prepared for Task 2, for example one participant stated that "*In first attempts doing the two minutes speech I didn't use the one minute effectively like I didn't write anything useful in my notes I guess I felt its too short to think of anything and when I start to speak it was horrible but then in the next attempt I tried to use it by brainstorm for specific key star points as fast as I can,*" and another participant added: "*before I spend the time picking one option for example one person or one specific party and then time goes before I select so I changed this the next time I said no I have to pick what I want to say in like few seconds to have time to take notes.*"

These participants reported modifying their methods to improve their speaking performance, such as shifting their focus from grammatical accuracy to conversational flow and changing vocabulary memorization techniques to understanding words in context. Additionally, they made changes in their preparation strategies for tasks, such as effectively utilizing the one-minute brainstorming period and making quicker decisions. These adaptations indicate that these learners were responsive to the reflection process, using it to refine their strategies and enhance their speaking performance. By experimenting with new methods, they demonstrated flexibility

and a willingness to innovate in their learning process. This adaptability is essential for ongoing improvement and achieving better outcomes (Schunk, 2008).

The fourth most frequently occurring theme was "*seek opportunities to practice speaking.*" The following comments are examples: "*the most important thing is I started creating many opportunities to interact with others using English*"; "*I think that this activity made me motivated to go to the conversation club and practice speaking more than before;*" and "*I actually avoid speaking for I couldn't bear my terrible English but I attend here and I start practice my speaking more even outside class.*" Interestingly, "*I will practice speaking more*" was a goal frequently mentioned during the experimental period.

These examples highlight participants' proactive efforts to improve their speaking skills. The comments indicate that these participants were actively creating and seeking out opportunities for practice, such as engaging in conversation clubs and practicing outside of class. This proactive approach reflects a strong motivation to enhance their speaking abilities, which is necessary for language development and improvement (Schunk, 2008; Zimmerman, 2002). Seeking out additional practice opportunities aligns with the concept of self-regulated learning, where learners take initiative to manage their own learning processes (Zimmerman, 2002). Engaging in activities such as conversation clubs is consistent with the idea that active practice and real-life interactions are pivotal for language development (Schunk, 2008).

5.3.2 Instructive Views on Reflection

Participants' responses to the questionnaire provided valuable feedback regarding their reflective experience. These remarks have brought attention to important issues related to the considerable time and effort required, the structure of reflection, and the discomfort often associated with it.

The comments in excerpts 27, 28, and 29 indicate that participants recognized the daunting nature of reflection. To ensure a successful reflection experience, learners must commit time, take responsibility for following up on necessary actions, and implement the proposed solutions generated in their reflections. Indeed, as emphasized in the literature (Rogers, 2001), reflection is a time-intensive process, and without investing sufficient effort to address identified aspects during reflection, tangible progress would remain elusive. It is important to remember that learners' levels of engagement in the reflection process can vary considerably. Merely having learners respond verbally to reflection questions does not ensure that all will exert noticeable effort, as illustrated in excerpts 30, 31, and 32. Researchers such as Rogers (2001) and Huang (2010, 2012) pointed out that learners' engagement in reflection depends on many aspects, including their willingness to invest effort, learners' recognition of the value of reflection, active pursuit of follow-up actions, and readiness to embrace the reflection experience. As revealed by the questionnaire responses, some participants were proactive in dedicating effort to enhance their performance in subsequent tasks and took deliberate steps to act on their reflections. However, in contrast, some participants did not exhibit the same level of engagement to achieve the desired outcomes.

These excerpts highlight a fundamental aspect of the participants' learning experience: their self-awareness regarding their effort and ability to follow through with their reflections. It suggests that participants consciously recognized the gaps between their intentions and actions. It demonstrates that the participants were not only aware of their learning needs but also of their struggles in meeting them. This level of self-awareness is a positive step in the learning process, as it can lead to more deliberate efforts to overcome these challenges in the future. However, these reflections also underline the need for additional support, such as time management

strategies or more structured learning environments, to help participants convert their awareness into meaningful action (Huang, 2021a).

In this study, participants were involved in guided reflection activities. As demonstrated in excerpts 33 and 34, guided reflection was not interesting to some participants. Guiding questions were mainly employed as a regular prompting pattern for the weekly verbal reflections. Although reflection in response to guiding prompts was chosen for reasons such as participants' current proficiency level and relatively moderate experience with reflection, an assumption could be made that structured reflection might not be suitable for all learners, as suggested in the literature (Huang 2021a; Rogers, 2001). These excerpts are eye-opening as they show that not all learners prefer the same type of reflection or that guided or structured reflection is best for all. It also provokes interesting further investigation, such as: with non-structured reflection, would these participants reflect differently (i.e., given the opportunity to reflect freely), or would they be able to engage in higher levels of reflective thinking? Additionally, what variables might be at play in influencing these outcomes?

In excerpts 35, 36, and 37, participants expressed encountering negative emotions during their reflection process, as evidenced by phrases such as "stressful," "pressuring me," "frustrating," and acknowledging that it "can be tough." These observations align with existing research suggesting that reflection is inherently challenging (Daudelin, 1996; Mintzberg, 2004; Huang, 2010; 2012). It is important to acknowledge that the act of reflection involves various steps, including recalling experiences, analyzing, problem-solving, evaluating, hypothesizing, goal-setting, experimenting, and more. It is, therefore, understood that a process of this nature may seem overwhelming and stressful for some language learners.

Chapter Six: Implications, Limitations, Future Research Directions, and Conclusion

Chapter six first identifies the findings' empirical, methodological, and pedagogical implications in Section 6.1. Next, the present study's limitations are discussed in Section 6.2. This is followed by Section 6.3, which provides suggestions for future research directions. Lastly, the final section of the chapter, Section 6.4, serves as a conclusion to the present study.

6.1 Implications

The following sub-sections discuss the implications of the present study from empirical, methodological, and pedagogical perspectives.

6.1.1 Empirical Implications

The findings from this study underscore the empirical value of strategies for intermediate-level EAL learners. The primary objective of this research was to examine the efficacy of individual verbal reflection as a mediational means to develop task-specific strategies and facilitate the enhancement of oral language production development. The use of task-specific verbal reflections played a pivotal role in enabling learners to develop metacognitive awareness tailored to their specific learning objectives. Through engaging in weekly reflective sessions via two modalities of verbal reflections, participants in groups A and B demonstrated an adaptive approach to addressing many linguistic, communication, and affective challenges. These reflections served as a platform for learners to analyze their performances, identify areas for improvement, and set goals for subsequent practice sessions. By deploying and experimenting with various speaking strategies, they managed some of their learning obstacles and developed a deeper understanding of their oral language needs. The weekly performances, strategy

experimentation, and reflection sessions contributed to participants' language development and self-regulated learning skills.

By incorporating verbal reflection into language instruction, educators can empower students to take ownership of their learning journey and become more autonomous and effective language learners. Instructors aiming to integrate learner reflection into their language teaching should consider embracing diverse modalities for reflection (Huang, 2021b). This would create inclusive and dynamic learning environments that cater to learners' needs and preferences. Additionally, instructors should recognize the potential of different modalities in facilitating deeper introspection and understanding among learners. By incorporating diverse modalities such as verbal, written, visual, or multimedia formats, instructors can provide learners with various avenues to comprehensively explore and articulate their thoughts, feelings, and learning experiences.

6.1.2 Methodological Implications

From a methodological standpoint, this study addresses the inherent limitations associated with various data collection methods in uncovering the underlying mental processes involved in strategy selection and use. Traditional methods such as questionnaires, observations, introspective reports, and immediate or delayed retrospective methods have been critiqued for their potential biases and constraints (Gass & Mackey, 2000; Huang, 2014; Macaro, 2001a, 2001b). This study integrated multiple elicitation methods to overcome such limitations and provide a detailed and thorough view of EAL learners' strategic behaviours. Concerns regarding the validity and reliability of these elicitation methods have long been acknowledged, prompting scholars in the field of LLS research to advocate for the use of multiple data sources when eliciting learner strategies (Egi, 2008; Gass & Mackey, 2000; Huang, 2014). Therefore, in this

study, the chosen data collection methods—weekly instructor-facilitated reflective group discussions, weekly individual verbal reflections (via VSR and audio-voice recorders), and observation of strategy use—were employed to enable triangulation and offer a comprehensive understanding of EAL learners' strategic behaviours.

More than half of the data in this study (57.36%) were obtained from individual verbal reflections, which offered insights into strategies that occur internally and are seldom observable, as shown in Figure 6. Data gathered from the weekly instructor-facilitated reflective group discussions contributed 32.73% of the data, providing a window into participants' strategic behaviours and shedding light on their challenges and learning needs. Furthermore, engaging in these reflective discussions throughout the course helped participants become accustomed to reflective practices. During these group reflective discussions, participants predominantly reported *metacognitive* strategies, followed by *communication* and *cognitive* strategies, as illustrated in Figure 5. It appears that group reflections stimulate participants to articulate more metacognitive behaviours.

As for the observation data, there is no doubt that the observation data alone would not reveal sufficient information regarding strategic behaviours and mental processes. It is well established in the literature that observation of strategy use would only partially capture some of the strategic behaviours learners employ (Rubin, 1981). Consistent with the literature, the observation findings in the present study offered noteworthy yet limited information, accounting for only 9.91% of all strategies used. However, the observation data uncovered important aspects of learners' strategic behaviours and was also used to strengthen and cross-validate the data gathered from the verbal reflection sessions. Findings, as presented in Figure 6, show that *social* and *communication* strategies were the most observed strategy categories. This can be

attributed to the fact that many *communication* strategies (e.g., *abandoning, reviewing notes, repeating, restarting,* and *slowing down*) and most *social* strategies (e.g., *seeking clarification, seeking help,* and *seeking confirmation*) could be easily identified through observation.

The results obtained from the three data sources were as expected, considering that many strategies identified in the literature were learner-generated mental actions rather than externally observable behaviours. Data obtained through elicitation methods involving individual and group reflections are also consistent with previous research findings (e.g., Huang, 2010). It is worth highlighting that immediate retrospective methods continue to be regarded as one of the most effective elicitation methods for researching strategy use (Huang, 2014; Gass & Mackey, 2000; Zhou & Huang, 2018).

6.1.3 Pedagogical Implications

In recent years, researchers and practitioners from various fields have increasingly looked into the exploration of innovative means/tools to enhance educational practices. These tools span a wide spectrum, ranging from sophisticated learning management systems and specialized applications to user-friendly digital recorders and web-based technologies (e.g., Ching et al., 2016; Chretien et al., 2008). These tools can aid instructors with ways to assist their learners in building positive learning habits by enhancing reflection, self-assessment, and exploration of effective strategies. The present study highlights the potential pedagogical benefits of implementing two modalities of individual verbal reflection (i.e., VSR and audio-recorded reflection); it also contributes to the growing literature on language learners' strategy use and development. The pedagogical aim of this study was to provide EAL learners with opportunities to develop and explore effective speaking strategies. The focus was on helping learners notice their strategy use through reflection and identifying appropriate strategies for the IELTS

speaking tasks. The employment of the weekly individual verbal reflection has yielded significant findings in this study, offering valuable perspectives on important steps to be considered when using verbal reflection in the classroom. Many studies have shown that raising awareness of strategy use among learners, especially those at low and intermediate proficiency levels, may improve performance (Cohen et al., 1996; Huang, 2010, 2012; O'Malley & Chamot, 1990; Oxford & Burry-Stock, 1995; Zhuo & Huang, 2018). However, many language instructors find it challenging to find the time and the resources to explore such tools. One way to solve this dilemma is by using reflective practices or activities. As Zhuo and Huang (2018) pointed out, employing reflection may assist instructors who are unable to incorporate strategy-based instruction for various constraints to offer learners the opportunity to notice and evaluate their strategy use, which may enhance learners' metacognition and, in turn, improve and guide future performances.

Building upon the current study's findings, and in alignment with previous research conducted by Huang (2010, 2012, and 2014), several pedagogical implications emerge:

(1) *Considering reflective activities in the lesson plan*: Integrating reflective activities during class time could be easily implemented and used to achieve course/program goals. Reflection, as an essential component in learning (Rogers, 2001), should be considered while planning a lesson (Huang, 2014). When incorporating reflection in the lesson plan, factors such as time devoted to reflection, the timing of reflection (immediate or delayed), type of reflection (verbal or written), type of grouping (individual, pair, or groups), and the goals and objective of the course/program are key variables to consider. In the present study, the lesson plans were focused on the development of task-specific speaking strategies through the use of verbal reflection.

Reflection is intended to guide participants in noticing their strategic behaviours and selecting the most appropriate strategies to achieve their goals.

(2) *Ensuring proper implementation*: Proper implementation is crucial for maximizing potential outcomes. For the reflection process to be appropriately done, it is important to consider several factors. Among the key factors are providing clear instructions, training, and guidance when needed. In this study, participants were provided with opportunities to reflect in the classroom as a group during instructor-facilitated group discussions and individually in the post-task reflection sessions. The integration of instructor-facilitated reflective discussions was chosen to serve as a reflection practice to prepare and develop the reflective skills of participants before the following individual reflection session. As Rogers (2001) pointed out, "central to the development of reflective skills in students—whether reflection in the moment or after the fact—is the presence of a coach or a mentor" (p. 53).

(3) *Encouraging learners to focus on their individual needs and goals*: Learners should be encouraged to use the reflection sessions appropriately to meet their individual needs and the goals and outcomes of the course/program. In the present study, participants were constantly reminded to self-generate specific goals and make conscious decisions/plans for the subsequent tasks. During the six-week period, participants' reflections revealed that most participants were able to effectively reflect on their strategic behaviours, thought processes, and speaking goals. As excerpts in this study illustrated, these reflections led them to recognize their knowledge gaps and the challenges they encountered while speaking (see Sections 4.1.1 to 4.1.5).

Many participants were able to make conscious decisions about how to work around or tackle these challenges.

(1) *Raising learners' awareness of self-regulated learning*: One extremely important step is introducing learners to the importance of self-regulated learning at the early stages of the course/program. Learners should be made aware of the benefits of what they are asked to do. Instructors could engage learners in discussions about self-regulated learning and help them see the relevance of reflection to enhance their understanding of their learning and development. It is again crucial to engage learners in continuous, goal-oriented, and task-specific reflective activities so that learners can reflect on a given past experience and use what they learned about themselves to improve future experiences.

(2) *Adjusting learners' expectations*: It is important to adjust expectations about the benefits/outcomes of reflective activities; reflection should be seen as a process that requires sufficient time and tremendous effort (Daudelin, 1996; Rogers, 2001). Students must constantly be reminded to select specific and attainable goals. During the reflection sessions, some participants at different stages of this study expressed their frustration about not noticing improvement in certain aspects of their speaking. It is worth noting that it is natural for learners to experience frustration when they do not see immediate improvement through reflection. Huang (2012) emphasized that "reflection is hard work, and the inductive nature of reflection means that the outcomes of one's learning through reflection are often not immediately apparent and that patience is required" (p. 17).

(3) *Overcoming Resistance*: Many learners may find reflection overwhelming or uncomfortable, especially if unfamiliar with it. Instructors must inform learners about the nature of reflection and the potential benefits of engaging in critical reflection over time. It is also important to remember that many learners have little or no experience with reflection as a classroom practice. Most learners are used to the idea that once they are done with a task, they should turn their attention to the next thing. Costa and Kallick (2008) highlighted the tendency to overlook past experiences in favor of moving forward:

> Most classrooms are oriented more to the present and the future than to the past. Such an orientation means that students (and teachers) find it easier to discard what has happened and to move on without taking stock of the seemingly isolated experiences of the past (p. 223).

6.1.3.1 Tips for Implementing Verbal Reflection Mediate by VSR. One major pedagogical contribution of this study was the implementation of VSR as a modality of reflection. As discussed earlier, several studies in SLA have employed different forms of reflective activities (e.g., writing in a journal or a language log, speaking into a voice recorder, group dialogues, etc.) (Donato & MacCormick, 1994; Huang, 2010, 2012). Yet, previous studies did not employ VSR as a reflection prompt. In light of the existing literature on the use of VSR (e.g., Huang, 2014, 2021b) and the procedures taken in the present study, this section discusses some practical tips for EAL teachers and educators who wish to implement VSR reflections in their classroom.

1. Providing clear instructions is critical for effectively introducing students to VSR. Walking students through a familiarization run helps them understand the overall process. Students can also identify any technical issues or misunderstandings early on, allowing

instructors to address them promptly. This ensures a smoother experience during actual VSR sessions and reduces frustration or confusion.

2. Timing is a significant factor in the effectiveness of VSR reflections. Conducting these sessions immediately after a task offers several advantages. It ensures that the events and details of the task are fresh in the students' minds, minimizing the risk of memory decay. When students reflect promptly after completing a task, they can recall specific actions, thoughts, and emotions more accurately, leading to more meaningful reflections.
3. Some learners may initially react with anxiety or awkwardness to watching themselves on camera during VSR sessions. However, educators must address these concerns and encourage students to approach the experience positively. They must remind students that the primary purpose of VSR reflections is to learn and improve and shift the focus to what students can learn from observing a past learning experience.
4. Instructors can encourage students to self-select moments in the stimulus where they felt particularly challenged, successful, or engaged, as well as meaningful moments that highlight specific skills or techniques they are working to improve. It is advisable to remind students to recall their thought processes during the performance itself rather than focusing solely on what they wish they had done differently.
5. Instructors might consider incorporating VSR reflection as a regular part of the learning process rather than as a one-time activity. Engaging in consistent VSR reflection practice is instrumental in helping students develop their ability to use this tool while also improving their reflective skills over time.
6. Instructors are encouraged to explore a variety of VSR tools and platforms that align with their students' diverse needs and preferences. For instance, students' smartphones,

equipped with built-in cameras, offer a practical and accessible means to incorporate VSR reflection into class activities. By encouraging students to use their smartphones for VSR reflections, educators can seamlessly integrate practical experiences into classroom discussions and assignments. It will not only enhance students' engagement but also provide them with a familiar tool to express their thoughts and insights in a dynamic and interactive manner.

6.1.3.2 Tips for Implementing Verbal Reflection Mediated by Digital Voice Recorders.

Recording verbal reflections via voice recorders enables learners to articulate their thoughts and emotions more spontaneously, freeing them from the constraints typically associated with written language. In applied linguistics, Huang's (2010, 2012) research is among the few studies that incorporated digital voice recorders to facilitate verbal reflection. Her studies shed light on the utilization of digital voice recorders as a means to verbalize thought processes and strategic behaviours. The findings of these studies revealed that this modality of verbal reflection provided a valuable tool for self-awareness and exploration of effective strategies.

Based on the results of this study, which appears to be in line with Huang's (2010, 2012) findings, the following tips are offered to help instructors and educators effectively implement verbal reflection using digital voice recorders:

1. Setting clear guidelines on how to use digital voice recorders for verbal reflection is necessary. By clearly outlining the purpose and format for recording, instructors provide students with a clear understanding of expectations, ensuring that the process is structured and effective.
2. Ensuring that the timing of recording verbal reflections is as close to task completion as possible is extremely important. By recording reflections immediately after completing a

task or activity, students can capture their thoughts and impressions more vividly and accurately.

3. It is important to provide specific prompts or reflective questions to guide students' verbal reflections. These prompts can focus on various aspects of their learning experience, such as challenges encountered, strategies used, and areas for improvement.
4. It is understandable that students may find regularly recording their answers to the same reflective questions to be monotonous or uninspiring. To address this challenge, instructors can employ various strategies to make the reflective process more engaging, for instance, allowing students to choose from a list of reflection prompts or develop their own questions based on their language needs.
5. Instructors should actively suggest that students expand or elaborate on their answers during reflection. Encouraging students to delve deeper into their reflections is crucial for fostering deeper levels of critical thinking. For instance, instructors can prompt students to expand on specific points or encourage them to set more precise goals.
6. Instructors can explore using various voice recording tools to facilitate verbal reflection such as smartphones, tablets, podcasting tools and software. These diverse options for recording students' verbal reflections are generally user-friendly, often readily available, and easily accessible to students.

In summary, instructors who wish to implement verbal modalities of reflection can effectively do so by following the above mentioned practical tips. Most importantly, instructors should lead students through reflective processes while managing their expectations and emphasizing the long-term benefits of such activities. Practitioners can create stimulating and engaging learning environments that foster student growth and success by integrating these

pedagogical implications into educational practices. Students can quickly identify what worked well, what challenges they encountered, and what strategies they employed, facilitating a more self-directed learning process. As Winne and Hadwin (2011) argue, "high quality learning emerges when learners become skilled researchers about their own learning; constructing metacognitive knowledge about studying episodes, and compiling it with past experiences to recognize and intervene with maladaptive patterns over time" (p. 2).

6.2 Study's Limitations

The present study has a number of limitations. One limitation concerns the relatively small sample size, a factor that does not allow for generalizability. That is, the generalizability of the research results to other EAL learners may be somehow limited. This fact is supported in numerous studies in the field of applied linguistics and SLA (e.g., Donato & MacCormick, 1994; Huang, 2010, 2012, and 2013b, to name a few). An argument exists that even if such findings are not generalizable, the goal of such a study rests on the importance of the findings being informative and providing a better understanding of EAL learners' learning processes and strategic behaviours, particularly at the post-secondary level (Huang 2010, 2012; Zhuo & Huang, 2018).

Another limitation associated with the sample size is the participants' individual variability that affect the findings. Based on the nature of potential IELTS test takers and for time and scope limitations, recruitment was open to both undergraduate and graduate students, as well as individuals with differing first language backgrounds (see Table 2). The effect of cultural or linguistics variables has been discussed in the literature, and many researchers claim that cultural differences may play a role in the use or selection of some strategies (Aljuaid, 2010; Alnujaidi, 2017; Liu, 2004; Noguchi, 1991; Oxford, 1990, 2001; O'Malley & Chamot, 1990;

Politzer & McGroarty, 1985). While it is difficult to analyze the effects of these cultural or linguistic variables on participants' performances, it is undoubtedly a limitation that merits careful attention in future studies. One could argue that participants in this study were randomly assigned to the three groups and that each group has a roughly similar representation of participants' cultural backgrounds, which, to some extent, minimizes the effects of such variables. One advantage, however, is that such varied L1 backgrounds are reflective of potential IELTS test takers. As stated in the IELTS official website (IELTS, 2024), this globally recognized test is held in over 140 countries worldwide, and individuals from different linguistic and cultural backgrounds usually attend IELTS preparation courses.

It is crucial to acknowledge the potential impact of conducting reflection in TL (Huang, 2012). Research has shown that individuals often encounter difficulties when attempting to communicate complex emotions and thoughts in a non-native language (Pavlenko, 2005). This can be particularly challenging in reflective practices, where participants are required to engage in introspection and articulate their feelings and experiences in TL. Learners may struggle to convey their reflections comprehensively, leading to potential misunderstandings or incomplete representations of their experiences. The linguistic barrier may also hinder participants' ability to engage in critical reflection, as they may prioritize linguistic accuracy over deeper exploration of their thoughts and emotions (Dörnyei, 2005). This could result in surface-level reflections that fail to capture the complexity and depth of participants' experiences. In this study, limiting language choice during reflection sessions to English could pose a possible limitation in any verbal report data. Due to participants' varied L1 backgrounds and the time and budget constraints of the present study, participants were asked to report their thought processes in English. This factor may have limited participants' ability to accurately and fully articulate their

ideas in the reflection sessions. While fully recognizing that learners' verbal reports in TL could be challenging, the practice of having learners reflect in English is common and rather the reality in many language-learning classrooms. Participants in this study were at the intermediate proficiency level and were preparing for the IELTS test. Thus, they were able to articulate their thought processes adequately to a satisfactory level.

Another important factor to consider is learners' individual differences when it comes to verbalizing their thoughts and emotions. Huang (2012) argued that some learners have an inherent ability to express their thoughts verbally, affecting their engagement in activities requiring verbal reflection. Research has highlighted individual differences in verbal abilities, demonstrating that certain learners exhibit greater ease and fluency in verbally expressing their ideas and emotions (Baddeley, 1992). This aptitude for verbal expression, whether innate or shaped by contextual variables, can significantly influence learners' performance in activities that require verbal reflection, such as discussions, presentations, and reflective tasks. In addition, cognitive factors, such as working memory capacity and language processing speed, play a crucial role in verbal expression (Gathercole & Baddeley, 1993).

Nonetheless, researchers and educators should be mindful of participants' language proficiency levels and individual differences when designing and implementing reflective activities or conducting research involving verbal reflection. Providing support, such as language scaffolding or translation assistance, can help mitigate language barriers, ensuring that all participants, regardless of their linguistic background or individual differences, can fully engage in reflective practices.

Another limitation concerns the study design. The selected modality for reflection may affect the results. One can not rule out the possible effects of the modality of reflection on what

participants chose or selected to report (Huang, 2010, 2012). This study focused only on verbal reflection. Participants were not given the chance to reflect by using other modalities of their choice (e.g., written reflection).

Furthermore, it is essential to acknowledge the limitations associated with the oral production assessment. In this study, the assessment of learners' oral production in their pre-test performance, weekly performances during the main tasks, and post-test performance were all administered in non-testing situations. Despite employing a systematic approach to assessment, concerns regarding the validity of results may arise due to the non-standardized nature of the assessment settings (Zhou & Huang, 2018).

The researcher's presence during the weekly sessions could be seen as a limitation. This limitation was minimized as much as possible by placing the researcher's chair in a corner so that participants would not be distracted or disturbed. The instructor was in charge of all the classroom activities. Furthermore, since data collection was conducted over multiple sessions rather than as a one-time procedure, this limitation is less likely to undermine the validity of the data obtained. In addition, it is important to recognize the limitations and challenges involved when investigating individuals' learning in classroom contexts. Undoubtedly, many complex variables associated with students' learning might come into play, but they are not accounted for as it is beyond the scope of the present study (Huang, 2012).

Considering the abovementioned limitations, the following section suggests some directions for future research.

6.3 Future Research Directions

This study may be applicable to L2 educators, practitioners, and researchers interested in exploring issues within LLS. Specifically, it addresses practical approaches to supporting adult

EAL students in improving their oral language production. Future research endeavours need to carefully consider some of the issues raised in the limitation section.

A larger sample size would be needed to obtain findings that could be transferable to a wider group of learners and contexts. According to Huang (2013b), it is essential for researchers to establish an appropriate sample size to ensure their statistical analyses are meaningful and capable of accurately assessing the power of the effects. Additionally, Nunan and Bailey (2009) emphasized that "Most statistical procedures based on the normal distribution work better with large data sets" (p. 129). Therefore, future investigations could greatly benefit from larger sample sizes, enabling researchers to validate their findings and uncover new empirical insights. By increasing the sample size, researchers can enhance the robustness of their analyses, potentially uncovering more interesting relationships and patterns within the data.

Another factor deserving future attention would be examining the difference between guided and unstructured verbal reflection. Reported strategies in guided verbal reflection sessions may be more aligned with the prompts or guidelines provided. Participants might emphasize strategies that are explicitly encouraged or discussed during these sessions, potentially overlooking alternative approaches that arise naturally during unstructured reflection (Huang, 2021b; Moon, 2005). This potential scenario prompts several inquiries: If participants were allowed to reflect freely after their weekly speaking tasks, would there be any difference in their weekly oral production and reported strategy use? More interestingly, what aspects of the oral production would be different? What strategies would participants report on in an unstructured verbal reflection? Would they be different from the reported strategies articulated during guided verbal reflections? One potential study could compare the efficacy of guided reflective activities, where learners are provided with specific prompts or frameworks to structure their reflections,

against unstructured approaches, where learners engage in free-form reflection without explicit guidance. Such research could examine various dimensions, including the depth of reflection, the quality of insights generated, and the transferability of learning to practical contexts.

The results of this study demonstrate a noteworthy improvement in oral production among participants in experimental groups A and B. This outcome presents an encouraging opportunity for further examination and exploration within the domain of L2 speaking. Research could examine whether individual verbal reflection among learners at different proficiency levels yields comparable results.

Future research should consider learners' individual preferences when it comes to the type or modality for reflection (Huang et al., 2023). Learners as individuals have different personalities and learning preferences; it could be possible that some learners would reflect best through verbal reflection while others would reflect best through written reflection. Huang (2010) highlighted that allowing learners to choose their preferred reflection method could yield interesting outcomes. Furthermore, Huang (2021b) emphasized lingering pedagogical questions such as: "What could you as an instructor do to modify either the process or the tools used to promote engaging in reflection?" (p. 74), and "what ways you can help learners discover their own preferred way of engaging in reflection? (p. 106). This is an important consideration, as research has shown that writing as a form of reflection has been considered the least preferred form, especially by learners at the low-intermediate levels (Greiman & Covington, 2007). This preference may also be applicable to other forms of reflection, such as verbal reflection or reflective group discussions.

Future research should also take into account the importance of integrating data triangulation when researching LLS (Huang, 2013b; Gao, 2007; Khan & Victori, 2011).

Employing multiple data collection methods can help overcome the inherent limitations of some existing elicitation methods for researchers. It is also essential to triangulate multiple sources of data to enhance the overall robustness of the findings. Triangulation not only improves the credibility, validity, and confirmability of the results but also allows researchers to compare and contrast different data sources, leading to a more comprehensive understanding of learners' LLS development.

Future studies could also explore the potential of tracking progress by allowing learners to revisit and reflect on their previous reflections periodically. By revisiting and reflecting on previous reflections over time, learners and researchers could gain further insights into the longitudinal development of skills, attitudes, and perceptions. The findings of such studies could lead to a deeper understanding of how reflection evolves and impacts learning outcomes over the course of an educational program or experience.

Studies concerned with LLS development and use should expand beyond merely quantifying the frequency of strategy use, correlational analyses, and test scores. While these approaches provide valuable perspectives, they often overlook the qualitative aspects of strategy learning and use (Huang, 2012). Longitudinal studies represent a promising avenue for in-depth exploration and understanding of LLS. It would allow researchers to delve deeply into the lived experiences, perceptions, and processes involved in LLS development over time. By following learners longitudinally, researchers can capture the dynamic nature of strategy use, orchestration, and refinement throughout an adequate period of time (Moon, 1999, 2004; Kember et al., 1999). This emphasis on qualitative aspects and longitudinal studies not only inspires further research but also holds the potential for significant impact in the field of LLS for adult EAL students.

6.4 Conclusion

With the goal of investigating instructional methods that promote learner autonomy while fostering the development of strategic behaviours and individualized learning goals, this study explored the potential efficacy of employing individual verbal reflection to enhance EAL learners' language learning outcomes. Twenty-four intermediate-level English EAL participants were enrolled in a non-credit bearing speaking course aimed at improving their oral language production skills. These participants were divided into three groups: experimental group A (n = 8), experimental group B (n = 8), and comparison group C (n = 8). Over a period of six weeks, all participants received identical weekly lessons delivered by the same instructor, following the same class procedures. Each week, participants in group A engaged in VSR, while participants in group B engaged in audio-recorded individual verbal reflections after completing the weekly speaking tasks. In contrast, the comparison group did not participate in any reflective activities; they served as a control group to assess the impact of the reflective sessions. Group A's and B's reflective sessions were structured to encourage goal-oriented and task-specific reflection, focusing on the development of strategic behaviours for completing IELTS speaking tasks.

For the purpose of exploring strategy use, data were elicited through the following elicitation methods: observation of strategy use, self-reported strategy use during weekly instructor-facilitated reflective group discussions, and self-reported strategy use during the individual post-task reflections. Pre- and post-test scores and the weekly oral production performances scores data, determined by two experienced raters were conducted and analyzed to assess oral language improvement. Correlation analyses were also conducted to draw associations between several variables, such as strategy-use frequencies, strategy category-use frequencies, and weekly oral production scores. Additionally, qualitative data were collected to

investigate participants' perspectives and attitudes regarding the experience of engaging in individual verbal reflection.

Results from this small-scale study offer practical contributions for understanding EAL learners' reported and observed strategy use after performing IELTS speaking tasks. The key findings, elicited through multiple elicitation methods, suggest that, overall, participants demonstrated notable enhancements in their strategic competence and oral proficiency.

The incorporation of individual verbal reflection facilitated a deeper understanding of learners' strengths and weaknesses, enabling them to pinpoint areas for improvement and set tailored learning objectives. This process not only encouraged learners to assume responsibility for their learning but also empowered them to actively engage in self-regulated learning behaviours.

In addition to the promising findings derived from employing audio-voice recorders to facilitate individual verbal reflection, as observed in both this study and previous research in applied linguistics, such as Huang (2010, 2012), the current study introduces and further develops an evidence-based pedagogical approach, namely VSR individual verbal reflection. The approach can be seamlessly integrated into various teaching and learning contexts, including traditional classroom settings, online learning platforms, and experiential learning activities (Huang, 2021b). The implications extend beyond language learning and can be applied to diverse fields within higher education, particularly benefiting EAL students. The value of fostering self-regulated learning and creating opportunities for reflective practices is considered from the perspective that self-regulation is essential to the learning process (Zimmerman, 2008). It is important for adult learners, as Knowles (1976) has emphasized, to be equipped with the skills that they need to continue the journey of learning on their own after completing a formal

educational experience. Although Knowles's statement dates back over five decades, its relevance remains unchanged.

Most importantly, the outcomes of this investigation encourage language learners, instructors, and LLS researchers to further explore task-specific approaches through reflective practices. By facilitating and nurturing the development of a metacognitive awareness about learners' strategic behaviours, individuals can be guided toward selecting appropriate strategies and developing efficient and strategic ways to fulfill their needs in language learning and language use. This highlights the significance of fostering a reflective mindset that empowers learners to critically assess their own learning processes and make informed decisions about their language learning journey, placing the responsibility for potential progress in their hands.

Further insights were gained from the analysis of participants' responses to the perception questionnaire. The excerpts from the questionnaire responses highlighted significant issues related to the reflection structure, the discomfort it can evoke, and the substantial time and effort required. This aligns with existing research highlighting the multifaceted nature of reflection, which involves various cognitive processes (Huang, 2021b; Rogers, 2011). Participants also acknowledged the daunting nature of reflection, emphasizing the importance of time commitment and taking responsibility for follow-up actions. The findings also underscore the importance of factors such as willingness to invest effort and recognition of the value of reflection in determining learners' engagement levels (Huang, 2012). Therefore, researchers and educators should be mindful of these issues when designing reflective activities or conducting research involving verbal reflection. Providing support, such as language scaffolding or translation assistance, can help mitigate the effects of language barriers and ensure that participants can fully engage in reflective practices regardless of their linguistic background.

Mantle (2007) stated that providing adequate time, preparation, and guidance can further enhance reflection and foster long-term learning outcomes.

Finally, this study contributes to the existing body of literature on the efficacy of individual verbal reflection in mediating the development of strategic behaviours and enhancing the improvement of oral production among EAL learners. The findings of this study offer valuable guidance for EAL practitioners, educators, and curriculum developers. Armed with a deeper understanding of the role of verbal reflection, they can make informed decisions about their pedagogical practices, tailoring lesson plans to meet the diverse needs of EAL students in international post-secondary settings. As noted by Huang (2021b), “the search for ways to help learners improve performance remains one of the lasting quests of teachers, learners, and researchers alike” (p. 220).

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Appendix A Invitation poster and Consent form

University of Victoria

Participants Needed for a Study of Speaking Skills among Adult English as an Additional Language Students

Are you learning English as an additional language? Looking to improve your speaking skills? You are invited to voluntarily participate in a University of Victoria research project about English speaking skills.

We are offering a free speaking course **focusing on the IELTS Speaking section.** This course is taught by a qualified language instructor and we are looking for English as an additional language students who are:

- ✓ At **the intermediate proficiency** level in English
- ✓ Attending English for academic purposes (EAP) programs, or any other English language programs in Victoria, Canada
- ✓ Intended to apply to a Canadian degree program in any field

By participating in this study, you will receive instruction **for free**, the chance to practice and improve your speaking skills, receive individual oral feedback, and practice for IELTS speaking test. It will take no longer than 14 hours over 8 weeks.

The researcher is a University of Victoria Doctoral student in the Department of Linguistics. If you are interested in participating in the upcoming lessons or would like to know more information, please contact Amjad Alhemaid at any time by email alhemaid@uvic.ca, no later than May 17th.

Consent Form

You are invited to participate in a study entitled *Developing Speaking Skills among Adult English-as-an-Additional-Language (EAL) Learners in performing the IELTS Speaking Tasks, Mediated by Verbal Reflection* that is being conducted by Amjad Alhemaid. Amjad Alhemaid is a doctoral student in the Department of Linguistics at the University of Victoria, you may contact her if you have further questions by e-mail: alhemaid@uvic.ca , or in person.

As a student in the PhD program, I am required to conduct research as part of the requirements for a degree in Linguistics. It is being conducted under the supervision of Dr. Li-Shih Huang. You may contact my supervisor by email lshuang@uvic.ca.

Purpose and Objectives: The purpose of this research is to identify/explore the strategies used by English-as-an-additional-language (EAL) learners during an IELTS speaking preparation course.

Importance of this Research: Research of this type is important because evidence from this research contributes to limited existing research that examines strategy use and performance, which can be used in order to inform L2 researchers and instructors.

Participants Selection: You are being asked to participate in this study because you are an EAL student who are studying English, attending English for academic purposes (EAP) programs, or any other English language program in Victoria, Canada; intended to apply to a Canadian degree program in any field; and are at the intermediate proficiency level in English.

What is Involved : If you consent to voluntarily participate in this research, your participation will involve participating in an eight-week study, which will include the following:

- A pre-study meeting (35 min. max.), which involves filling out a background questionnaire and completing a speaking test.
- Six weekly lessons (2 h. per session) focusing on the IELTS speaking section.
- A post-study meeting (45 min. max.), which involves completing a speaking test and filling out a final anonymous questionnaire for groups A and B only.

This will be held in a designated research room, at UVic. You will be randomly assigned to one of three groups. You will be audio and video recorded during sessions.

Inconvenience: Participation in this study may cause some inconvenience to you, including the length of the study (6 weeks of instruction+ the pre-and post study meetings) that will be required of the participants to attend. This will not include the time required to get to and from the location of the study. You may feel fatigued or stressed after participating in the speaking tasks. Please remember that no official scores will be taken or any academic penalties. You are allowed to stop for a mini break if you felt you need one. You may decide to withdraw from the study at any time.

Benefits: By participating in this research, you will receive instruction for free, the chance to practice and improve your speaking skills, you will receive individual feedback, and practice taking the IELTS speaking test.

Voluntary Participation: Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study, you will receive an email asking for your approval to use your gathered data for analysis only. In the case where the data is gathered in dyads or pairs, your data will be used in summarized form with no identifying information.

On-going Consent: To make sure that you continue to consent to participate in this research, you will be ask to provide you initials in a signing sheet each week.

Anonymity: In terms of protecting your anonymity, you will be represented with a code. However, due to the small sample size from which participants are drawn, it may be possible to identify individual participants. This potentially limits the researcher's ability to protect confidentiality.

Confidentiality: Your confidentiality will be protected using a code, however it may be possible to identify individual participants due to the selection and recruitment process. This potentially limits the researcher's ability to protect confidentiality. The confidentiality of the data will be protected by password protected computer.

Dissemination of Results: It is anticipated that the results of this study will be shared with others in the following ways: Thesis/dissertation, published articles, and presentations at scholarly meetings. Note that visual or auditory data will only be used for data analyses. A code name will be given to each participant when referenced. All identifying information will be changed before the results are made public.

Disposal of Data: Data from this study will be disposed five years upon completion of the study. Electronic data will be erased and paper copies will be shredded.

Contacts: Individuals that may be contacted regarding this study include:

Amjad Alhemaid: e-mail: Alhemaid@uvic.ca

Li-Shih Huang: lshuang@uvic.ca

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (ethics@uvic.ca).

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researchers, and that you consent to participate in this research project.

_____	_____	_____
Name of Participant	*Signature*	*Date*

On-going consent (collected each week)

If you have given consent to participate in the study that is being conducted by Amjad Alhemaid, signing this sheet will imply on-going consent to participate; however, you are free to withdraw from this study at any time.

Signature (initials)

……..

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…….

Appendix B Background Questionnaire

Your name and personal information will be kept confidential

Name:	Gender: Male □	Female □
Age:	Degree Program:	First language:

When did you start learning English (your age)?

……..

How would you asses your English proficiency level?

□beginner □ pre-intermediate □intermediate □upper-intermediate □ advanced

Years spent in Canada or any other English speaking country:

……..

Years of formal instruction in English:

Less than a year	1-5 years	5-10 years	over 10 years	Others ……..

How many hours per day do you speak English with people who are fluent English speakers?

□Less than an hour □ 1-2 hours □ 3-4 hours □ more than 5 hours

I have taken an IELTS/ a TOEFL exam Yes No

If yes what was the score? …….

What was the score received for speaking …….

Thank you

Appendix C Pre-test & post-test sets

Pre-test	Post-test
Part 1 Let's talk about your **daily routine** -Describe your daily routine. What do you usually do? -What do you do on the weekend? -What is you typical weekday like? -Does your life change much from week to week? -Do you have any free time during the week? Let's move on talk about **healthy eating** -What do you consider to be a healthy diet? -Is there any type of food you don't like? -Do you think there are any benefits from eating breakfast? -In the past few years, have there been any changes to people's eating habits in your country? **Part 2** (You will be given **one minute to prepare** your talk, and you will be given **a pencil and paper** to make notes (do not write on the task card) Describe **a restaurant** that you like. You should say: • Where this restaurant is • What kind of food it serves • How often you go there Explain why you thought the restaurant was good **Part 3** **Discussion** -How can you encourage people to eat healthier food? -Do you think people enjoy their food as much as they should? -Do you think cooking is a pleasure or a chore for people who have busy lives? -Do you like to cook? -What dish do you most enjoy cooking? Why do you like making that one? -Are there any foods you particularly dislike? Do many other people feel that way?	**Part 1** -Let's talk about **your name.** I would like to ask you about your name, does your name has a special meaning? Is your name important to you? Who named you? Does anyone in the family hold the same name? Have you ever considered changing your name? Do you prefer to use your real name on social media? -Let's move on to talk about **the internet** -Which websites are popular among your generation? -Is using the internet a social or solitary activity? -How has the internet changed social behaviour? -Should companies check job applicants' online profiles? **Part 2** (You will be given **one minute to prepare** your talk, and you will be given **a pencil and paper** to make notes (do not write on the task card) Describe some **good news** that you recently received. You should say: • What the news was • How you got the news • Who else you told about it Explain why this was good news. **Part 3** **Discussion** -What is the most effective way of getting news these days? -Do you think the information on the internet believable or not? -What do you think of the importance of privacy? -What role do media play in people's life? -How do people in your country gather information? -What are the advantages and disadvantages of different media? -Do you think it necessary to control the news coverage? What kind of news do you think should be controlled?

Appendix D IELTS Speaking Band Descriptors (public version)

Band	Fluency and coherence	Lexical resource	Grammatical range and accuracy	Pronunciation
9	• speaks fluently with only rare repetition or self-correction; any hesitation is content-related rather than to find words or grammar • speaks coherently with fully appropriate cohesive features • develops topics fully and appropriately	• uses vocabulary with full flexibility and precision in all topics • uses idiomatic language naturally and accurately	• uses a full range of structures naturally and appropriately • produces consistently accurate structures apart from 'slips' characteristic of native speaker speech	• uses a full range of pronunciation features with precision and subtlety • sustains flexible use of features throughout • is effortless to understand
8	• speaks fluently with only occasional repetition or self-correction; hesitation is usually content-related and only rarely to search for language • develops topics coherently and appropriately	es a wide vocabulary resource adily and flexibly to convey precise eaning es less common and idiomatic cabulary skilfully, with occasional ccuracies es paraphrase effectively as quired	• uses a wide range of structures flexibly • produces a majority of error-free sentences with only very occasional inappropriacies or basic/nonsystematic errors	• uses a wide range of pronunciation features • sustains flexible use of features, with only occasional lapses • is easy to understand throughout; L1 accent has minimal effect on intelligibility
7	• speaks at length without noticeable effort or loss of coherence • may demonstrate language-related hesitation at times, or some repetition and/or self-correction • uses a range of connectives and discourse markers with some flexibility	• uses vocabulary resource flexibly to discuss a variety of topics • uses some less common and idiomatic vocabulary and shows some awareness of style and collocation, with some inappropriate choices • uses paraphrase effectively	• uses a range of complex structures with some flexibility • frequently produces error-free sentences, though some grammatical mistakes persist	• shows all the positive features of Band 6 and some, but not all, of the positive features of Band 8
6	• is willing to speak at length, though may lose coherence at times due to occasional repetition, self-correction or hesitation • uses a range of connectives and discourse markers but not always appropriately	• has a wide enough vocabulary to discuss topics at length and make meaning clear in spite of inappropriacies • generally paraphrases successfully	• uses a mix of simple and complex structures, but with limited flexibility • may make frequent mistakes with complex structures, though these rarely cause comprehension problems	• uses a range of pronunciation features with mixed control • shows some effective use of features but this is not sustained • can generally be understood throughout, though mispronunciation of individual words or sounds reduces clarity at times
5	• usually maintains flow of speech but uses repetition, self-correction and/or slow speech to keep going • may over-use certain connectives and discourse markers • produces simple speech fluently, but more complex communication causes fluency problems	• manages to talk about familiar and unfamiliar topics but uses vocabulary with limited flexibility • attempts to use paraphrase but with mixed success	• produces basic sentence forms with reasonable accuracy • uses a limited range of more complex structures, but these usually contain errors and may cause some comprehension problems	• shows all the positive features of Band 4 and some, but not all, of the positive features of Band 6
4	• cannot respond without noticeable pauses and may speak slowly, with frequent repetition and self-correction • links basic sentences but with repetitious use of simple connectives and some breakdowns in coherence	• is able to talk about familiar topics but can only convey basic meaning on unfamiliar topics and makes frequent errors in word choice • rarely attempts paraphrase	• produces basic sentence forms and some correct simple sentences but subordinate structures are rare • errors are frequent and may lead to misunderstanding	• uses a limited range of pronunciation features • attempts to control features but lapses are frequent • mispronunciations are frequent and cause some difficulty for the listener
3	• speaks with long pauses • has limited ability to link simple sentences • gives only simple responses and is frequently unable to convey basic message	• uses simple vocabulary to convey personal information • has insufficient vocabulary for less familiar topics	• attempts basic sentence forms but with limited success, or relies on apparently memorised utterances • makes numerous errors except in memorised expressions	• shows some of the features of Band 2 and some, but not all, of the positive features of Band 4
2	• pauses lengthily before most words • little communication possible	• only produces isolated words or memorised utterances	• cannot produce basic sentence forms	• speech is often unintelligible
1	• no communication possible • no rateable language			
0	• does not attend			

Appendix E Instructor-facilitated reflective discussion questions

(for groups A and B only)

1. What did you do to prepare for the task?

2. What did you do during the task?

3. What did you do differently this time to perform the same task? (Units 4, 5, and 6)

4. Did you use any specific thing to help you speak? And did it work?

5. How well did you do?

6. What are your strengths and what areas can you improve?

7. What do you think you should do, if anything, to help you perform better next time?

Appendix F Post task video-stimulated recall verbal reflection

Instructions

Part 1

Play the video recording of your performance. Select a moment/segment and stop the video.

Comment on your performance. You can ask any of the following questions more than once:

- What were you thinking here/ at this point/ right then?
- Why did you decide to do that?

Part 2

Reflection on the task:

Could you explain how you felt before this task?

Did you do anything to overcome difficulties in this task? Explain?

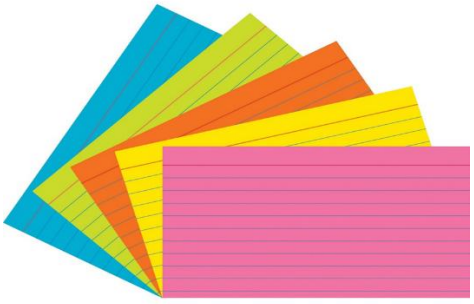
What did you notice about your speaking that you never knew before?

What will you do to prepare for next time? Be specific?

Appendix G Post-task audio-tape recorded verbal reflection

Instructions

Turn on the digital voice recorder and record your reflections. Use the prompting questions in the index cards to help you reflect on your performance in the main task today. You can read each question and then record your response. Then processed to the next question.



Q 1: What did I do to prepare for this task?

Q 2: What did I do during the speaking task?

Q 3: What was important about what I learned today?

Q 4: In my future speaking, where could I use what I have learned today?

Q 5: What did I do differently this time? Did I see any patterns in what I did?

Q 6: How well did I do?

Q 7: What have I learned about my strength and areas I can improve?

Q 8: What should I do next? What steps should I take to overcome my speaking challenges?

Appendix H Sample idiom activities

Sample idiom activity 1:
Read the following story. Please underline any idiomatic expression used in the story.

John's Keys to Success

John is an incredibly accomplished and successful businessman. As such, he is quite popular as a mentor. He enjoys showing young professionals the ropes. The first thing he says is that his career has certainly not always been smooth sailing. In fact, he learned a number of lessons along the way. "First and foremost," John said, "don't believe that success is ever mana from heaven." He said that everyone he had met had a similar rags to riches story, and that a lot of hard work had gone into the success.

John believes in hard work, but also in recognizing the right opportunities. "It's absolutely essential to never spread yourself too thin" John advised. "If you have too many irons in the fire, you'll certainly miss out on real opportunity" he continued. "I've seen people as busy as a bee who never really seem to do anything" he pointed out. The more I thought about this advice, the more I understood what he was saying. If you put on your thinking cap, you'll realize that it's impossible to really concentrate if you have to worry about fifty different things. Another important lesson was that it's important to know which side your bread is buttered on and make sure to give that activity your full attention. In other words, you need to ride the gravy train. Don't start looking for new challenges if everything is working out for the best!

John stressed that the most important ability of any successful entrepreneur was to have the presence of mind to not only take advantage of an opportunity but also to keep your eye on the ball. Some people are quick on the uptake, but then they get bored. It's important to be consistent, but not spread yourself too thin. Finally, make sure to never show your hand to your opponents. In any case, that's how to be successful according to John.

Sample idiom activity 2:
What comes next: Match the first person's comment (1-9) to the right response (a-i)

1. Where do you want to go for lunch?
2. I'm totally starving.
3. Do you want to go for drinks after work? It's on me.
4. I have never been so full in my life.
5. What are you going to have for your entree?
6. Are you going to get anything to start?
7. Do you think we should get a doggie bag?
8. Would you like something to wash down your meal with?
9. How are things going with your new boyfriend?

A) I'm not surprised. You totally pigged out. I think your eyes were bigger than your stomach, although your stomach looks pretty big right now.
B) I think I'm going to give the house specialty a try.
C) I don't think so. If I have an appetizer, I probably won't be able to finish my main course.
D) No. I don't like leftovers.
E) Sounds like a good idea, but you are always treating me. This time I'm going to treat you and cover your half.
F) I'm not so sure about him. You know last night we went out for dinner for our one-month anniversary. He told me to order whatever my heart desired, but when the bill came he wanted to go Dutch.
G) Yes. I'll have a large orange juice.
H) How about we grab a bite to eat at that new cafe around the corner. I hear their sandwiches are out of this world.
I) Me too. I'm famished. I'm so hungry that I could eat a horse.

Appendix I Perception Questionnaire

Please answer the following questions about your **reflection experience.**

1. What are your thoughts about engaging in the weekly post-task reflection activities?

2. Did you change the way you prepare for the speaking tasks? If so, how? Please provide examples.

3. Did the weekly post-task reflection help you to try new things in order to improve your speaking performance during the next speaking task? Please give examples.

4. Did the weekly post-task reflection help you to set goals or reach new goals? If so, how? Please provide examples.

5. Did you try any new strategies to improve your speaking? If so, please give examples.

6. Did the weekly post-task reflection activity have any influence on how much you spoke in the speaking tasks? Inside or outside of class? Why or why not? Please elaborate and give examples.

7. Do you think that you would continue engaging in reflection in your current or future learning?

8. Is there anything else you would like to share about your reflection experience?

Thank you

Appendix J Lesson Plan

<table>
<tr><th colspan="3">IELTS speaking task 1(Unit 1) & (Unit 4)</th></tr>
<tr><td colspan="3">Goal: To prepare participants for the IELTS speaking test and to improve their speaking skills.
Objective: To familiarize participants with the format of IELTS test and provide them with opportunities to practice preforming the speaking tasks.
Time: 1.5 hours class activities+30 min. post tasks activities
Groups: Group A (VSR reflection)/ Group B (Verbal reflection)/ Group C (Idiomatic expressions exercises)</td></tr>
<tr><th>Phase</th><th>Steps</th><th>Materials</th></tr>
<tr><td>Pre-task
20 min.</td><td>• Select a successful IELTS exam video from the appropriate target skill level to show to students (10 min.)
• Use the first part of the video to explain IELTS task one.
• Distribute the IELTS speaking rubric and explain each criterion.</td><td>• A computer + a projector
• URL will be provided for the clips (for units 1 &4)
• IELTS rubric copies</td></tr>
<tr><td>Practice
20 min.</td><td>• Ask students to work in pairs and then ask each student to select a topic card from a box.
• Ask them to take turns preforming task one.</td><td>• Task one cards
• A box</td></tr>
<tr><td>Instructor step-in
20 min.</td><td>• Ask the class to share any communication challenges they faced while preforming the task (at the lexical, phrasal, or discourse level)
• For group A & B: Ask the reflective discussion questions.</td><td>• A board
• Instructor’s –facilitated reflective questions (see Appendix D)</td></tr>
<tr><td>Main task
30 min.</td><td>• Randomly select students by pulling their names from a box.
• Ask the studnet to move to the main task station to perform the task with the instructor individually.
• Ask the student to pull a topic and start recording the performance.</td><td>Main task station
- Group A: IPads video-recording
- Group B & C: video recording of main task performance</td></tr>
<tr><td>Post-task
30 min.</td><td>• Group A: Once the student finished performing, he/she can can move to the reflection station and individually reflect on his/her performance using VSR as explained in the activity instructions (provide a copy for each student).</td><td>Reflection station
-Group A: VSR reflection questions and Ipads (see Appendix E)

-Group B: verbal audion reflection cards and audio recorders (see Appendix F)</td></tr>
</table>

	• **Group B:** Once the student is finished preforming, he/she can move to the reflection station and individually reflect on his/her performance using audio recorders as explained in the activity instructions (provide a copy for each student). • **Group C**: Once done with performance ask the student to return back to class and engage in activities related to common idiomatic expressions.	**Group C**: Prepared idiomatic activities

IELTS Speaking Task 2 (Unit 2) & (Unit 5)		
Phase	**Steps**	**Materials**
Pre-task **20 min.**	• Ask participants to work in pairs. Ask each pair to pull a topic from a box. Next, let them brainstorm for ideas related to their chosen topic (3 min. each topic). • Bring the class together and write down their ideas on the board then ask if anyone wants to add anything.	-Task 2 cards -A board
Practice **20 min.**	• Swap pairs [1-3, 2-4, 5-7,6-8]. Each student will talk about the topic they have chosen in the pre-task. • Have students take turns preforming a 2-minute talk based on their topic.	-Papers for note taking
Instructor step-in **20 min.**	• Ask the class to share any communication challenges they faced while preforming the task (at the lexical, phrasal, or the discourse levels). • **For group A & B**: Ask the reflective discussion questions.	-A board -Instructor's –facilitated reflective questions (see Appendix D)
Main task **30 min.**	• Randomly select students by pulling their names from a box. • Ask each student to pull a topic card from a box and follow the instructions. Each student will perform the task with the instructor individually 1 min. preparation+ 2 min speaking time). (don't forget to record their oral production)	**Main task station** - Group A: IPads video-recording - Group B & C: video recording of main task performance
Post-task **30 min.**	• **Group A**: Once the student finished performing, he/she can move to the reflection station and individually reflect on his/her	**Reflection station**

	performance using VSR as explained in the activity instructions (provide a copy for each student). • **Group B:** Once the student is finished preforming, he/she can move to the reflection station and individually reflect on his/her performance using audio recorders as explained in the activity instructions (provide a copy for each student). • **Group C**: Once done with performance ask the student to return back to class and engage in activities related to common idiomatic expressions.	**-Group A**: VSR reflection questions and Ipads (see Appendix E) **-Group B**: verbal audion reflection cards and audio recorders (see Appendix F) **Group C**: Prepared idiomatic activities
Follow-up procedure	• Collect the main task recordings and send each student his/her recording via emails.	-Emails

IELTS speaking task 3 (Unit 3)/ (Unit6)		
Phase	**Steps**	**Materials**
Pre-task **10. min**	• Ask students to listen to their recordings from last week. Ask each student to generate three questions related to his/her topic.	-Recordings of task 2
Practice **30 min.**	• Swap questions and ask each pair to ask each other the questions they have generated.	-Questions generated in pre-task
Instructor step-in 30 min.	• Bring the class together and modify their question and ask follow up questions. • Ask the class to share any communication challenges they faced while preforming the task (at the lexical, phrasal, or the discourse level) • **For group A & B** Ask them reflective discussion questions.	-A board - Instructor's – facilitated reflective questions (see Appendix D)
Main task **30 min.**	• Randomly select students by pulling their names from a box. • Ask each student to pull a topic card from a box. Each student will perform the task with the instructor individually (3 min. each) (don't forget to hit the recorder). • The task is a two-way discussion about the topic they have selected.	**Main task station** - Group A: IPads video-recording - Group B & C: video recording of main task performance
Post-task **30 min.**	• **Group A**: Once the student finished performing, he/she can can move to the	**Reflection station**

	reflection station and individually reflect on his/her performance using VSR as explained in the activity instructions (provide a copy for each student). • **Group B:** Once the student is finished preforming, he/she can move to the reflection station and individually reflect on his/her performance using audio recorders as explained in the activity instructions (provide a copy for each student). • **Group C**: Once done with performance ask the student to return back to class and engage in activities related to common idiomatic expressions.	**-Group A**: VSR reflection questions and Ipads (see Appendix E) **-Group B**: verbal audion reflection cards and audio recorders (see Appendix F) **Group C**: Prepared idiomatic activities

Appendix K Coding scheme

Approach strategies: Involving what the learner does to orient him- or herself to the task.		
Individual strategies	**Definition**	**Example**
Developing reasons	Learner offering explanations for doing what he/she does	"here at first I didn't know what what subject to talk about English or mathematics or (…) but then I decided to choose English because I thought I could say more about English and expand more by using my experience in learning English now and in the past" (001a, Task 2, Unit 2|Reported during VSR reflection session)
Generating choices	Learner generating choices	"I was trying to think of someone respected in my society I had a couple in my mind so I was who who else" (002a, Task 3, Unit 3| Reported during VSR reflection session)
Generating ideas	Learner generating ideas	"I was thinking like when [the instructor] start the question I immediately was thinking about the topic (…) like try to think really fast about like all the ideas related all vocabularies all the key words as much as possible like gather my thoughts" (007a, Task 1, Unit 1|Reported during VSR reflection session)
Identifying task format	Learner trying to figure out the format of the task	"I think this time I I know the structure of the conversation like the format of the task its like normal normal causal conversation" (0014b, Task 3, Unit 3| Reported during audio reflection session"
Identifying task purpose	Learner trying to figure out the purpose of the task	"this task is different (…) like need to prepare enough ideas in one minute quick and star points and then speak and expand as much as you can to cover two minute talking yeah" (0011b, Task 2, Unit 2| Reported during audio reflection session)
Making choices	Learner narrowing down the choices in response to the question	"the question asks about something you own and important and I quickly think of what I own and immediately choose my laptop pc quickly so I can start preparing" (001a, Task 2, Unit 5|Reported during VSR reflection session)
Recalling questions	Learner thinking about the meaning of the questions	"here the question said how often you visit your hometown? it was difficult because when I moved out I didn't usually go to my hometown anymore I don't know how to answer it I didn't know how to (…) answer so it wasn't clear" (008a, Task 1, Unit 1|Reported during VSR reflection session)
Recalling what one has said	Learner thinking about what he/she has said during the task	"Here I was trying to think of how can I answer this question and I then decide to connect it with my answer before [in the pervious question] because I said before how I feel and so on" (007a, Task 1, Unit 4|Reported during VSR reflection session)
Communication strategies: Involving conscious plans for solving communication problems in order to reach a communicative goal.		
Individual strategies	**Definition**	**Example**
Abandoning	Learner abandoning ideas or utterances	"so here I tried to say more things but the vocabulary (…) my vocabulary bank didn't help me so I just ignore the whole point and look for another idea" (004a, Task 1, Unit 4, Reported during VSR reflection session)
Approximating	Learner using lexical or grammatical substitution to approximate meanings	"I want to talk about high stated people but I couldn't I don't know the kind of vocabulary so I just used some word to describe them"(002a, Task 1, Unit 4| Reported during VSR reflection session)

Avoiding	Learner thinking about avoiding areas that pose linguistic difficulties	"[The instructor] asked me what types of cars do I like and honestly I like some types of cars but I don't know the English name for these type of cars so I wanted to say something specific about the type of the cars but I don't have the words so I thought I couldn't so I say I don't know" (003a, Task 3, Unit 3| Reported during VSR reflection session)
Borrowing	Learner borrowing phrases from the question	"sometimes it work when I get some words from the the question (…) like while listening to the question and start answering from there" (001a, Task 3, Unit 3|Reported during group reflective discussions)
Elaborating to clarify meaning	Learner elaborating on his/her response in order to clarify meaning	"I thought [the instructor] maybe didn't understand my pronunciation so I tried to explain more to be more like clear" (007a, Task 3, Unit 3|Reported during VSR reflection session)
Elaborating to fill time	Learner elaborating on his/her response in order to fill time	"here I thought I want to explain why people like him what makes him famous I was thinking of more stuff to say to pass the two minutes" (006a, Task 2, Unit 2|Reported during VSR reflection session)
Elaborating to meet requirement	Learner elaborating on his/her response in order to fulfil the task requirements	"I tried to expand my explanation to give long sentences not just (…) short short brief answer because [they] want to see more of language so you need to show you are cable like (…) to structure long detail sentence" (008a, Task 3, Unit 3|Reported during VSR reflection session)
Guessing	Learner guessing by using linguistic or other cues	"here the I didn't understand the meaning of the question it said what are the benefits of tourism in your country so I was like benefits? I just thought it should mean advantages! I was not completely sure but I think it went ok" (001a, Task 3, Unit 3|Reported during VSR reflection session)
Linking	Learner making connections between his/her previous knowledge or experience and what he/she is responding to	"when I saw the topic about someone you would like to meet I was thinking about this person author I admire and I watched several videos about him he actually gave a speech recently so I was this is perfect I have a lot to say about this person" (005a, Task 2, Unit 5|Reported during VSR reflection session)
Paraphrasing	Learner paraphrasing to clarify meanings	"for example, I tried to find another word which is (…) that is more suitable or appropriate for for that situation so I tried to to paraphrase to give the meaning" (004a, Task 2, Unit 2|Reported during VSR reflection session)
Pausing to formulate speech	Learner taking pauses in order to formulate a response	"but still I did pause for few seconds before to think of the sentence not (...) ideas I have the ideas but the formation of the sentence how to say this" (006a, Task 2, Unit 2|Reported during VSR reflection session)
Pausing to generate ideas	Learner taking pauses in order to generate ideas	"my speaking didn't go smoothly like I paused for a moment a couple of times to think about what to say" (002a, Task 1, Unit 4|Reported during VSR reflection session)
Pausing to make choices	Learner taking pauses in order to narrow down the choices	"The question was tell us about your hometown? I was like hometown! I stop for a second to think which one to choose my hometown in my country or my hometown here so I thought maybe I should choose to talk about my town in my home country so I did" (004a, Task 1, Unit 1|Reported during VSR reflection session)
Referring to notes	Learner referring to the notes during oral production	"all this was in my notes yeah I was looking and following the notes" (006a, Task 2, Unit 2|Reported Reported during VSR reflection session)

Referring to questions	Learner referring to the questions in order to respond	" I got lots of ideas from the questions in the task card it was so helpful" (006a, Task 2, Unit 2|Reported Reported during VSR reflection session)
Repeating to fill time	Learner repeating words or phrases in order to fill the time	"I kind of lose my ideas yeah run out of idea like (…) I just repeat what I said the same same idea repeated with the same thing like I just want to keep going to complete the two minutes" (0014b, Task 2, Unit 2|Reported during audio reflection session)
Repeating to clarify meaning	Learner repeating words or phrases in order clarify meaning	"here when I said about the book [the instructor] said is it about history? I made a mistake so I have to say again because he said history? but that book is not about history so so I repeated my answer to make it clear I was oh my god I made a mistake I have to make it clear"(003a, Task 1, Unit 1|Reported Reported during VSR reflection session)
Reviewing notes	Learner reviewing notes in order to formulate response	"I wanted to keep my eyes a way from my notes but I couldn't I had to rely on it to keep me talking" (002a, Task 1, Unit 1|Reported during group reflective discussions)
Simplifying language	Learner simplifying his/her response	"I just try to express my opinion not a complicated opinion like stay simple so I don't miss things up" (0010b,Task 1, Unit 4|Reported during audio reflection session)
Slowing down to generate ideas	Learner slowing down the speed of delivery to formulate speech/generate ideas	"I tried to speak slowly so I can think of what I'm gonna say next" (001a, Task 2, Unit 2| Report during group reflective discussions)
Slowing down to fill time	Learner slowing down the speed of delivery in order to fill time	"I was trying to slow down my pace because I realize I finished my notes no more points in the note so I tried to buy some time and not going fast" (0013b, Task 2, Unit 2|Reported during audio reflection session)
Thinking ahead	Learner thinking ahead	"maybe it is funny but in my mind while I am speaking I think of the next sentence and next sentence and so on [laughing] it is complicated but like my brain is in advance of my speaking" (0010b, Task 3, Unit 3|Report during group reflective discussions)
Using body language to clarify meaning	Learner use gestures/hands to clarify meaning	"[hand gestures] like the size the size of the area is like you know not as big as city but this big ….."[Main task performance] [paused] "here I don't know if there is a word for that I don't know how to say (...) like here is a province or city but I want to say about a smaller area than a city I didn't know the word to describe it like a part of a city and tried to explain with my hands" (008a, Task 1, Unit 1|Reported during VSR reflection session)
Using L1	Learner using L1	Instructor: Do you play any musical instruments? 002a: (…) I used to learn how to play drum very little bit and (…) [L1 word!] I don't know how can I say in English Instructor: what's that? 002a: similar to clarinet I can't explain but the Korean name we pronounce [obo] (002a, Task 1, Unit 4|Main task performance)
Using keywords	Learner using key words to formulate speech	"the topic was about an important choice so I just made some key points that will help my conversation like star points for example thinking and feelings proud, flexible, pressure, nervous etc." (0011b, Task 2, Unit 2|Reported during audio reflection session)
Using L2 to organise thoughts	Learner using L2 to organise thought	"I think in English right away and try to organise ideas to sound like (…) coherent" (0013b, Task 2, Unit 5| Report during group reflective discussions)

Cognitive strategies: Involving manipulating the target language in order to understand or produce language.		
Individual strategies	**Definition**	**Example**
Analysing linguistic choices	Learner analysing different linguistic choices for the response	"here I was looking for a suitable word to describe it I have two options in my mind but I was like which one is more suitable or (…) more appropriate for the topic" (004a, Task3, Unit3|Reported during VSR reflection session) "I was thinking here should I use have or had which one is grammar wise is right" (007a, Task 1, Unit 4|Reported during VSR reflection session)
Analysing questions	Learner analysing task questions	"the question the form of the question take two (…) take two scenarios one in the past and one in the future and for me the future tense is much easier to use" (005a, Task 2,Unit 5|Reported during group reflective discussions)
Anticipating problems	Learner anticipating their problems during the task	"this is kind of difficult sounds for me because the pronunciation is different in English so while speaking I kind of know I will pronounce it wrong and it make me sound unclear" (007a, Task 2, Unit 5|Reported during VSR reflection session)
Anticipating questions	Learner anticipating the question	"I said yes and I I know I will be asked why in the next question" (004a, Task 3, Unit 3|Reported during VSR reflection session)
Anticipating rating criteria	Learner anticipating a task's rating criteria	"...I know that if I don't get the collocation words right that's ganna make my score low" (004a, Task 3, Unit 3|Reported during the group reflective discussions)
Attending to oral production	Learner directing attention to or concentrating on a specific aspect of a task	"I tried concentrating on my speaking because sometimes I feel my sentences are missed up so I have to concentrate about grammar and organization how to say things and details" (003a, Task 2, Unit 2|Reported during group reflective discussions)
Attending to task requirements	Learner directing attention to task requirements	"…I also think I should cover all the three points in the card" (0010b,Task 2, Unit 2|Reported during group reflective discussions)
Using imagination	Learner using imagination in order to respond	"here I created a fake story [laughing] like the entire story about this gift was made up in one minute"(0013b, Task 2, Unit 5|Reported during audio reflection session)
Inferring	Learner seeking to understand by using information in the text, dialogue, or monologue to guess the meanings of linguistic items or to make up missing information	when I heard the word "means" I was what it is a bit confusing to me I still even while speaking I was still not sure but I just kind of guessed the meaning from the conversation" (003a, Task 1, Unit 4, Reported during VSR reflection session)
Memorising	Learner trying to memorise common phrases/expressions to use in response to questions	"I sometimes use fixed sentences I memorize but there is a limit to use these memorized sentences" (0012b, Task 1, Unit 4|Reported during audio reflection session)
Outlining	Learner outlining the content of his/her response	"I tried to organize the ideas in sections for example, introduction, past, description, opinion, future" "(0013b, Task 2, Unit 5|Reported during audio reflection session)
Recalling vocabulary	Learner recalling vocabulary	"I think about how to describe the situations especially I need to prepare the vocabularies and words and while I'm reading the questions I write down the vocabulary to explain the situations" (009b, Task 2, Unit 2|Reported during audio reflection session)
Translating	Learner translating between languages	"I know what I want to say I have idea in my head in my own language but I had a hard time translating it to English (…) so yeah this is here all translation of my ideas I don't

		know if it make sense" (001a, Task 3, Unit 6|Reported during VSR reflection session)
Organising thoughts	Learner organising ideas	"I first find the ideas and then think of words and expressions to expand on" (008a, Task 3, Unit 6| Reported during group reflective discussions)
Metacognitive strategies: involving organising, planning, and evaluating.		
Individual strategies	**Definition**	**Example**
Evaluating language skills	Learner evaluating language proficiency after completing a task	"poor pronunciation again not very clear" (004a, Task 1, Unit 4|Reported during VSR reflection session)
Evaluating affect	Learner evaluating his or her emotional state	"I feel so good I spoke my part confidently" (009b, Task 2, Unit 2|Reported during audio reflection session)
Evaluating language production	Learner evaluating language production after completing a task	"today I didn't do well I used a lot of the same words like (…) so repetitive and no advanced words" (008a, Task 1, Unit 4|Reported during VSR reflection session)
Evaluating mental process	Learner evaluating his/her thinking process	"I made a mistake at the beginning about the geographic location and it distracted me I continued thinking about it here and yeah I was lost" (007a, Task 1, Unit 4|Reported during VSR reflection session)
Evaluating performance	Learner evaluating language performance	"I don't believe that I have fluency! but this time when I saw my video I feel I am not bad its much better than I thought to be honest" (004a, Task 1, Unit 1|Reported during VSR reflection session)
Evaluating strategies	Learner evaluating the strategies used to perform the task	"I don't follow my steps or notes and that's wrong and it is hard for me to organize time when I start I find I spend all time explaining one point" (008a, Task 2,Unit 2|Reported during group reflective discussions)
Evaluating task	Learner evaluating the task	**"**to be honest the topic is too hard for me I have no idea how to answer the questions so (…) it was hard" (005a, Task 1, Unit 4|Reported during VSR reflection session)
Generating goals	Learner generating goals	"My speaking today was not smoothly and hard to follow (…) I should practice speaking smoothly and learn some vocabulary to avoid repetition and express my ideas more clearly" (002a, Task 3, Unit 3|Reported during VSR reflection session)
Generating future solutions	Learner generating solutions in response to their performance after a task	"whenever I say I speak the sentence I forgot (…) I tend to forget the grammar especially in past and present verbs and future verbs so I have to revise the verbs to solve this issue next time" "(0012b, Task 3, Unit 3|Reported during audio reflection session)
Generating future strategies	Learner generating strategies	"I don't decide what I speak about very quickly and then my notes are not good next time I will not spend too much time and I will decide quickly to have time to take notes" (0015b, Task 2, Unit 2|Reported during audio reflection session)
Self-evaluation of personal strengths/weaknesses	Learner evaluate areas of strengths or weaknesses in their performance after a task	"Personally today's strength is thinking of (…) ability of thinking vocabulary (…) I can think vocabularies more because I studied vocabulary more than before, two weeks ago I only focus on speaking fast but now I realize speaking with focus is what I need at this stage" (0012b, Task 2, Unit 2|Reported during audio reflection session)
Setting goals	Learner setting a goal for task completion	"I will practice how to take like useful notes quickly I think I need to work on this part to do better next time" (0014b, Task 2, Unit 2|Reported during audio reflection session)

Identifying problems	Learner identifying problems in performing a task	"after I see the video today I notice vocabluary is the worst problem of my speaking" (003a, Task 3, Unit 3| Reported during VSR reflection session)
Monitoring body language	Learner monitoring his/her body language	"I tried to keep my eyes on (…) to do eye contact with [the instructor] I was consciously trying to keep looking at [the instructor]"(001a, Task 1, Unit 4|Reported during VSR reflection session)
Monitoring teacher/interviewer's feedback	Learner monitoring the teacher/interviewer's feedback	"when I speak I always read the listener's facial expressions like here when I saw he didn't understand me I keep explaning and explaning" (008a, Task 2, Unit 5| Reported during group reflective discussions)
Monitoring time	Learner monitoring the time while performing a task	"I was worried about the time what I am going to say in this long time" (004a, Task 1, Unit 1|Reported during VSR reflection session)
Self-monitoring	Learner self-monitoring his/her performance during the task	"well I tried to keep calm and don't be pressured about time just remembering that I need not to stop until the clock sound or [the instructor] say so (…) I just keep talking" (0011b, Task 2, Unit 2|Reported during audio reflection session)
Self-correction	Learner self-correcting errors in his/her oral production	**"**sometimes if I make mistake I can hear I can catch my mistake and correct it I go back and say it again with the correct tense**"** (004a, Task 3, Unit 6|Reported during VSR reflection session)
Affective strategies: involving self-talk or mental control over affect		
Individual strategies	**Definition**	**Example**
Fearing judgement	Learner minding oral production for fear of judgment	"I was oh my god oh my god I didn't understand many questions (…) and [the instructor] will think I am worse than before" (006a, Task 3, Unit 6|Reported during VSR reflection session)
Justifying affective state	Learner using reasons to justify their emotions that might affect their performance	"Today (…) I didn't do well my concentration was getting lose I become tired from thinking so I said "pardon" a lot and I was not sure if I am doing well or not and that made me nervous" (003a, Task 3, Unit 3|Reported during VSR reflection session)
Justifying performance	Learner justifying his/her performance	"I know that I made grammar mistake but I still continue (…) because I don't have a lot of practice and that what it did" (004a, Task 1, Unit 1|Reported during VSR reflection session)
Lowering anxiety	Learner lowering his/her anxiety	"I tried to be relaxed comfortable and tried to imagine it's a friendly conversation to reduce my stress" (0010b, Task 1, Unit 4|Reported during the audio reflection session)
Monitoring affective state	Learner monitoring his/her emotional state during the task	"I tried to be relaxed and I tried to have a simple conversation and be easy to speak and I try to imagine that I am speaking with my neighbour or my friend" (0010b, Task 3, Unit 3|Reported during the audio reflection session)
Overriding affective state	Learner conquering his/her negative emotion	"I was so nervous before I answer the question (…) when I heard that we talking about music I kind of have more confidence because I am interested in music so I was relieved I have things to say no worry" (002a, Task 1, Unit 1|Reported during VSR reflection session)
Engaging in positive self-talk	Learner encouraging him/herself through positive statements	"hmmm I know my personality is a little shy I am usually nervous before I take a test so I tried to calm my mind and said to myself be confident I can do it" (003a, Task 1, Unit 1|Reported during VSR reflection session)
Social strategies: involving interacting with the examiner/teacher in order to perform the task		
Individual strategies	**Definition**	**Example**

Asking the teacher/interviewer questions to direct conversation	Learner asking the teacher/interviewer questions to decide what to talk about	Instructor: Let's talk about hobbies, do you have a hobby? 008a: a hobby! I I don't have right now because I am too busy but I use to in the past can I talk about my hobbies in the past? Instructor: sure! 008a: I used to do the durms play the drums with the school band…(008a, Task 1, Unit 4|Main task performance)
Asking the teacher/interviewer to repeat questions	Learner asking the teacher/interviewer questions in order to prepare his/her response	"I tried to prepare my ideas and asking for repeating the question in order to buy some time to think of what to say" (0013b, Task 1, Unit 4|Reported during the audio reflection session)
Creating a positive impression	Learner trying to create a positive impression on the teacher/interviewer	"I was trying to think of the reasons why I don't like art because I don't want to sound negative I'm not used to being negative and I don't want the person who I am talking to think I am picky or have negative personality" (008a, Task 1,Unit 4|Reported during group reflective discussions)
Practicing with others	Learner seeking to practice speaking with others	"practice with other people is my aim it is like basic essential to improve now I try to take any opportunity to speak with anyone foreigners or native and I tell them to correct me I don't mind" (0011b, Task 2, Unit 5| Reported during group reflective discussions)
Seeking clarification	Learner seeking clarification from the teacher/ interviewer	Instructor: Do you prefer to send post cards to people or send photos you took yourself? (…) sorry! I didn't get you? can you explain [Main task performance] [paused]"here I didn't get the meaning of the question so I tried to think but then I decide to asked [the instructor] (001,Task 1, Unit 4|Reported during VSR reflection session)
Seeking help	Learner seeking help from the teacher/ interviewer	"my father is a farmer so (…) my mother is a (…) a work what I said (…) I can say (…) work at home (…) house work I can say?" -"instructor: we say housewife"- ok yeah housewife right" (004, Task 3, Unit 3|Main-task performance)
Seeking confirmation	Learner seeking confirmation from the teacher/interviewer	"001a: people visit the (…) grave no a (...) cemetery!? right? Instructor: [nodding] 001a: yeah cemetery of the ancestors to to memorize them yeah" (001a, Task 3, Unit 6|Main task performance)
Seeking social interaction	Learner seeking interaction with the examiner/teacher	"I used expressions like OMG and that's a great question! to show that I am enjoying the conversation and it's a causal natural conversation with [the instructor]" (0011b, Unit 3, Task 3|Reported during the audio reflection session)