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Abstract

As English Medium Instruction (EMI) is becoming widespread in both secondary and higher educational settings, listening to the teacher speaking in English becomes an everyday task for many students who are taught mainstream curriculum subjects in their second language (L2). The strategies students use during such a listening task are of importance for teaching practitioners aiming to enhance learners' comprehension of academic content in English. This mixed-methods study looks at L2 strategies used by EMI upper-secondary students (N = 20) of B2-C2 Common European Framework of Reference (CEFR) proficiency levels when listening to teacher talk. It explores which strategies learners use when they begin EMI, whether their strategies differ according to listening abilities, and whether strategies develop or change over a six-month period of EMI exposure. The data have been collected from a questionnaire, a lesson observation, and follow-up interviews at two time points. The findings show a wide variety of strategies and two most common strategy combinations deployed by the participants. No statistically significant correlation between strategy use and listening abilities has been found; however, differences in approaches to *note-taking* and *summarisation/appropriation* between participants with lower and higher listening abilities have been detected. Some development in strategy use over time has been recorded. The implications for teaching strategies are discussed.

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List of Abbreviations

L1	First Language
L2	Second Language
EMI	English Medium Instruction
IB DP	International Baccalaureate Diploma Programme
ESL	English as a Second Language
EFL	English as a Foreign Language
MALQ	Metacognitive Awareness Listening Questionnaire
CEFR	Common European Framework of Reference
LK	Linguistic knowledge
IELTS	International English Language Testing System
SILL	Strategy Inventory for Language Learning
OSB	Opportunity for strategic behaviour
CLIL	Content and Language Integrated Learning
RQ	Research question
CUREC	Central University Research Ethics Committee
SPSS	Statistical Package for Social Sciences

Chapter 1. Introduction

1.1 Background to the study

As higher education is becoming more internationalised (Knight, 2013), in part due to the Bologna Process, higher educational institutions around the world are increasingly implementing EMI (Doiz et al., 2013), i.e., ‘[t]he use of the English language to teach academic subjects’ (Macaro, 2018, p. 1). This has required secondary schools to adapt their curricula and prepare future university students to learn content in English, and one way of doing this is to introduce EMI already in secondary school (Chalmers, 2019; Macaro, 2018). As a result, EMI is now a ‘growing global phenomenon in all phases of education and educational settings’ (Macaro et al., 2018, p. 37).

EMI requires a considerable amount of listening, particularly, to academic lectures, on the part of students. It might be due to the real-time nature of the listening process together with the broad range of knowledge necessary for successful comprehension (Flowerdew, 1994), and, perhaps, the lack of opportunities to clarify or negotiate meaning that listening has been reported to be the weakest skill by L2 learners (Macaro, 2018), creating the most difficulties for them. These difficulties include word recognition and the understanding of implicit ideas among others (Buck, 2001; Graham, 2006).

One way to overcome these difficulties or, in other words, to compensate for limited listening skills (Field, 1998), is to adopt listening strategies. As strategic behaviour together with language knowledge comprise language proficiency (Bachman & Palmer, 2010; Macaro, 2018), the implementation of effective strategies is an integral part of L2 learning (Macaro, 2006) and L2 listening comprehension (Graham & Macaro, 2008; Graham & Santos, 2015; Vandergrift, 1997). The ability to regulate one’s listening process can improve comprehension (Vandergrift, 2007). Thus, investigating learner listening strategies in an EMI setting may help language practitioners teach their students strategic listening to ensure successful L2 comprehension.

1.2 Rationale

Although some scholars once referred to listening strategies as the ‘Cinderella’ of strategies (Vandergrift, 1997) because they were under-researched, the number of studies investigating the use of L2 listening strategies has grown (e.g., Fung & Macaro, 2019; Soruç et al., 2018). Most studies have focused on identifying the listening strategies their participants used (e.g., Murphy,

1985; Ngo, 2015; Soruç et al., 2018) or have explored the correlation between listening strategy use and some other variables, such as students' listening proficiencies (e.g., Huang & Nisbet, 2019; Kassem, 2015; Vandergrift, 2003), linguistic knowledge (e.g., Fung & Macaro, 2019), and student demographics (e.g., Bacon, 1992; Tuengkun, 2014). The context in which most of these studies took place was in English as a Second language (ESL) settings. Surprisingly, regardless of the current popularity of EMI, very few studies to date have looked at listening strategy use by EMI students (e.g., Soruç et al., 2018). Moreover, the scope of such research has been limited to listening to academic lectures.

To address this gap in the literature, the present study explores the listening strategies upper-secondary school students use when they are being taught curriculum subjects in L2, and whether these strategies differ based on their L2 listening comprehension abilities. Additionally, the upper-secondary context has allowed the researcher of the present study to examine students' listening to teacher talk, i.e., listening to the teacher (the two terms will be used interchangeably in the present study). Such listening in secondary school settings includes more clarifications, explanations and mediations by the teacher as well as more teacher-student interaction than one would expect in higher educational settings. Interestingly, listening to teacher talk as a listening task has only recently been regarded as 'worthy of strategy research' (Macaro, 2018, p. 270).

There is research evidence indicating that EMI improves language proficiency (e.g., Rogier, 2012); however, very little is known about whether EMI exposure may lead to the development of or changes in listening strategy use. To date, studies exploring the development of L2 listening strategies have mostly focused on the development as a result of strategy instruction (Dong, 2016; Nogueroles López, 2017). The development of L2 listening strategy use without explicit strategy training has only briefly been addressed in the literature (Graham et al., 2008; Graham et al., 2011), and no previous studies have looked at strategy development as a result of EMI exposure. Thus, the study aims to add to the current understanding of strategy development in an under-researched EMI context in relation to listening to teacher talk, a task that has been rarely looked at before.

1.3 Objectives

The present study investigates the strategic behaviour of Russian upper-secondary boarding school students in Year 1 of an International Baccalaureate Diploma Programme (IB DP). It aims to identify the strategies used by students when listening to teacher talk, to detect any differences in strategy use among students with different listening comprehension abilities, and

to explore changes in listening strategies during a six-month period of EMI exposure. More specifically, the present study aims to answer the following research questions (RQs) by adopting a mixed-methods quantitative – qualitative approach:

- (1) Which strategies do learners entering an EMI programme use when listening to teacher talk?
- (2) Do these strategies differ according to listening comprehension abilities?
- (3) Do the strategies that learners use when listening to teacher talk change in a six-month period of EMI exposure?

1.4 Dissertation overview

This dissertation has four subsequent chapters. Chapter 2 discusses key topics in L2 listening strategy use and examines the available research on L2 listening strategies in relation to the three RQs. Chapter 3 outlines the methodology of the present study. Chapter 4 analyses and reports the quantitative and qualitative results. Finally, Chapter 5 interprets and discusses these results with reference to existing research and Chapter 6 concludes with a discussion of what the present study has found, outlining its limitations and implications for teaching practices and future research.

Chapter 2. Literature review

This chapter explores key topics relevant to the present study. It begins with a brief outline of the literature on L2 listening, the EMI setting and listening to teacher talk as well as learner strategies and L2 listening strategies. It then reviews existing research on the listening strategies L2 learners use and looks at whether these strategies differ according to listening proficiency, and whether they may develop or change with or without strategy instruction. The chapter concludes by identifying the gap this study sets out to fill.

2.1 Listening in an L2

The following set of processes is involved in listening comprehension: decoding, lexical search, parsing, meaning construction and discourse construction (Field, 2013; Perfetti, 1985). L2 listening is not as effortless as listening in the first language (L1), one explanation for which is ‘the differences in the amount of practice’ that L1 and L2 listeners receive (Macaro et al., 2015, p. 40). The most often reported listening difficulties concern the real-time and aural nature of listening and include ‘segmenting phonemes [and words] from the speech stream’ (Vandergrift, 2007, p. 193), following the rate of delivery, understanding unfamiliar accents (Flowerdew & Miller, 1996; Graham, 2006) and reduced and non-standard grammatical forms (Richards, 1983).

The ability to decode acoustic-phonetic information (i.e., the bottom-up processes) may vary from individual to individual (Field, 2008). These processes can be automatised through ‘repeated encounters’ (Macaro et al., 2015, p. 33) and become rapid and effortless with practice (Macaro et al., 2015), freeing up space in the working memory for other processes. Listeners also make use of prior knowledge, accumulated in long-term memory as schemata, to understand the meaning (i.e., the top-down processes). According to Vandegrift (2007), ‘the degree to which listeners use one process more than the other’ (2007, p. 193) depends on the listening context, the purpose for it and the level of language proficiency of the listener.

While there is empirical evidence suggesting that learners’ ability to comprehend L2 input depends on their working memory capacity (Bloomfield et al., 2010), some recent studies have demonstrated that when a listening task is less difficult, working memory plays a less considerable role in comprehension (Duman et al., 2021). That is to say, the difficulty of the task and different features of the listening input (e.g., the speed of speech) ‘may impose additional demands on working memory’ (Bloomfield et al., 2010, p. 11), particularly, for lower-level listeners as they are less ‘able to process aural input automatically and efficiently, with little

conscious attention to individual words' (Vandergrift, 2007, p. 193). The more proficient L2 listeners become, the more they are able to control their top-down processes (Bloomfield et al., 2010). This explains why the use of top-down processes is mostly associated in the literature with more proficient L2 listeners (e.g., Murphy, 1985; O'Malley et al., 1989; Vandergrift, 1997). Nevertheless, a weaker command of the phonology and grammar has been associated with greater reliance on top-down processes (Goh, 2000). Thus, listeners do not use the two processes in isolation. Fluent listening requires 'a judicious interplay' (Vandergrift, 2011, p. 456) between top-down and bottom-up processes.

2.2 The EMI setting and listening to teacher talk

What differs between the two learning contexts, ESL and EMI, is that the former with its lack of focus on content, may be 'highly artificial' as an environment (Field, 2014, p. 35). EMI, on the contrary, 'creates meaningful contexts to strengthen [learners'] existing knowledge and stretch their cognitive capacity' (Coleman et al., 2018, p. 710). This provides a more natural, 'archetypal setting for language use' (Macaro, 2018, p. 269). For an L2 learner to develop successfully, the processing of large amounts of academic input is necessary. In an EMI setting, learners will most often listen to either a teacher (in a small class or a seminar) or to a lecturer, and will be required to use skills such as concentration for an extended period of time, note-taking and integrating spoken input with other available resources, for example, the information received via handouts, textbooks or presentations (Flowerdew, 1994). The nature of L2 listening input might affect the listening task difficulty (Brindley & Slatyer, 2002), which together with the task's purpose (Vandergrift, 2002) may influence the types of listening strategies an L2 listener uses to support comprehension in different listening situations.

The listening tasks investigated in most studies to date have involved participants listening to recorded language (e.g., Manzouri et al., 2016) or to academic lectures (e.g., Kanayama, 2020; Soruç et al., 2018). Listening tasks involving listening to the teacher or to teacher talk appear to be 'a relatively new area' in research (Fung & Macaro, 2019, p. 6). Some attempts have been made to identify features of such a task and explore its effect on L2 listeners (Ivanova, 2011). The research by Fung and Macaro (2019) contributed to the understanding of such a listening task by suggesting that teacher talk represents 'more predictable and repetitive speech acts' (Fung & Macaro, 2019, p. 4). Perhaps, it is perceived even more predictable by learners as their relationships with the teacher develop and they can rely more on the teacher's use of 'metadiscursive comments' (Vandergrift, 2007, p. 202).

In addition, speech adjustments that the teacher makes may ease the burden on L2 listeners, ‘something rarely possible in tasks involving audio-recordings’ (Fung & Macaro, 2019, p. 4). More specifically, listening to teacher talk may be mediated by teachers’ explanations (Macaro, 2018), repetition, clarification and content feedback (Cullen, 1998) to help learners activate their prior knowledge, contextualise their listening and achieve better comprehension and construction of meaning (Field, 2011). Teacher talk may also ‘guide students through the process of listening’ (Vandegrift, 2007, p. 197) by encouraging the use of listening strategies and by helping learners with developing metacognitive knowledge and self-regulation.

The purpose of the listening task when listening to the teacher is usually more interactional, providing the listener with ‘the dual roles of listener and speaker’ (Vandegrift, 2007, p. 195). The listener, especially in secondary educational settings, has ‘the freedom to clarify the meaning’ and ‘to signal a comprehension problem’ (Vandegrift, 2007, p. 195). This contrasts with listening to recorded speech and to reading-style academic lectures, the purpose of which is more transactional rather than interactional (Vandegrift, 2002).

The strategies, students use when listening to the teacher, may differ from the strategies needed to approach other listening tasks. For example, the English as a Foreign Language (EFL) participants when listening to the teacher in Fung’s (2016, as cited in Macaro, 2018) study demonstrated ‘a clear divergence from the strategies reported in the “unidirectional” listening literature’ (Macaro, 2018, p. 271). The L2 listeners were reported to have deployed interaction strategies, such as *asking the teacher to repeat* and *asking the teacher what he or she meant*, to assist with their understanding. Fung and Macaro (2019), in the same context, however, reported *seeking help directly from the teacher* as the least frequent strategy found in their study. Thus, whether students attempt to negotiate meaning may vary in different classroom settings and may be affected by different variables (e.g., students’ background knowledge, teacher-student relationships, students’ anxiety). The possible difficulty that listening to teacher talk may create in an EMI setting is that L2 learners will most likely be exposed to ‘a variety of teaching styles’ (Macaro, 2018, p. 271) and teaching contexts which will require ‘a strategic realignment’ on the part of the L2 listener (Macaro, 2018, p. 272). Further exploration of how L2 listeners approach listening to teacher talk in different contexts is clearly warranted.

2.3 Learner strategies and listening strategies

There has been a considerable amount of literature on learner strategies; however, there seems to be ‘no consensus about what learner strategies are’ (Macaro, 2006, p. 325). For instance, there

has been ambiguity in the research as to whether learner strategies are always conscious actions or may be deployed without awareness (Macaro, 2006). Some scholars have acknowledged that strategies are ‘controllable’ (Pressley & McCormick, 1995, p. 28), involve conscious mental activities (Cohen, 2011; Macaro, 2018), require awareness (Rabinowitz & Chi, 1987) and may become processes once they become habitual (Cohen, 1998). Others, nevertheless, have argued that there may be an unconscious element in strategy use (Grenfell & Harris, 2014).

Most often researchers have put purpose at the center of strategic behaviour. More specifically, strategies are viewed as ‘a goal, a situation, and a mental action’ (Macaro, 2006, p. 325), as ‘actions chosen by learners for the purpose of learning or regulating learning’ (Griffiths, 2015, p. 426). They are said to be deployed to ‘make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations’ (Oxford, 1990, p. 8). Some recent findings have suggested that being a successful language learner is impossible without being an independent language learner (Grenfell & Harris, 2014). Learner strategies, therefore, may be ‘inextricably linked’ with autonomy (Grenfell & Harris, 2014, p. 197), i.e., ‘the ability to take charge of one’s own learning’ (Holec, 1981, p. 20) and may be seen as a product of self-regulation (Dörnyei, 2005). Moreover, their existence has been questioned due to the lack of understanding of the established differences between ‘ordinary learning activities’ and ‘strategic learning activities’ (Dörnyei, 2005, p. 164).

Listening strategies are those strategies that are employed by learners to ‘compensate for gaps in understanding’ (Field, 2011, p. 102) and overcome difficulties during L2 listening (Graham & Santos, 2015; Macaro, 2018). Listening strategies, as a type of language learner strategies, may be defined then as learners’ ‘conscious plans to deal with incoming speech’ (Rost, 2001, p. 10). However, Macaro (2006) suggests that plans have ‘broader learning objectives than do strategies’ (2006, p. 330) and proposes to differentiate strategies not only from plans but also from processes, skills, and styles. To address the problem of the lack of ‘clarity in the definition’ (Macaro, 2006, p. 322), the researcher suggests that strategies should be described ‘as having a series of essential features rather than define[d]’ (Macaro, 2006, p. 325). A comprehensive description of these features can be found in Macaro (2006).

Research on L2 listening strategies has mainly focused on the following topics, as reviewed by Macaro et al. (2007): the types of strategies used and their frequency (with the most recent research conducted by Soruç et al., 2018; Macaro et al., 2019), the correlation between strategy use and listening success (e.g., Vandergrift, 2003), and the effectiveness of strategy instruction (with the most recent research conducted by Dong, 2016; Nogueroles López, 2017). Little

research to date has investigated the development of strategies without strategy instruction (e.g., Graham et al., 2008; Graham et al., 2011). Even fewer studies have examined L2 listening strategies in EMI settings (e.g., Soruç et al., 2018), where English is used to teach curriculum subjects and where L2 listening is, therefore, an integral part of learning.

2.4 Researching L2 listening strategies: taxonomies and research instruments

In order to investigate L2 listening strategies, several taxonomies have been used in the literature. One of the most widely used was developed by O'Malley and Chamot (1990). It distinguishes between *metacognitive* (planning, monitoring and evaluation of a learning activity), *cognitive* (manipulating information to enhance learning) and *socio-affective* (social interaction) strategies. The difficulty identified with the use of this taxonomy is that each strategy type may comprise a wide range of strategic behaviours making it problematic to isolate a particular strategy and explore its impact (Cohen, 2011). Another commonly used taxonomy, developed for L2 listening in particular, distinguishes strategies such as *problem-solving*, *planning and evaluation*, *mental translation*, *person knowledge* and *directed attention* (Vandergrift et al., 2006). As opposed to O'Malley and Chamot (1990), Vandergrift et al. (2006) did not recognise socio-affective strategies as a separate category. Macaro (2006, p. 332) supported such 'reduction of categories, to cognitive strategies and metacognitive strategies only' and claimed that affective strategies were 'part of the recursive use of metacognition', and social strategies were 'clusters of cognitive and metacognitive strategies' (2006, p. 328).

One of the newest taxonomies created for an ESL classroom, which to date has not been used widely, focuses specifically on strategies that learners use when listening to the teacher (Fung, 2016, as cited in Macaro, 2018; Fung & Macaro, 2019). It includes ten strategy factors and three opportunities for strategic behaviour which are observable actions (Briggs, 2015), as presented below (Fung & Macaro, 2019, p. 7):

- contextualisation for the present lesson;
- selective attention on difficult words or segments;
- recall of prior knowledge;
- understanding through recalling teacher's approach;
- summarisation;
- translation;
- selective attention on simple words or segments;
- auditory representation and imagery;

- evaluation;
- repetition;
- utilisation of personal physical resources;
- hide and seek
- direct help seeking from the teacher.

Research on L2 listening strategies has offered several commonly used strategy elicitation instruments: diaries (e.g., in Dong, 2016), interviews (e.g., in Soruç et al., 2018) and verbal reports (e.g., in Graham et al., 2008). Kanayama (2020), based on a systematic review of 21 studies examining listening strategies used during L2 lecture comprehension, established that the least widely used research instrument is lesson observations and the most commonly used is questionnaires. Most studies (e.g., Bidabadi & Yamat, 2011; O'Bryan & Hegelheimer, 2009) have based their research on a Metacognitive Awareness Listening Questionnaire (MALQ), developed by Vandergrift et al. (2006). The MALQ assesses 'L2 learners' metacognitive awareness and perceived use of strategies while listening to oral texts' (Vandergrift et al., 2006, p. 449). Is it noteworthy that Vandergrift and Baker (2015) point out that the MALQ may only demonstrate learners' awareness of particular strategies but not their 'actual metacognitive activity' (2015, p. 410).

2.5 Studies showing which L2 listening strategies are used by learners

Much work on which listening strategies L2 learners use has been carried out (e.g., Tuengkun, 2014; Ngo, 2015; Manzouri et al., 2016; Soruç et al., 2018). Based on the literature, it may be reasonably assumed that learners use different strategies in response to different listening tasks (Cross & Vandergrift, 2015) and their strategy use varies from context to context (Field, 2008). For example, a tendency to use *cognitive* listening strategies more was found in studies by Manzouri et al. (2016) with Iranian EFL learners (N = 40) and Tuengkun (2014) with international Asian university students in the USA (N = 279). In Ngo's (2015) study, on the other hand, the participants, Vietnamese EFL undergraduates (N = 30), tended to use *social/affective* strategies more than cognitive and metacognitive strategies. The research instrument used in those three studies was a Listening Strategies Questionnaire adopted by the researchers from other studies. A key weakness in those studies may be that questionnaires do not allow a rich enough picture of strategy research (Woodrow, 2005). In addition, researchers have since warned against over-generalising research findings 'beyond the boundaries in which

the study takes place’ and have recommended to ‘explore each learning context with the complexity that it deserves’ (Rose, 2012, p. 146).

In this respect, more relevant to the present study is research conducted in EMI settings. Two recent studies looked at L2 listening strategy use during lecture comprehension in an EMI environment: Soruç et al., 2018 and Macaro et al., 2019. The participants in Soruç et al.’s (2018) study were Turkish university students (N = 76). The use of 24 different strategies, such as, for example, *sitting in the front row, participating in classroom activities, trying to keep up with the lecturer, asking questions, guessing unknown words from context, trying to understand instead of taking notes, translating what the lecturer says, trying to remember old knowledge, thinking critically* has been reported (Soruç et al., 2018, p. 272). Such data, although interesting, do not provide a clear enough picture. Different factors could have influenced students’ choices of strategies, such as their cognitive abilities, familiarity with the topic of the lecture, linguistic knowledge that includes vocabulary size and familiarity with the L2 phonology. The open-ended questions that supplemented the questionnaire in Soruç et al. (2018) helped to classify strategies the students used into three strategy groups, namely *focusing on the lecturer, note-taking* and *individual effort*.

The participants in Macaro et al.’s (2019) study were Italian EMI students (n = 156). They used *note-taking, reviewing the material and notes* strategies as did the participants in Soruç et al. (2018). However, they relied more on top-down knowledge by *guessing from context* as opposed to Soruç et al.’s (2018) participants who used bottom-up knowledge when *translating* what the lecturer said. While it is difficult to compare the findings across different studies, it is worth noting that both Soruç et al. (2018) and Macaro et al. (2019) highlighted the importance of metacognitive strategies for an EMI setting. It may be that academic listening in such a setting requires learners to be more ‘in control of their learning’ process and use strategies that ‘are more consciously pro-active’ (Macaro, 2001, p. 25). It can, thus, be hypothesised that a great diversity of metacognitive strategies as well as self-regulation strategies, e.g., regulating motivation and emotions and controlling study behaviour (Nilson, 2013), may be found to be important for learners in an EMI context.

2.6 Studies showing whether L2 listening strategies differ according to L2 listening proficiency

Numerous studies have attempted to investigate the relationship between L2 listening strategy use and L2 proficiency or linguistic knowledge. Research has almost consistently indicated

that *metacognitive* and *cognitive* strategies are positively correlated with L2 proficiency (e.g., Bidabadi & Yamat, 2011; Fung & Macaro, 2019; Kassem, 2015; Murphy, 1985); however, it is difficult to draw conclusions from research as listening proficiency has been defined and measured differently in different studies (Bloomfield et al., 2010).

The most consistent results have been found about the use of such *cognitive* strategy as *translation* of L2 text to L1. *Translation* was, for example, strongly associated with lower linguistic knowledge (LK) of the participants in Fung and Macaro's (2019) study, which goes in line with the findings by Vandergrift (2003), whose participants were similarly reliant on bottom-up strategies. These findings highlight the significance of LK in listening comprehension, specified also by Vanderplank (2014). The link between vocabulary knowledge and successful listening comprehension has also been well documented (e.g., Wang & Treffers-Daller, 2017). As argued by Macaro et al. (2015), when listeners recognise words automatically, their working memory capacity may be freed up 'for higher-level, meaning-related strategies and for metacognitive regulation of their strategy use' (2015, p. 53).

It may appear that by being aware of the cognitive processes which help regulate comprehension (Pressley, 2002), more skilled L2 listeners deploy more metacognitive strategies than less skilled listeners (Goh, 1997; Graham & Santos, 2015; Vandergrift, 1997, 2003). However, there is research evidence indicating that more proficient learners did not differ in their strategy use from less proficient learners (Murphy, 1985). Santos et al. (2008), among others, reported a similarity in some strategy use between their participants with higher and lower LK, namely *predicting lexis*, *selective attention* and *deploying world knowledge*. In a similar line of research, Fung and Macaro (2019) investigated Hong Kong EFL intermediate level learners (N = 646) of low and high LK. When they had divided each of their two comparison groups into two subgroups (less and more highly strategic), the researchers did not establish that the type of strategy used was determined by LK. The researchers reported that some of their participants (highly strategic group) with low LK used similar strategies to the participants with high LK, and some high LK students (less strategic group) used the strategies found in low LK group (with the only exception being *translation*, which was applied by the low LK group only). The findings of this study may be specific to the listening task investigated (listening to the teacher), as the teacher might guide students through the listening processes and implicitly teach them strategic listening. However, these findings indicate that in certain environments learners of different LK develop the same strategies to support comprehension.

What has not been identified to date is ‘the question of causality’ (Macaro et al., 2015, p. 53): whether more skilled L2 listeners employ certain strategies due to their high proficiency levels, or the use of these strategies results in better comprehension and the increase of learners’ proficiency (Macaro et al., 2007). Bidabadi and Yamat (2011) attempted to establish a correlation between three listening proficiency levels (lower-intermediate, intermediate and advanced) and L2 listening strategies and concluded that the level of proficiency influenced the frequency of strategy use. The participants in the study were female Iranian university students of EFL (N = 92). The results demonstrated a statistically significant positive correlation between advanced level participants (n = 19) and *metacognitive* ($p < .05$, $r = .566$) and *socio-affective* strategies ($p < 0.05$, $r = .464$), intermediate level participants (n = 39) and *socio-affective* strategies ($p = .01$, $r = .415$), lower-intermediate level participants (n = 34) and *metacognitive* ($p < .05$, $r = .433$) and *cognitive* strategies ($p \leq .05$, $r = .340$). Interestingly, metacognitive strategy use was found to be frequent among all proficiency level groups. Possibly, the results may be explained by the participants’ maturity, as they were tertiary level students; or gender: a comparative study by Bacon (1992), for example, found that women use more metacognitive strategies than men; or their levels of self-regulation, e.g., research on self-regulation distinguishes between novice and expert learners in that they take ‘the very different perspectives’ (Nilson, 2013 p. 7) on their learning.

Higher levels of listening comprehension were demonstrated by high strategy Egyptian university students (N = 84) in Kassem’s (2015) study. The researcher found a strong positive correlation between the participants’ L2 listening comprehension and *metacognitive* ($r = .62$, $p = .000$) and *cognitive* ($r = .60$, $p = .000$) strategies, and only a modest positive correlation between L2 listening comprehension and *socio-affective* strategies ($r = .25$, $p = .022$). The participants’ frequent use of *cognitive* strategies (*inferencing* and *use of background knowledge*) was explained by their ‘limited language proficiency’ and the necessity to ‘cope with complexities of the listening task’ (Kassem, 2015, p. 161). A lower frequency of the use of socio-affective strategies in this particular study has been attributed to the ‘tendency to individuality’ in Egyptian EFL contexts (Kassem, 2015, p. 161), which confirms once again how findings may be context-specific. It is worth mentioning that both Bidabadi and Yamat (2011) and Kassem (2015) uncover relationships between L2 proficiency and strategy use rather than causality.

Comparisons between effective and ineffective listeners were made by O’Malley et al. (1989), who investigated intermediate level Hispanic students of ESL (N = 11) and concluded that such individual strategies as *elaboration*, *inferencing* (cognitive strategies) and *self-monitoring* (metacognitive strategy) differentiated effective listeners from ineffective. The most important

finding, however, was that the effective listeners in this study applied the strategies ‘in a variety of ways depending on the phase of comprehension’ (O’Malley et al., 1989, p. 434). It has been clarified in the literature that most likely neither *self-monitoring*, nor *inferencing*, nor *elaboration* when applied as individual strategies determine effective listening. Rather it is the successful combination of strategies, as highlighted by Graham and Macaro (2008), that influences the effective listener’s successful performance. The scholars explain that strategies are effective as part of a ‘cluster’ of strategies (Macaro, 2006), when one strategy assists and builds on the other (Macaro et al., 2015).

The ability of more skilled L2 listeners ‘to orchestrate their strategic behaviour effectively’ (Macaro et al., 2015, p. 53) has been demonstrated by Vandergrift (2003) in a study with L2 French students (N = 36). The strategies that the more successful L2 listeners used were both *metacognitive*, namely *comprehension monitoring*, and *cognitive*, namely *questioning elaboration*. This may again be explained by the fact that more skilled L2 listeners have a more ‘dynamic’ approach to listening and construct meaning ‘in a continuous metacognitive cycle’ constantly evaluating their inferences and comparing new information with their prior knowledge (Vandergrift, 2003, p. 487). For example, the participants in Fung and Macaro’s (2019) study used a combination of strategies such as *recall of prior knowledge*, *evaluation*, *selective attention on difficult words or segments* (*metacognitive strategies*), *auditory representation* and *imagery* (*cognitive strategies*) to assist comprehension.

The evidence presented in this section may suggest that, as argued by Macaro (2006), ‘effectiveness or noneffectiveness [of strategies] derives from the way [they] are used and combined in tasks and processes’ (2006, p. 325). The wider the range of strategies at the L2 listeners’ disposal, the more they are able to orchestrate these strategies (Abraham & Vann, 1987; Macaro, 2006; Vandergrift, 2003; Graham & Santos, 2015; Oxford, 2016) and strategy clusters (Macaro, 2018) in response to particular task requirements (Vandergrift et al., 2006).

2.7 Studies showing the development of or changes to L2 listening strategies

Knowing how to listen may help learners to control their listening processes and to develop as fluent listeners. Research on explicit strategy intervention may be of interest for the present study as settings such as EMI, similarly, provide learners, implicitly or explicitly, with strategy guidance. Such instruction as showing learners how to take effective notes, for example, may appear to be used in teaching any subject. Subject teachers when talking to students use a range

of teaching strategies to ‘guide [L2] students through the process of listening’ (Vandergrift, 2007, p. 197) during the lesson.

Research on the development of L2 listening strategy use as a result of strategy intervention has reported inconclusive findings, which is in part due to the different strategy instruction models that the studies employed. One interesting finding in recent research was that repeated practice, ensured by a longitudinal strategy intervention, may not always lead to L2 listening strategy development and may have a negative impact on learners’ confidence in their skills. Nogueroles López (2017), for example, found only modest differences in learners’ strategy use after a 13-week instruction. The participants were learners of Spanish of lower-intermediate level in Hong Kong (N = 38), divided evenly into an experimental group and a control group. Prior to the intervention both groups completed a questionnaire developed by the researcher. The strategy instruction in the experimental group involved such strategies as *planning*, *monitoring*, and *evaluation* (*metacognitive strategies*), *elaboration* and *inferencing* (*cognitive strategies*) and *questioning for clarification* and *cooperation* (*socio-affective strategies*). The results of the questionnaire indicated a decrease in the experimental group’s ‘confidence in their listening abilities and performance’ (Nogueroles López, 2017, p. 10). It may be that regular reflection on the participants’ listening processes raised their awareness of the difficulties they encountered. Surprisingly, the students in the control group increased their use of *asking for clarification* and *deduction* strategies. It may be that the questionnaire that the students completed in the beginning of the investigation raised their awareness of the strategies and helped them to rethink and adapt their strategy use (Cross, 2010).

One possible explanation for the ineffectiveness of strategy instruction found in Nogueroles López’s (2017) study may be the participants’ relatively low proficiency level (lower-intermediate). Graham et al. (2008) question the idea that ‘weaker listeners can be helped by teaching them the strategies that deliver results for good listeners’ (2008, p. 67). It may be that strategy instruction is more beneficial for advanced learners (Grenfell & Harris, 2014), possibly due to their automatic bottom-up processing which frees their working memory capacity (Field, 2008) and, thus, allows learners to acquire more strategies for effective listening. A study of advanced level Japanese EFL learners (N = 12) conducted by Cross (2010), for example, confirmed that even five lessons of peer dialogues with verbalisation of strategies (Vandergrift’s (2007) pedagogical cycle) contributed to raising learners’ awareness of metacognitive strategies.

A more recent study on strategy instruction by Dong (2016) demonstrated that strategy use undergoes a process of a simplification, self-adaptation and self-organisation. The study was a

case study, which allowed the intensive analysis of listening strategy use development of one Chinese EFL learner of intermediate level of proficiency. The strategy instruction lasted 13 weeks and was based on a model proposed by O'Malley and Chamot (1990). The participant was required to complete the MALQ and write in the diary every two weeks for 40 weeks in total. The findings of the study indicated that the participant's strategy use was non-linear: it increased dramatically during weeks 1–8, remained at a relatively high level during weeks 8–22, and leveled off during weeks 24–40. Interestingly, the participant tended to use only a few strategies toward the end of the research period, which suggested that strategy instruction provided the participant with a wide range of strategies which were then selected and adapted to meet the requirements of particular tasks. It may also be that the repeated practice, ensured by strategy instruction, contributed to the automatising of certain strategies (Macaro, 2006), which became unconsciously used by the participant. Though the findings of Dong (2016) may not be generalised, the case study effectively demonstrates the complexity of strategy use development.

Little research has sought to explore L2 listening strategy development without strategy instruction. The available evidence suggests that listening strategies are relatively stable and learners use similar strategies before and after the investigation periods. Graham et al. (2008) used verbal reports to investigate two L2 French learners' (of high and low intermediate proficiency levels) listening strategy development over six months. The findings indicated that both participants were fairly consistent in their L2 listening strategy use, particularly in the use of *vocalisation*, *prediction*, *comprehension monitoring* and *selective attention* strategies. Similar results were reported by Graham et al. (2011), where lower-intermediate L2 French learners (N = 15) demonstrated some stability over six months, especially in the manner of their strategy use. Graham et al. (2011) suggested that it was the absence of feedback or comments from teachers that could provide opportunities for reflection on the use of strategies that resulted in no change to the participants' strategy use. It would be interesting to explore whether a learning context where such guidance from the teacher is provided may lead to strategy development or change.

2.8 The present study

The present study aimed to address the following gaps and shortcomings that have been identified in the literature:

1. The research into learner strategies in an EMI setting has to date been neglected (Macaro, 2018). Since strategy use may be specific to the 'needs of the language learning context' (Macaro et al., 2019, p. 8), the present study investigates the use of strategies in an upper-

secondary school EMI setting, with the aim to provide ‘the context specificity that strategy research requires’ (Rose, 2012, pp. 141-142).

2. There has been a paucity of studies examining the development of or changes to L2 listening strategy use with no explicit strategy instruction. Similarly, research on the effect of a learning context on strategy development has been overlooked. The present study attempts to address this issue by looking at changes in L2 listening strategy use in an EMI setting in the absence of learners’ reliance on explicit strategy training.
3. A considerable number of studies have investigated listening in relation to recorded language or listening to academic lectures, while other types of listening tasks typical for EMI settings have not been explored. The present study attempts to fill this research gap by looking at L2 listening strategies in response to a relatively under-researched listening task – listening to teacher talk.
4. Previous studies use strategy taxonomies that do not reflect the specificity of such listening as listening to teacher talk. The present study, therefore, adopts the strategy taxonomy specifically designed to focus on strategies used when listening to the teacher.
5. Previous studies mostly examined L2 listening strategies of intermediate level learners. The present study explores learners’ strategic behaviour within a different range of listening abilities (International English Language Testing System (IELTS) Academic listening scores 5.5-9.0).
6. Most reviewed studies administer questionnaires as their data collection method. Although questionnaires provide some important insights into learners’ strategy use, the ‘mere strategy count’ may not fully represent the differences in strategic behaviour (Vandergrift, 1998, p. 392). A triangulation of methods selected for the present study aims to obtain a more complete sample specific picture of L2 learners’ listening strategy use.

Chapter 3. Research methods

This chapter outlines the methodology utilised to explore strategies used by learners when listening to teacher talk in an EMI setting. It begins by providing the research questions giving the information about the participants and setting. It then explains the choice of the research design and data collection instruments adopted for this study. The chapter also describes the research procedure and data analysis and finishes with ethical considerations.

3.1 Research questions

The present study examines strategies used by Russian upper-secondary boarding school students when listening to teacher talk in an EMI setting and seeks to answer the following RQs:

- (1) Which strategies do learners entering an EMI programme use when listening to teacher talk?
- (2) Do these strategies differ according to listening comprehension abilities?
- (3) Do the strategies that learners use when listening to teacher talk change over a six-month period of EMI exposure?

3.2 Participants and setting

The present study is a cohort longitudinal study, analysing the same participants at two time points (Borg & Gall, 1983) over a six-month period. It used a convenience sample as the basis for an in-depth investigation of a particular EMI context, from which parallels may only be cautiously drawn with similar students in similar educational contexts. Since the study did not seek to obtain findings that can be generalised, convenience sampling for administering a questionnaire and voluntary interview sampling was viewed as suitable for providing ‘an initial entry into the “underworld” of strategy use’ (Macaro, 2001, p. 49) in the EMI context investigated in the present study.

The school where the research was conducted is a highly selective one, accepting only students with exceptionally high level of motivation, autonomy and self-regulation. All subjects in the middle school, except for EFL, are taught in the students’ L1. Upper-secondary school education (Years 10 and 11) offers two study routes – National, with tuition in L1, or International, with tuition in L2. The International programme is highly-selective and the environment is highly-pressured. The setting offered by this programme is the participants’ first exposure to learning

through EMI. However, a considerable amount of native English speaker exposure is offered to students of both National and International programmes during their time in their residential accommodation.

The participants chosen for the present study could only be selected from an International programme cohort. They were upper-secondary boarding school students, aged 16-17, L1 = Russian, L2 = English. This study measured listening comprehension abilities using IELTS Academic listening band scores, which ranged from 5.5 to 9.0 with a mean of 8.0. The participants shared common characteristics relevant to the present study, particularly, they had all transitioned from a National to an International education programme based on rigorous selection criteria that confirmed their ability to learn effectively through EMI.

The inclusion criteria for the present study were:

1. the participant was IB DP Year 1 student;
2. the participant was 16-17 years old;
3. the participant's L2 had been assessed through IELTS;
4. the participant signed a consent form;
5. the participant signed up to interview of their own free will;
6. the participant gave an informed consent to the recording of the interview and to the inclusion of pseudonymised responses in the researcher's Master of Science dissertation and possible future publication.

If the participants had not met the above inclusion criteria or if they had chosen to revoke the consent or terminate the questionnaire completion or the interview at any time, they would have been excluded from the sample. Overall, 20 students (one class) completed questionnaires and were observed during Economics lessons at two data collection times; ten participants volunteered to be interviewed as a follow-up to lesson observation at Time 1, while only seven of the volunteers were present in school for the follow-up interviews at Time 2 as three other students were participating in a competition abroad at the time.

3.3 Research design

A mixed methods research approach, combining both quantitative and qualitative data collection instruments, was selected for the purposes of this study and was determined by some practical constraints, such as time pressure and access to only a small sample size. This design, therefore, sought to capitalise on the strengths of both research methods and to compensate for their limitations (Tashakkori & Teddlie, 2010). By combining the two methods, more accurate data were collected (Denscombe, 2017; Creswell & Clark, 2017) than could not have been gathered if either only one or the other methods had been employed.

The present study adopted an explanatory sequential design (Creswell & Clark, 2017) and involved two similar data collection time points (Time 1 and Time 2). Both Time 1 and Time 2 data collection points started with quantitative data collection (a strategy questionnaire) and analysis which was followed by qualitative data collection (a lesson observation and follow-up interviews) and analysis.

3.4 Data collection instruments

The present study utilised a triangulation of data collection methods, three methods: a strategy questionnaire, a lesson observation and follow-up interviews. This offered a more complete picture of learner strategies as they were investigated from various standpoints (Cohen et al., 2018), which ensured a check on the findings (Denscombe, 2017; Lincoln & Guba, 1985).

3.4.1 *The strategy questionnaire*

A questionnaire was chosen for purposes of the present study as it is relatively quick to complete and not complicated to code (Cohen et al., 2018). The questionnaire also allowed abstract constructs, such as learner strategies, to be measured without any interviewer bias (Gillham, 2007). The use of the questionnaire provided some initial insights into the participants' listening strategy use and allowed the researcher to employ pre-coded answers (Denscombe, 2017) which were further investigated by qualitative data collection instruments.

The present study adopted a questionnaire from Fung's (2016, as cited in Macaro, 2018) and Fung and Macaro's (2019) research on strategy use when listening to the teacher. The questionnaire comprised 65 individual strategies to be evaluated against a five-point Likert scale where 1 was 'never or almost never true of me' and 5 was 'always or almost always true of me' (Fung & Macaro, 2019, p. 22). The wording of some items was adjusted to make it fit for the

purposes of the present study (see Appendix E). The Likert scale in the questionnaire provided flexibility of response as the participants could choose their level of agreement with each statement in the questionnaire, and the ‘true of me’ scale has been argued to be more psychometrically valid for computing mean scores than other scales in strategy research, such as the Strategy Inventory for Language Learning (SILL; Tseng et al., 2006).

3.4.2. The lesson observation

A lesson observation allowed the researcher to gather ‘live’ data (Cohen et al., 2018; Curdt-Christiansen, 2020) and observe the non-verbal behaviour (Bailey, 1994) of the participants in natural settings. It also enabled the researcher to perform a reality check, that is to support or refute what was said or what was believed by the participants (Robson, 2002). The present study employed a qualitative style of lesson observation (Wragg, 2011) which tried to ‘look behind and beneath the mere frequencies’ (2011, p. 7). Thus, the lesson observation method allowed the researcher to look closely at learner strategies, particularly at opportunities for strategic behaviour (OSBs), defined as ‘observable actions’ by Briggs (2015). This method ensured that some specific data, which, otherwise, might have been unnoticed (Cooper & Schindler, 2001), were collected.

3.4.3 Follow-up interviews

The interviews used in the present study enabled the participants to express their opinions and share their experiences (Braun & Clarke, 2013; Cohen et al., 2018), thus, providing the researcher access to the participants’ own thoughts, and ‘producing data which deal with topics in depth and in detail’ (Denscombe, 2017, p. 192). The present study conducted structured interviews, where the questions and their order were predetermined by the researcher. Although the nature of structured interviews may have left little room for further investigation of the participants’ responses (Cohen et al., 2018), the open-ended questions gave more freedom to the respondents to focus on what was important to them (Rolland et al., 2020), without leading them to specifically talk about strategies that the researcher felt were important (see Appendix F for interview questions).

3.5 Research procedure

The present study was longitudinal with two data collection time points: early October and late April of the 2020-2021 academic year. Prior to the investigation, the participants of the study

had taken an IELTS test, which enabled the researcher to obtain the information about their listening comprehension abilities. In August 2020 the Central University Research Ethics Committee (CUREC) forms submitted for the present study were approved.

Time 1 in October coincided with the beginning of the IB DP. First, the researcher obtained permission to carry out the study three weeks prior to the first data collection time. An informational email concerning the purposes and procedures of the study together with the consent forms were sent by email to 35 potential participants in Year 1 of the IB DP. Overall, the researcher obtained 20 formal written consent forms from students of the same Economics class, so this class was chosen as the educational context for observation. A week before the lesson observation, the participants had been invited to complete a printed hard copy of the questionnaire and return it to the researcher at any time to their convenience prior to the lesson observation. The questionnaires took approximately 15 minutes to complete. Then, the researcher obtained permission to observe lessons from the Economics teacher, who also received a detailed explanation of the observation purposes.

A week after the questionnaire completion, the researcher observed an Economics lesson conducted entirely in English by a native English-speaking teacher. Prior to the lesson, the researcher had explained the purposes of the observation, the options to opt out, and assured the participants and the teacher that there would be no intrusion into the lesson by the researcher. Field notes were made during the lesson observation. Ten students volunteered to participate in follow-up interviews consisting of eleven open-ended questions. The interviews were recorded using a digital recording device and each interview lasted approximately 15 minutes. To analyse the data, the questionnaire responses were examined quantitatively, and the lesson observation field notes were examined qualitatively. The interviews were transcribed, coded into a qualitative data analysis computer software NVivo and then also examined qualitatively.

The procedure at Time 2 in late April was identical to that of Time 1, with the only difference being that written consents had been obtained at Time 1 for all the research procedures. Also, only seven participants out of ten, who were interviewed at Time 1, were present in school during the second lesson observation and volunteered to participate in the follow-up interviews at Time 2. Thus, the data of the three students, who did not participate in the second data collection time, were excluded from the analysis for RQ3.

3.6 Data analysis

The data collected via questionnaires were analysed quantitatively using the Statistical Package for Social Sciences 27 (SPSS). The questionnaire data obtained at Time 1 were analysed to investigate RQ1 and RQ2. In order to answer RQ1, the descriptive statistics of the questionnaire were analysed. To evaluate the internal reliability of questionnaire constructs (ten strategy factors and three OSBs) the Cronbach's alpha was used. Due to the relatively small sample size of the present study, a Cronbach's alpha of .60 was considered acceptable (Pallant, 2020; Spector, 1992; Vaske et al., 2017). The reliability test indicated that the Cronbach's alpha for six strategy factors and three OSBs was over .60, so only these strategies were further investigated in an inferential statistical analysis for RQ2. In order to examine RQ2, correlation tests were performed. Before that, normality and linearity of the data were tested (see Appendices G, H and I). As the data were not normally distributed, Spearman Rank Order correlation coefficient tests were administered.

The questionnaire data obtained at Time 2 were analysed to investigate RQ3. The descriptive statistics of six strategy factors and three OSBs were analysed. The reliability of these six strategy factors and three OSBs was also measured using the Cronbach's alpha. The reliability of five strategy factors and two OSBs was confirmed, and only these constructs were further investigated in an inferential statistical analysis for RQ3. Tests of normality and the investigation of outliers were performed (see Appendices J and K). The questionnaire data collected at Time 2 were not normally distributed, thus, Paired Samples T-tests were used.

The data collected via lesson observations and follow-up interviews at Time 1 and 2 were analysed quantitatively using the NVivo. First, the field notes from lesson observations at Time 1 and 2 were analysed. Then, the interviews conducted at Time 1 and 2 of data collection were transcribed, coded in NVivo and analysed.

3.7 Ethical considerations

Prior to any investigation, the present study received ethics clearance (see Appendix A). Ethical concerns were addressed in the present research study in the following way. The participants gave their formal written and oral consents before any procedures and they were assured that their anonymity would be preserved, that their questionnaire and interview responses would be pseudonymised, and that they could opt out of the procedure at any point. The participants were also informed that the content of the questionnaire and the interview would remain confidential

and would not be shared with anybody else. They were instructed that they could ignore or decline to answer any questions that made them uncomfortable.

The collected data, including the participants' sensitive data, the results of the questionnaires and the recording of the interviews, were stored in encrypted files on a password-protected computer and in a locked safe in the researcher's own home. The participants were informed that the data would be destroyed once it was no longer needed to conduct research.

Chapter 4. Results

This chapter reports the findings of the present study by addressing the three research questions. It first summarises which strategies the participants entering an EMI programme used when listening to teacher talk. Then, it looks at whether these listening strategies differed according to the participants' listening comprehension abilities. Finally, the chapter describes whether learner strategies when listening to teacher talk changed over six months of EMI exposure.

4.1 RQ1: Which strategies do learners entering an EMI programme use when listening to teacher talk?

4.1.1 Questionnaire

The questionnaire for the present study was adopted from Fung's (2016, as cited in Macaro, 2018) as well as Fung and Macaro's (2019) research studies and focused on 65 individual strategies divided into ten factors of strategies and three OSBs. The strategies were measured on a five-point Likert scale, where 1 was 'never or almost never true of me' and 5 was 'always or almost always true of me'.

In order to answer RQ1, the descriptive statistics resulting from the questionnaire completed by the participants (N = 20) entering an EMI programme at Time 1 were analysed. Prior to obtaining the descriptive statistics, however, the reliability of each strategy factor and OSB was investigated to establish whether they were suitable for further inferential statistical analysis. Table 1 provides the reliability of strategy factors and OSBs. Due to a small number of items within each factor and a limited number of the participants, the present study considered Cronbach's alpha values above .60 as acceptable. The results indicated that *factors 3, 6, 9 and 10* were not reliable enough to be considered as variables for inferential statistics, so only descriptive statistics for these factors are provided and should be interpreted with caution.

Table 1. Cronbach's alpha values at Time 1

Factors	Cronbach's alpha
Factor 1: Contextualisation for the present lesson	.86
Factor 2: Selective attention on difficult words or segments	.77
Factor 3: Recall of prior knowledge	.51
Factor 4: Understanding through recalling teacher's approach	.64
Factor 5: Summarisation / Appropriation	.61

Factor 6: Translation	.29
Factor 7: Selective attention on simple words or segments	.68
Factor 8: Auditory representation and imagery	.65
Factor 9: Evaluation	.26
Factor 10: Repetition	.53
OSB1: Utilisation of personal physical resources	.84
OSB2: Hide and seek	.74
OSB3: Direct help seeking from the teacher	.81

Table 2 provides the descriptive statistics for the ten factors of strategies and three OSBs resulting from the questionnaire. Following Oxford and Burry-Stock (1995), the mean scores of strategies obtained from the questionnaire will be considered as follows: 5.0 – 3.5 as high, 3.4 – 2.5 as medium and 2.4 – 0 as low strategy use. Generally, the use of the following strategies was high, according to the participants' questionnaire responses: *evaluation* ($M = 3.92$, $SD = .57$), *recall of prior knowledge* ($M = 3.81$, $SD = .51$), *understanding through recalling teacher's approach* ($M = 3.48$, $SD = .70$), *summarisation/appropriation* ($M = 3.37$, $SD = .61$) and *utilisation of personal physical resources* ($M = 3.36$, $SD = .95$). The use of *selective attention on difficult words or segments* ($M = 3.34$, $SD = .71$), *contextualisation for the present lesson* ($M = 3.32$, $SD = .72$), *selective attention on simple words or segments* ($M = 2.45$, $SD = .90$), *auditory representation and imagery* ($M = 3.08$, $SD = 1.09$), *repetition* ($M = 2.58$, $SD = 1.02$), *hide and seek* ($M = 2.53$, $SD = .83$) and *direct help seeking from the teacher* ($M = 2.72$, $SD = 1.11$) was medium. The use of *translation* ($M = 2.28$, $SD = .69$) was low and less frequently reported by the participants.

Table 2. Descriptive statistics at Time 1

Factors	Mean	Standard deviation
Factor 1: Contextualisation for the present lesson	3.32	.72
Factor 2: Selective attention on difficult words or segments	3.34	.71
Factor 3: Recall of prior knowledge	3.81	.51
Factor 4: Understanding through recalling teacher's approach	3.48	.70
Factor 5: Summarisation / Appropriation	3.37	.61
Factor 6: Translation	2.28	.69
Factor 7: Selective attention on simple words or segments	2.45	.90
Factor 8: Auditory representation and imagery	3.08	1.09
Factor 9: Evaluation	3.92	.57
Factor 10: Repetition	2.58	1.02

OSB1: Utilisation of personal physical resources	3.36	.95
OSB2: Hide and seek	2.53	.83
OSB3: Direct help seeking from the teacher	2.72	1.11

Thus, the participants of the present study reported that they frequently engaged in activities or strategies such as evaluating their understanding and the attention they gave to the teacher (*factor 9*), recalling the vocabulary and teacher's explanations and integrating old knowledge with the new material (*factor 3*), anticipating what the teacher was going to ask and recalling the teaching approach (*factor 4*). Also, identifying and integrating important points in teacher talk and summarising key ideas (*factor 5*), reviewing notes and using dictionaries (*OSB1*) was frequently reported in the questionnaire. The participants focused on difficult or keywords and words emphasised by the teacher (*factor 2*) and recalled what they learned in previous lessons or about the topic in general (*factor 1*) less frequently. Other less frequent activities included focusing on simple or familiar words (*factor 7*), visualising vocabulary and holding the sounds of words in the head (*factor 8*), partially or fully repeating what the teacher said (*factor 10*), asking classmates for help, findings cues on the board and pretending to understand (*OSB2*), asking the teacher to clarify or repeat and showing lack of understanding (*OSB3*). Translating keywords or teacher's entire talk (*factor 6*) was the least frequently reported activity.

4.1.2 Lesson observation

In order to answer RQ1, observable activities that the participants engaged with were also explored. Thus, an observation of an Economics lesson with 20 participants who completed the questionnaire occurred at Time 1. The lesson, which lasted 40 minutes, was an introduction to a new topic with the teacher's explanations combined with students' brainstorming and group collaboration.

In general, more than half of the participants ($n = 11$) were actively engaged in the lesson and teacher-student interaction. This was determined by identifying the participants who maintained eye-contact with the teacher and responded to the teacher's questions willingly. They asked a considerable number of questions to clarify certain points raised by the teacher and were not afraid to seek help directly from them (*OSB3*). Also, some participants ($n = 4$) tried to orally link their past experiences with the content of the lesson (*factor 3*) by giving examples from their life or asking clarification questions (‘*Is it similar to when...?*’, ‘*One example I know is...*’, ‘*Oh, is it like...?*’).

Although the teacher had created a dynamic environment in the classroom, some participants ($n = 4$) were hesitant to interact and respond to the teacher's questions. They avoided eye contact whenever a question was asked of the class and were reluctant to share their ideas. If they needed some clarification, they were observed to quietly seek help from fellow students or the internet (OSB2).

Most participants ($n = 15$) were observed to take notes (*note-taking*), some of the notes were several pages long by the end of the lesson. Some participants ($n = 7$) drew mind maps or sketches of the processes under discussion. If the participants heard unfamiliar words in the teacher speech, some of them ($n = 8$) asked the teacher for explanation (OSB3), while others ($n = 5$) looked up the words in the dictionary (OSB1) or wrote them down (perhaps for future reference). It also seemed that some students ($n = 5$) needed additional emphasis from the teacher or classmates when encountering unfamiliar words (*factor 2*).

Some of the participants ($n = 5$) were not fully confident in their content knowledge, which was obvious from their hesitant responses and the language they chose to introduce their opinion ('*I am not sure, but...*' , '*I may be wrong...*' , '*If I'm not mistaken...*'). Others ($n = 3$) were unsure of their English proficiency as they said some phrases in their L1 hoping to get help from fellow students.

Overall, the lesson observation revealed more OSBs than strategy factors, which is unsurprising given that observation allows for observable, physical activities only to be detected. Based on the lesson observation, the participants resorted to such OSBs as *utilisation of personal physical resources* (OSB1), *hide and seek* (OSB2), and *direct help seeking from the teacher* (OSB3), as well as such strategies as *recall of prior knowledge* (*factor 3*) and *selective attention on difficult words* (*factor 2*) and *note-taking* during listening to teacher talk.

4.1.3 Follow-up interviews

The data from the interviews with the ten volunteers were coded in NVivo using both deductive and inductive categorisations. These categorisations were based on the ten strategy factors and three OSBs derived from the questionnaire adopted from Fung (2016, as cited in Macaro, 2018) and Fung and Macaro (2019), as well as those emerged from the data (see Appendix N).

Overall, the interview data revealed that the participants mentioned all ten factors and three OSBs. *Recall of prior knowledge* (*factor 3*), *evaluation* (*factor 9*), *utilisation of personal physical resources* (OSB1) and *note-taking* were mentioned most frequently, by eight of out ten

participants. *Selective attention on difficult words or segments* (factor 2) and *hide and seek* (OSB2) were mentioned by five out of ten participants. *Understanding through recalling teacher's approach* (factor 4), *summarisation/appropriation* (factor 5), *contextualisation for the present lesson* (factor 1), *direct help seeking from the teacher* (OSB3) and *planning* were mentioned by three out of ten participants, while *selective attention on simple words or segments* (factor 7), *auditory representation and imagery* (factor 8), *translation* (factor 6) and *repetition* (factor 10) were mentioned by two out of ten participants.

Most of the participants ($n = 8$) reported that they made notes (*note-taking*) while listening to the teacher in the form of mind maps, process chains or short outlines of the key ideas. Two participants, however, commented that they did not make any notes during the lesson as they were '*able to remember the explanations later*'. Some illustrative excerpts are the following:

Participant 7: When I listen to the teacher, I note down key ideas so that I could answer some questions about the material if the teacher asks me [note-taking].

Participant 9: No, I never write anything down, I even don't have a copybook. Well, I might write a word or something on my laptop but that's it.

Some students ($n = 3$) also reported that they summarised the teacher's explanations into a short sentence or simplified the material into phrases that they could understand (*factor 5*). These summaries, the participants admitted, help them to review the material after the lesson (OSB1) and follow the teacher's line of thought better, as illustrated by the following statement:

Participant 1: I usually listen up to the end of a certain idea and then summarise what the teacher has said so that I could quickly write it down. This way, I can review what I've written later and understand the topic better ... and my ideas [factor 5].

In order to understand the lesson material better, most participants ($n = 8$) tried to link the contents of the lesson to their prior knowledge (*factor 3*). Some of them ($n = 4$) asked direct questions to the teacher (OSB3) or gave examples to integrate what they already knew about the topic and the new material (*factor 3*). They also tried to recall their past experiences which could be linked to the teacher's explanations (*factor 6*). Others ($n = 3$) attempted to recall the previous teacher's explanations (*factor 3*) and find a connection with the new material. Three participants also noted that they tried to recall if they had learned anything about a concept or some material before when encountering something new (*factor 1*). A few students ($n = 3$) asked their classmates for some clarification (OSB2). Some examples from the interviews on what the participants did for better comprehension are the following:

Participant 5: When I feel I don't quite understand, I ask the teacher if a particular example which I have could illustrate the phenomenon he is explaining. Usually, we then try to give more examples as a whole class and this helps me to see things clearly [factor 3].

Participant 13: I am usually too shy to ask the teacher for help so I ask my classmates to explain the material to me when we work in small groups or after the lesson [OSB2].

Participant 18: I am really into Economics so when the teacher explains something I try to remember if I have studied this before, or maybe watched a video about it [factor 1].

A few students ($n = 3$) also admitted that they had already become familiar with the teacher's approach and this helped them to understand the contents of the lesson better (*factor 4*), as illustrated by the following statement:

Participant 15: We have been studying for several weeks and, although, I am still getting used to the programme, I feel like I know how our teacher teaches, you know, what he does, how he explains the material, this really helps [factor 4].

The participants ($n = 8$) also claimed to be reflective and evaluate their understanding of the material (*factor 9*). Half of them ($n = 4$) stated that they tried to be focused throughout the whole lesson, while some of them ($n = 3$) explained that they did not focus on every word in the teacher's speech. Interestingly, the same three participants claimed to pretend that they understood the material even though something might have been unclear to them (OSB2):

Participant 14: I don't really pay attention to everything in the class, I mean, I can always ask my classmates if I miss something, or look at the board [OSB2] or canvas [an online platform]. Although, to be honest, when the teacher asks us if we understand, I always nod 'yes' because I don't want to seem stupid [OSB2].

All the participants reported that they dealt with difficult or unfamiliar words in teacher talk differently. Some of them ($n = 2$) stated that they translated key words in a sentence with an unfamiliar word so that they could guess the meaning of that word (*factor 6*). Three students reported that they asked the teacher directly (OSB3), while four students said that they sought help from their classmates (OSB2). One of these students had developed a detailed strategy to follow up on concepts they had not understood:

Participant 20: In my notes I have a special colouring system to identify if I understand something or not. I put green ticks next to those concepts or processes that I understand, yellow next to something that my classmate [name] can explain (she is a genius in Economics), and red next to something I will need to ask the teacher later [factor 9 and note-taking].

Some participants ($n = 4$) used a dictionary when encountered unfamiliar words, with three students using bilingual dictionaries and one student using monolingual dictionaries. Two students reported that they repeated the words they did not know in their minds (*factor 10*). A few participants ($n = 2$) claimed to write out difficult words into their notes so that they could look them up later (*note-taking*), as illustrated by the following example:

Participant 20: When I don't understand a word, I just write it out so that I could find out what it means later. I usually don't have enough time to look it up in the dictionary as I try to write down everything the teacher says. Umm...I haven't looked out most of the words I have written out so far [note-taking].

The participants also reported that they focused on different elements within teacher talk. Two students focused on key ideas and content words, while three participants focused on the emphasised or unfamiliar words (*factor 2*). Two participants claimed to focus on familiar content words in the teacher's speech (*factor 7*). Some illustrative excerpts are the following:

Participant 7: I mostly focus on something I don't know when I listen to the teacher. Sometimes, this distracts me from actually getting the main idea [factor 2].

Participant 15: To understand our teacher I listen to the words or concepts I know. In this case I can understand what we are talking about better [factor 7].

The students also differed in their preparation for the lesson. Most of them ($n = 6$) mentioned reviewing their notes prior to the lesson (*OSB1*), some ($n = 2$) noted that they skim read the materials for future lessons on an online platform (*planning*), others ($n = 2$) claimed not to prepare for the lesson at all. Two participants also said that during lessons they planned how they would listen to the teacher (*planning*). Some illustrative examples are the following:

Participant 12: There is no point in preparing for the lesson if the teacher is going to talk about it anyway.

Participant 13: I am not 100% confident in my English so I look at canvas [an online platform] before the lesson to quickly google some of the words I don't know. In this way I can listen to the teacher and understand more [planning].

Apart from the individual strategies, the interview data also revealed some strategy combinations used by the participants. For example, *note-taking* strategies were used in a combination with *summarisation/appropriation* (*factor 5*) strategies, which means that the participants summarised teacher talk and made notes based on these summaries. *Recall of prior knowledge* (*factor 3*) strategies were used in a combination with *evaluation* (*factor 9*) and *direct help seeking from the teacher* (*OSB3*) strategies, that is those participants who reported that they evaluated their

understanding and used prior knowledge for better comprehension also mentioned that they asked their teacher for help or clarification. Thus, the interview data revealed that the participants used a considerable number of strategies and some strategy combinations during listening to teacher talk in EMI setting.

4.2 RQ2: Do these strategies differ according to listening comprehension abilities?

4.2.1 Questionnaire

The relationship between learner strategies (as measured by the questionnaire completed at Time 1 of the data collection) and listening comprehension ability (as measured by ordinal IELTS listening scores) was investigated using a Spearman Rank Order correlation coefficient. Preliminary analyses of normality and linearity were performed (see Appendices G, H and I). Table 3 provides the results of the correlation analysis for the six factors and three OSBs. Overall, there was a weak, statistically insignificant correlation between the strategies that the participants used and their listening comprehension abilities. Factor 4 (*understanding through recalling teacher's approach*) was the only factor which had a medium, but statistically insignificant correlation ($r = .40, p = .080$) with listening comprehension abilities. Thus, the data revealed no relationship between the L2 listening comprehension ability of the participants and the listening strategies that they used.

Table 3. Spearman correlation coefficient

Factors	Spearman <i>rho</i>	Significance (p-value)
Factor 1: Contextualisation for the present lesson	.13	.588
Factor 2: Selective attention on difficult words or segments	.07	.768
Factor 4: Understanding through recalling teacher's approach	.40	.080
Factor 5: Summarisation / Appropriation	.09	.703
Factor 7: Selective attention on simple words or segments	.05	.831
Factor 8: Auditory representation and imagery	.01	.978
OSB1: Utilisation of personal physical resources	.07	.777
OSB2: Hide and seek	-.24	.310
OSB3: Direct help seeking from the teacher	.24	.313

4.2.2 Lesson observation

Lesson observation at Time 1 of the data collection revealed that the participants' strategies when listening to teacher talk mostly did not differ based on their listening comprehension abilities. The participants' IELTS listening scores are presented in Table 4. Their mean IELTS listening score was 8.0.

Table 4. The participants' IELTS listening scores (N = 20)

Participants	IELTS listening scores	Participants	IELTS listening scores
Participant 1	9.0	Participant 11	8.5
Participant 2	8.0	Participant 12	8.5
Participant 3	8.0	Participant 13	5.5
Participant 4	9.0	Participant 14	6.5
Participant 5	8.5	Participant 15	7.0
Participant 6	9.0	Participant 16	6.0
Participant 7	7.5	Participant 17	7.5
Participant 8	8.5	Participant 18	9.0
Participant 9	9.0	Participant 19	6.5
Participant 10	9.0	Participant 20	6.5

One important observation was that the participants were, for the most part, engaged in the lesson regardless of their listening comprehension abilities. Participant 19 (IELTS listening 6.5), for example, interacted with the teacher and asked for help (*OSB3*) as did participant 1 (IELTS listening 9.0). At the same time, participants 2 and 13 (IELTS listening 8.0 and 5.5 respectively) tried to avoid direct contact with the teacher and sought help from their classmates (*OSB2*).

Similarly, the participants' *recall of prior knowledge* strategy (factor 3) did not differ according to their listening comprehension level. Participants 1, 5 and 16 (IELTS listening 9.0, 8.5 and 6.0 respectively), for example, did not hesitate to clarify some points by integrating their old knowledge and past experiences with the contents of the lesson. Participants 6 and 13 (IELTS listening 9.0 and 5.5 respectively), on the other hand, did not recall their prior knowledge orally.

Another strategy which seemed not to differ based on the participants' listening comprehension abilities was *selective attention on difficult words or segments* (factor 2). The participants with different IELTS listening scores focused on difficult or unfamiliar words as was determined by their behaviour. For instance, some students (e.g., participants 9 and 16 with IELTS listening 9.0 and 6.0 respectively) were not afraid to ask the teacher to explain the meaning (*OSB3*), other

students (e.g., participants 4 and 13 with IELTS listening 9.0 and 5.5 respectively) asked their classmates what the teacher meant (*OSB2*).

One more strategy that most participants resorted to regardless of their listening comprehension abilities was *note-taking*. Interestingly, however, the size and kind of notes taken by the participants may have differed based on their IELTS listening scores. Participants 13, 14, 15, 16 and 20 with lower scores (IELTS listening 7.0 and lower), for instance, wrote down practically everything that the teacher said (*note-taking*) and drew detailed mind maps or process chains. On the contrary, participants 1, 3, 4, 6, 9 and 18 with higher scores (IELTS listening 8.0 and above) seemed to only focus on the key words since they were what they wrote down (*factor 2*).

4.2.3 Follow-up interviews

To investigate the relationship between listening comprehension ability and strategy use further, the participants' IELTS listening scores (see Table 5) were matched with their comments on the interviews. Overall, the interview data supported the data obtained via lesson observation in that the participants with different listening comprehension abilities used similar strategies, but differed in the use of one strategy combination. Additionally, some strategies were only mentioned by the participants with lower IELTS listening scores (7.0 and lower).

Table 5. The interview participants' IELTS listening scores at Time 1

Participants	IELTS listening scores
Participant 1	9.0
Participant 5	8.5
Participant 7	7.5
Participant 9	9.0
Participant 12	8.5
Participant 13	5.5
Participant 14	6.5
Participant 15	7.0
Participant 18	9.0
Participant 20	6.5

One strategy that appeared to differ among the participants with different IELTS listening scores was *note-taking*. Participants 1, 9 and 18 with the maximum IELTS listening scores (9.0) reported that they only wrote down key ideas which they were able to extract from the teacher's

talk with the help of another strategy – *summarisation* of the information received (factor 5). Similar comments were made by participants 5 and 7 (IELTS listening 8.5 and 7.5 respectively). Participants 13, 15, 14 and 20 with lower IELTS listening scores (7.0 and below), on the other hand, claimed to write down everything the teacher was saying. In other words, while *note-taking* strategies were typical of all the participants, a combination of *note-taking* and *summarisation/appropriation* strategies was only reported by the participants with IELTS listening 7.5 and above. Some illustrative examples are the following:

Participant 18 (IELTS listening 9.0): Although I make notes, I don't like to pointlessly write down everything, you know, it just makes no sense. I put down main ideas, mostly. I can easily remember what the teacher explained by looking at the key words or ideas that I note down [note-taking and factor 5].

Participant 13 (IELTS listening 5.5): Of course, I write down everything the teacher says otherwise I won't be able to understand anything. I guess, I am a person who learns better when I write things with my hand [note-taking].

Another strategy that distinguished the participants with higher and lower L2 listening comprehension abilities was *selective attention on simple words or segments* (factor 7). The participants with higher IELTS listening scores (7.5 and above) had no mention of the strategy, while two participants with lower IELTS listening scores (5.5, and 7.0) reported that they sometimes focused on familiar words in the teacher's talk in order to understand the general meaning, as exemplified by the following excerpt:

Participant 15 (IELTS 7.0): Ok, I am not the most attentive person in the class, I can't stay focused especially when there is too much I don't know or understand. So usually keep my attention on familiar ideas to keep track with the class [factor 7].

Repetition (factor 10) and *translation* (factor 6) were reported by two participants with lower IELTS listening scores only (6.5 and below). It seemed that the participants with lower IELTS listening scores attempted to repeat the teacher's exact words in their minds or during group work (*factor 10*) and translate some ideas in their minds, as exemplified in the following statements:

Participant 14 (IELTS listening 6.5): I try to repeat what the teacher says in my mind, especially when I don't know some words. Also, I repeat the teacher's words when I give my opinion in group work. This way I am sure I didn't make any mistakes [factor 10].

Participant 20 (IELTS listening 6.5): Sometimes I get the impression I didn't understand the teacher, usually when he uses an idiom or something. I then translate words in my head to understand the literal meaning and maybe try to figure out what they mean [factor 6]

One of the strategies that did not differ among the participants with different listening comprehension abilities was *selective attention on difficult words or segments* (factor 2). It seemed that the participants with various IELTS listening scores (9.0 or 5.5) focused on unfamiliar or difficult words in the teacher's talk. Some illustrative examples are the following:

Participant 1 (IELTS listening 9.0): I pay attention to the words I don't know [factor 2]. I always ask the teacher. There are some words with more than one meaning so I don't want to be confused [OSB3].

Participant 13 (IELTS listening 5.5): I do focus on the words I don't know. Sometimes, there are too many words I don't know, actually [factor 2].

Other strategies that were equally reported by the participants with different IELTS listening scores were *contextualisation for the present lesson* (factor 1), *utilisation of personal physical resources* (OSB1), *hide and seek* (OSB2) and *planning*. The strategy combination *recall of prior knowledge* (factor 3), *direct help seeking from the teacher* (OSB3) and *evaluation* (factor 9) was also used by the participants regardless of their listening comprehension abilities.

4.3 RQ3: Do the strategies that learners use when listening to teacher talk change over a six-month period of EMI exposure?

4.3.1. Questionnaire

In order to establish whether learner strategies when listening to teacher talk in an EMI setting changed over time, the questionnaire data from Time 1 and Time 2 were compared. First, the reliability of the six factors and three OSBs was investigated at Time 2 (*factors 3, 6, 9 and 10* were excluded from the analysis in RQ1). Table 6 provides the results of the reliability analysis. Factor 1 (*contextualisation for the present lesson*) and OSB2 (*hide and seek*) were excluded from further inferential statistical analysis as their Cronbach's alpha was lower than .60.

Table 6. Cronbach's alpha values at Time 2

Factors	Cronbach's alpha
Factor 1: Contextualisation for the present lesson	.49
Factor 2: Selective attention on difficult words or segments	.66
Factor 4: Understanding through recalling teacher's approach	.76
Factor 5: Summarisation / Appropriation	.66
Factor 7: Selective attention on simple words or segments	.77

Factor 8: Auditory representation and imagery	.93
OSB1: Utilisation of personal physical resources	.68
OSB2: Hide and seek	.52
OSB3: Direct help seeking from the teacher	.85

Then, paired samples T-tests were administered to establish whether learner strategies when listening to teacher talk change over a six-month period of EMI exposure. Preliminary analyses of normality and outliers were performed (see Appendices J and K). As can be seen in Table 7, there were no statistically significant changes in strategies used by the participants exposed to an EMI setting. A slight but statistically insignificant increase in mean scores can be observed in *direct help seeking from the teacher* from Time 1 (M = 2.72, SD = 1.11) to Time 2 (M = 3.13, SD = .83). Also, slight but statistically insignificant decrease in mean scores can be observed in *summarisation/appropriation* from Time 1 (M = 3.37, SD = .61) to Time 2 (M = 3.24, SD = .59); *auditory representation and imagery* from Time 1 (M = 3.08, SD = 1.09) to Time 2 (M = 2.87, SD = 1.14); *utilisation of personal physical responses* from Time 1 (M = 3.36, SD = .95) to Time 2 (M = 3.13, SD = .70). Thus, there was no evidence from the quantitative data that the participants changed their strategic behaviour over the duration of a semester of EMI exposure.

Table 7. Paired Samples T-tests

Factors	Mean score Time 1	Mean score Time 2	Correlation	p-value (two-tailed)	t-value	df
Factor 2: Selective attention on difficult words or segments	3.34	3.34	-.20	.414	.030	19
Factor 4: Understanding through recalling teacher's approach	3.48	3.48	.22	.346	.000	19
Factor 5: Summarisation / Appropriation	3.37	3.24	.06	.810	.676	19
Factor 7: Selective attention on simple words or segments	2.45	2.43	-.11	.653	.061	19
Factor 8: Auditory representation and imagery	3.08	2.87	.04	.859	.628	19
OSB1: Utilisation of personal physical resources	3.36	3.13	-.21	.369	.774	19
OSB3: Direct help seeking from the teacher	2.72	3.13	-.08	.726	-1.292	19

The descriptive statistics of the nine factors measured at Time 2 of the questionnaire completion may be seen in Table 8. Overall, the use of only one strategy (*understanding through recalling*

teacher's approach) was high and most frequently reported by the participants ($M = 3.48$, $SD = .65$). This suggests that the participants became more familiar with the teacher's usual way of conducting lessons. The use of other strategies was medium, and the use of *selective attention on simple words or segments* strategies ($M = 2.43$, $SD = .73$) was low.

Table 8. Descriptive statistics at Time 2

Factors	Mean	Standard deviation
Factor 1: Contextualisation for the present lesson	3.21	.41
Factor 2: Selective attention on difficult words or segments	3.34	.49
Factor 4: Understanding through recalling teacher's approach	3.48	.65
Factor 5: Summarisation / Appropriation	3.24	.59
Factor 7: Selective attention on simple words or segments	2.43	.73
Factor 8: Auditory representation and imagery	2.87	1.14
OSB1: Utilisation of personal physical resources	3.13	.70
OSB2: Hide and seek	2.68	.52
OSB3: Direct help seeking from the teacher	3.13	.83

4.3.2 Lesson observation

The second lesson observation occurred at Time 2 of the data collection in order to evaluate whether the observable actions of the participants when listening to teacher talk changed over six months of EMI exposure. The lesson observation occurred with the same participants during an Economics lesson conducted by the same teacher as at Time 1 (duration 40 minutes). This time however, there were 17 participants as three were absent on the day of the data collection. Their data were excluded from the analysis for this RQ. During the lesson, the teacher only led the discussion with some minor explanations.

During the second lesson observation all participants were actively engaged in the lesson (17 as compared to 11 at Time 1). It seemed that the participants (16 as compared to 11 at Time 1) were also more confident in their interaction with the teacher. They did not hesitate to ask the teacher for clarification, examples or unfamiliar words (*OSB3*). Also, more participants (10 as compared to 4 at Time 1) started to verbally link their own knowledge and experience with the contents of the lesson (*factors 3 and 6*), however, sometimes the teacher encouraged the students to establish this connection.

Although all participants continued to take notes (*note-taking*), the length of the notes had decreased dramatically, especially among those students who had previously written down every word. The participants also seemed to focus more on discourse markers, such as ‘*Let’s move on to...*’, ‘*Another important point is that...*’, ‘*This is what you need to think about...*’, which was determined by their rush to take notes when the teacher said the above phrases. Also, it was observed that some participants ($n = 5$) had a pre-arranged template where they wrote the information obtained during the lesson (*planning*).

The participants still focused on unfamiliar or difficult words (*factor 2*) and tried to clarify their meaning, though such words occurred less often than at Time 1. At Time 2 of the data collection the participants, however, relied less on help from their classmates (*OSB2*) when encountering unfamiliar words, and asked the teacher directly (*OSB3*).

4.3.3 Follow-up interviews

The same participants taking part in interviews at Time 1 volunteered to be interviewed at Time 2. This time, however, there were seven participants as three participants were not present at school on the day of data collection. Thus, the data of three participants who only took part in interviews at Time 1 were excluded from qualitative comparisons of the strategies used when listening to teacher talk. Table 9 shows the seven interviewees alongside their IELTS listening scores. The participants were asked the same questions as at Time 1 of the data collection with an additional question about whether they thought anything had changed in their listening strategies.

Table 9. The interview participants’ IELTS listening scores at Time 2

Participants	IELTS listening scores
Participant 5	8.5
Participant 7	7.5
Participant 9	9.0
Participant 13	5.5
Participant 15	7.0
Participant 18	9.0
Participant 20	6.5

Factors 1 (*contextualisation for the present lesson*), 3 (*recall of prior knowledge*), 4 (*understanding through recalling teacher’s approach*), 5 (*summarisation/appropriation*), 9

(evaluation), OSB3 (*direct help seeking from the teacher*) as well as *note-taking* and *planning* strategies were mentioned by five out of seven participants. Factors 2 (*selective attention on difficult words or segments*) and OSB1 (*utilisation of personal physical resources*) were mentioned by three out of seven participants, while OSB2 (*hide and seek*) was mentioned by one participant. Factors 7 (*selective attention on simple words or segments*), 8 (*auditory representation and imagery*), 6 (*translation*) and 10 (*repetition*) were not mentioned by the participants at Time 2.

Similarly to the behaviour observed during the lesson, all the participants (n = 7) reported having established a closer connection with the teacher. Some participants commented (n = 5) that they were able to express themselves more freely and ask the teacher for help more often (OSB3):

Participant 13: I have become more confident in my English and Economics ...and how to talk about Economics in English. I now rely on our teacher more and ask him directly if something is unclear [OSB3].

Participant 20: Indeed, the way I feel about myself during the lesson changed. I know for sure that the teacher is here to help me, so I always address him with a bunch of questions [OSB3].

Some participants (n = 5) mentioned that they became more familiar with the teacher's approach and this helped them to understand the material better (*factor 4*), as illustrated by the following example:

Participant 5: Now that we've studied together for the whole [academic] year, I am more aware of how our teacher presents the material [factor 4]. This helps me to prepare a sort of a frame for the lesson so that I could listen to the teacher and write down the key points [planning and note-taking].

It was in part due to the participants' familiarity with the structure of the lesson, that they were able to deploy a *planning* strategy to help them organise their notes (n = 5):

Participant 13: We have several...kind of...lesson types. Today, for example, we were not given any new material, but we were discussing something we learned last time. So, for such lessons, I have a special template where I write down all the discussed ideas so that I could have a better picture of the topic [planning and note-taking].

Note-taking strategy in general remained fairly consistent between Time 1 and Time 2.

However, the participants claimed to make significantly shorter notes when listening to teacher talk. Most participants (n = 5) also admitted that they made notes by summarising the key points mentioned by the teacher (*factor 5*):

Participant 9: Summarising the information into my notes has really helped me to keep up with what we are learning. Hopefully, I will use my notes in the future as well [factor 5 and note-taking].

It seemed, therefore, that more participants started to use the strategy combination of *note-taking, summarisation/appropriation* (factor 5) and *planning*.

The participants commented that their teacher encouraged them to establish more meaningful connections to the lesson material by recalling their prior knowledge (factor 3), experiences related to teacher talk (factor 6) and what they have previously learned about the lesson material (factor 1). Thus, the participants were able to use the strategy combination of *contextualisation for the present lesson* (factor 1), *recall of prior knowledge* (factor 3), *evaluation* (factor 9) as well as *direct help seeking from the teacher* (OSB3) to achieve better comprehension. Some illustrative excerpts are the following:

Participant 7: I used to just listen to the teacher without even thinking about the practical side of what we learned. Now I try to remember if I experienced anything similar [factor 1]. This way I can participate in discussions that we have about the topics we've learned.

Participant 15: I started reading more about Economics so now when I come up with something new in the teacher's speech, especially some words or terms, I think about whether I have already learned anything about it [factor 3]. Our teacher taught us to always think about past learning experiences and it really made a difference to me.

Also, the participants (n = 7) reported that although the number of difficult or unfamiliar words in the teacher's speech decreased considerably, they still focused on those words that were unknown or challenging to them (factor 2) as it was crucial for them to understand 100% of what the teacher said. Several participants (n = 3) admitted that they no longer pretended to understand the difficult words and were able to ask the meaning directly from the teacher (OS32).

Thus, interviews at Time 2 revealed a decrease in such strategies as *hide and seek* (OSB2) and an increase in *direct help seeking from the teacher* (OSB3), *contextualisation for the present lesson* (factor 1), *summarisation/appropriation* (factor 5) and *planning*. The use of *recall of prior knowledge* (factor 3), *understanding through recalling teacher's approach* (factor 4), *selective attention on difficult words or segments* (factor 2), *utilisation of personal physical resources* (OSB1) and *evaluation* (factor 9) strategies remained fairly unchanged. Such strategies as *selective attention on simple words or segments* (factor 7), *auditory representation and imagery* (factor 8), *translation* (factor 6) and *repetition* (factor 10) were not mentioned by the participants at Time 2.

Chapter 5. Discussion

This chapter interprets the data collected through questionnaires, lesson observations and follow-up interviews at Time 1 and 2 and discusses the results of the present study in relation to the three RQs: (1) Which strategies do learners entering an EMI programme use when listening to teacher talk? (2) Do these strategies differ according to listening comprehension abilities? (3) Do the strategies that learners use when listening to teacher talk change over a six-month period of EMI exposure?

5.1 RQ1: Which strategies do learners entering an EMI programme use when listening to teacher talk?

The limits of the sample design of the present study do not allow generalisations of the findings to be made and only permit links to be established with the earlier findings on L2 strategy use when listening in the EMI settings. However, the methodology triangulation used in the study ensured the detailed analysis of L2 listening strategy use by a group of upper-secondary school learners in a setting that is becoming more common.

In order to get a better understanding of the participants' strategy choices, one should look at what gave rise to such use (Graham et al., 2008). The school where the participants study is highly selective. The students had to undergo several admissions tests, firstly to enter the school and then to transit to an International programme – the IB DP. There are high performance targets in the school and, particularly, in the International programme, and progress to Year 2 of the IB DP is subject to the students receiving high grades. The environment created in the school is highly competitive as students compete for full scholarships awarded to the holders of offers from the top universities in the world. This means that high motivation, hard-work, self-regulation and autonomy are an essential prerequisite to studying in such a setting. There is a possibility that the participants in this study had been unconsciously strategy-aware (Cross, 2010) and had already deployed the strategies they reported in the study prior to the investigation.

The data collected using quantitative and qualitative methods at Time 1 revealed that the participants in the present study (N = 20) used a wide variety of strategies when listening to teacher talk. Soruç et al. (2018) also reported the use of a total of 24 different strategies during EMI lecture comprehension, which may be explained by their participants' 'effort to [...] comprehend the lectures' (2018, p. 278). However, this contrasts with the present study since the

participants had demonstrated high levels of listening comprehension, as measured by IELTS Academic listening test, and did not report that they had any comprehension difficulties during the interviews. It should be mentioned, however, that some participants might not have admitted their lack of understanding. Nevertheless, the findings of the present study may tie well with the ones reported by Murphy (1985) who indicated that more skilled L2 listeners resorted to a greater variety of strategies.

The descriptive statistics of the questionnaire demonstrated a highly frequent use of *evaluation* (factor 9), *recall of prior knowledge* (factor 3), *understanding through recalling teacher's approach* (factor 4) and *utilisation of personal physical resources* (OSB1) strategies (following Oxford and Burry-Stock's (1995) distinction). The data collected from the interviews confirmed these findings, as these strategies were the ones most frequently mentioned (by eight out of ten interviewees), and the data collected during the lesson observation detected the frequent use of *utilisation of personal physical resources* (OSB1) strategies. Some of these results are in line with other research studies. For instance, Fung and Macaro (2019) also found that *recall of prior knowledge* (factor 3) strategies were most frequently implemented by their participants; *evaluation* (factor 9) strategies were identified as one of the most frequently used ones by Huang and Nisbet (2019) and Vahdany et al. (2016). A possible explanation for the use of the above strategies by the participants in the present study might be the nature of listening to teacher talk in an EMI setting, when the teacher constantly contextualises and mediates learning. It may, as well, be the classroom culture (Coyle, 2007) that might have fostered proactive learning, reflective behaviour and deeper thinking and led to learners taking an active role in their comprehension and learning process.

Another finding of the present study is that *note-taking* and *planning* strategies, which were not included in Fung's (2016, as cited in Macaro, 2018) and Fung and Macaro's (2019) questionnaire, emerged from the interview data and lesson observation. Most participants were active note-takers, which, as reported, helped them to evaluate and enhance their comprehension. These results suggest that the participants were able to take notes and listen to their teacher simultaneously so that their note-taking was not 'detrimental to [their] listening comprehension' (Bloomfield et al., 2010, p. 77). Also, three participants commented that they *planned* their listening and note-taking routines to achieve better comprehension. In a similar line of research, *note-taking* strategies were highly frequently used by the EMI participants when listening to lectures in Soruç et al.'s (2018), and Macaro et al.'s (2019) studies, and *planning* strategies were frequently used by the EFL participants in Ngo's (2015) study.

One more finding is that the interview data revealed the use of two strategy combinations by a total of five participants. One strategy combination was *summarisation/appropriation* (factor 5) and *note-taking* strategies, which implies that learners listened to the teacher and took notes by summarising ideas or paraphrasing key points. In other words, most participants were able to take notes effectively rather than resort to ineffective word-by-word information recording (McPherson, 2012), perhaps because effective note-taking strategies might have been taught in some other lessons during the school year which were not observed by the researcher. Another reason for the use of this strategy combination might be the demands of academic listening in EMI where the students were assessed on their content knowledge and may have been required to be efficient at note-taking to succeed in the course.

Another strategy combination found in the present study was *recall of prior knowledge* (factor 3), *evaluation* (factor 9) and *direct help seeking from the teacher* (OSB3), which might have been attributed to the participants' pro-active (Macaro, 2001) behaviour to facilitate and monitor comprehension. In general, the participants' use of two strategy combinations may be connected to their relatively high levels of L2 listening proficiency which enabled them to orchestrate strategies (Anderson, 2002; Swaffar & Bacon, 1993; Vandergrift, 2003) and use them effectively to support their learning needs.

The present study identified *translation* (factor 6) strategies as the least frequently reported in the questionnaire and interviews. This contrasts with Ngo's (2015) findings which demonstrated a high frequency of *translation* strategies. The differences in the learners' listening proficiency levels might explain the variance between the present study and Ngo's (2015) study: Ngo's (2015) participants were of pre-intermediate, B1 CEFR level, as opposed to a mean of IELTS listening score 8.0 (C1+ CEFR) demonstrated by the participants in the present study. This means that the results of the present study are consistent with most research literature indicating that learners with higher levels of English proficiency resort to translation less, as was reported by a most recent study by Yulita (2021), for example.

Additionally, the interview data indicated that *auditory representation and imagery* (factor 8) and *repetition* (factor 10) were found to be least frequently reported strategies by the participants, in contrast to a high frequency of *imagery* strategies revealed by Ngo (2015). The present study participants' use of *auditory representation and imagery* and *repetition* strategies could have already undergone the process of automatisisation in part due to a boarding school environment where the participants were constantly exposed to native English speakers and had

access to daily conversational listening. This enabled them to resort to more metacognitive strategies.

5.2 RQ2: Do these strategies differ according to listening comprehension abilities?

It is difficult to forge links between the present study and earlier research that explored L2 listening strategies use in relation to listening comprehension abilities as these abilities have been measured in so many ways in different studies. Although the participants' listening proficiency had been assessed through a global English-language standardised test, IELTS Academic, in the absence of 'a standard definition of high and/or low proficiency' (Bloomfield et al., 2010) in the L2 comprehension literature the findings may still be open to interpretation.

The results of the quantitative data analysis (a Spearman Rank Order correlation coefficient test) in the present study indicated no significant relationship between the participants' listening strategy use and their IELTS listening scores. It is likely to be due to the small sample size of the study which does not have enough power to detect significant differences quantitatively. Another explanation might be that all the participants in the study were a homogenous group of students and equally fluent as listeners, the differences in their IELTS listening scores could have been affected by test-taking conditions or certain characteristics of listeners that played a role during the listening test (Bloomfield et al., 2010).

The findings in the present study, therefore, are in contrast with some results attained by larger-scale studies and studies where listening comprehension levels were defined in a different manner. Bidabadi and Yamat (2011) found positive correlations between the participants' three proficiency levels (lower-intermediate, intermediate and advanced) and *metacognitive*, *cognitive* and/or *socio-affective* strategies. Similarly, a study by Kassem (2015) found a positive correlation between learners' listening comprehension and their use of *cognitive* and *metacognitive* strategies. However, some large-scale studies, for example, by Bang and Hiver (2016), also reported no direct link between learners' L2 listening proficiency and L2 strategy use. In their study, the participants were of beginner-lower intermediate levels, which can be also considered as a rather homogenous group. Another interpretation might be that the findings are in line with the suggestion that 'proficiency cannot be correlated with strategic behaviour because it already consists of strategic behaviour' (Macaro, 2018, p. 265).

An interesting consideration was pointed to by Bang and Hiver (2016), similarly to Vandergrift (2005), who found a positive relationship between L2 strategy use and motivation, which

suggested that highly motivated learners engage in more metacognitive behaviours (Vandergrift, 2007). This might also apply to the EMI students in the present study. Although measuring the participants' motivation was beyond the scope of the present study, the students' high levels of motivation were essential prerequisites for being offered a place in the school. Thus, all the participants were highly motivated, which could have impacted their strategy use more than their L2 listening comprehension abilities.

An interesting finding uncovered in the present study was that more fluent listeners could 'switch attention between multiple, concurrent activities' (Bloomfield et al., 2010, p. 75) more easily than less fluent listeners. The data from the lesson observation and interviews indicated that more fluent listeners (with IELTS listening 7.5 and above) were focused on the content and summarised the teacher's explanations by writing down only the key ideas, which, perhaps, showed that 'high levels of [their] cognitive behaviour' were activated (Macaro, 2018, p. 273). In other words, more fluent listeners used a combination of *summarisation* and *note-taking* strategies, which was found to be indicative of better listening comprehension (King, 1992). Less fluent listeners (with IELTS listening 7.0 and below), on the other hand, wrote down everything the teacher was saying, i.e., used detailed *note-taking*, as they might have been more concerned with the language than the content. Engaging in an additional activity, such as summarisation, would be challenging and would most likely negatively affect their comprehension (Bloomfield et al., 2010). A possible explanation for this might be that the decoding difficulties that less fluent listeners faced required taking more notes, as reported by Macaro et al. (2019). Another reason for the length of notes taken by less fluent listeners might be that their ability to distinguish relevant information from irrelevant, which is of great importance in academic listening, was not developed yet.

Several strategies, such as *translation* (factor 6), *repetition* (factor 10) and *selective attention on simple words or segments* (factor 7) were only mentioned by the participants with IELTS listening scores 7.0 and below in the interviews. Although these strategies were not reported by the participants with IELTS listening scores 7.5 and above, it might be wrong to assume that these students did not use such strategies. Perhaps, these strategies had already been automatised to speed up language acquisition (Macaro, 2006) for the more fluent listeners. For this reason, the question of whether the use of the strategies differed based on the participants' L2 listening comprehension ability is still unsolved: they could have been used subconsciously by more fluent listeners.

5.3 RQ3: Do the strategies that learners use when listening to teacher talk change over a six-month period of EMI exposure?

Since a high frequency of L2 listening strategy use in itself may not always be a sign of successful learning (Yamamori et al., 2003), the study did not seek to detect the increase in strategy use by the end of the investigation period. Rather a more advanced deployment of the strategies the participants used initially was expected at Time 2 of the data collection. The results of the Paired Samples T-tests demonstrated that there was no evidence of changes to the use of listening strategies during six months of EMI exposure. Such quantitative results could be attributed to the fact that the participants were ‘highly strategic’ (Field, 2011, p. 111) already at Time 1 and reported the same strategies they found effective at Time 2.

The method triangulation used in the present study allowed to see a more detailed picture of whether changes in strategy use had occurred. The data from the lesson observation and the interviews uncovered that at Time 2 the participants demonstrated a conscious selection and use of those strategies that were necessary or more effective for their learning goals in the EMI setting. This supports Dong’s (2016) findings that listening strategies undergo a process of self-adaptation and self-organisation.

A decrease of *hide and seek* strategies (OSB2) and an increase in *direct help seeking from the teacher* strategies (OSB3) since Time 1 perhaps showed that the students reconsidered the impact of meaning negotiation on their comprehension and learning. Presumably such opportunity was fostered by the environment in which listening took place and the distinguishing features of the listening to teacher talk as a listening task. At the beginning of the investigation period some participants commented that they were shy and, therefore, sought help from their classmates while only pretending to understand the teacher. As the participants became more familiar with the teacher, which was illustrated by the increase in the reported *understanding through recalling teacher’s approach* (factor 4) strategy use, and more confident in their English use (Bolton & Kuteeva, 2012; Chou, 2018), they established a closer teacher-student connection. This encouraged the students to seek help from the teacher and provided, as the participants claimed, a more effective way to achieve comprehension.

Another difference between Time 1 and 2 indicated by the qualitative data was that more participants, including less fluent listeners (with IELTS listening 7.0 and below), were able to simultaneously engage in several activities. This was identified by a more frequent use of *summarisation/appropriation* (factor 5) and *planning* strategies during *note-taking*, allowing

notes to become shorter and more effective. It might have been that EMI developed the participants' study skills in general, which resulted in a more effective approach to note-taking and note-keeping, as was stated in the interviews. Another reason might be that the teacher's use of discourse markers, as was identified during the lesson observation, provided guidance for the participants to take notes more efficiently and focus on key ideas. The participants also reported that they were more familiar with the lesson structure at Time 2, which might have contributed to their ability to plan their note-taking and summarise the input.

Additionally, the participants at Time 2 started to use *contextualisation for the present lesson* (factor 1) strategies more often in a combination with *recall of prior knowledge* (factor 3), *evaluation* (factor 9) and *direct help seeking from the teacher* (OSB3) strategies. As the 'development of learner strategies is linked to the type of learning context in which they are situated' (Coyle, 2007, p. 65), the use of these strategies might be explained by the nature of the listening task explored in the study. Clearly, teaching academic content presupposes that teachers contextualise listening and elicit learners' prior knowledge. Those regular processes during listening to teacher talk could have served as a guidance for the students, which helped raise their awareness of the possible combination of strategies that should be used for better comprehension and encouraged the development of metacognitive knowledge.

Selective attention on simple words or segments (factor 7), *auditory representation and imagery* (factor 8), *translation* (factor 6) and *repetition* (factor 10) were not mentioned during interviews at Time 2. This may demonstrate that less reliance on bottom-up knowledge was needed at Time 2 of data collection because these strategies gradually became automatised through 'repeated encounters' (Macaro et al., 2015, p. 33) over a six-month EMI exposure, and were used too rapidly and too subconsciously at Time 2 to be remembered to be mentioned by the participants (Santos et al., 2008).

Chapter 6. Conclusion

There is limited availability of research on L2 strategy use when listening to teacher talk in an EMI context. The present study attempted to gain an in-depth understanding of what can be found in such a setting. It was established that the participants, who were selected to study in such an environment based on their ability to learn effectively through EMI, were ‘highly strategic’ (Field, 2011, p. 111), deployed a wide range of strategies and were able to refine their strategy use during the EMI exposure. More fluent listeners were found to successfully engage in ‘concurrent activities’ (Bloomfield et al., 2010, p. 75), such as *note-taking* and *summarisation* when listening to teacher talk. Less fluent listeners, on the other hand, had been devoid of the ability to alternate between those strategies at Time 1, but demonstrated an improvement in this ability at Time 2.

The present study demonstrated that L2 listeners may benefit from being implicitly helped during the listening to the teacher process in an EMI classroom. It should be noted that the scientific literature highlights several distinguishing features of listening to teacher talk as a listening task. It involves a teacher-student interaction with an opportunity to negotiate meaning (Vandergrift, 2007) and presupposes that teachers contextualise and mediate learning, provide feedback and use ‘repetitive speech acts’ (Fung & Macaro, 2019, p. 4), by which teachers guide their learners through the processes involved in listening. It seems likely, therefore, as has been hypothesised in the present study, that listening to teacher talk in an EMI classroom is powerful in teaching learners how to listen strategically.

A survey of the literature shows that highly motivated learners might engage in more metacognitive behaviours (Vandergrift, 2007). Further, more advanced students in EMI contexts might be more strategic and pro-active (Soruc et al., 2018; Macaro et al., 2019) because the EMI environment requires them to be able to regulate their learning and control their study behaviour (Nilson, 2013). Another consideration pointed to in the literature is that more fluent listeners may be unconsciously strategy-aware (Cross, 2010), perhaps because their listening processes have become automatised, hence rapid and effortless with practice (Macaro et al., 2015). It should be acknowledged, therefore, that several variables could have become key in the use of listening strategies by the participants of the present study, for example, motivation, previous exposure to academic listening, the EMI context, and the ability to self-regulate one’s learning. This clearly indicates areas where more research is needed.

Finally, the taxonomy used in the present study, adopted from Fung's (2016, as cited in Macaro, 2018) and Fung and Macaro's (2019) studies, together with the study's findings may be recommended to be used in several ways. It can provide guidance for the development of a more refined questionnaire to be administered to investigate listening to teacher talk in other EMI settings. It can also be applied in the classroom for raising learners' awareness of the availability of L2 listening strategies for better comprehension and providing opportunities for reflection on strategic L2 listening.

6.1 Limitations of the present study

The present study has limitations connected with the data it collected, particularly, with its small sample size and not flexible sampling. The participants were a group of students who were available for investigation. A random approach to sample selection was not a possibility due to a limited number of students enrolled in the EMI programme in the upper-secondary school that the researcher had access to. It may be argued, however, that the small scale of the present study gave some useful insights into how strategies were used (Vann & Abraham, 1990) in the particular context. One more limitation is that the findings of the present study may only be attributable to learners with relatively high listening comprehension abilities studying in EMI and only to the use of strategies when approaching a task such as listening to teacher talk. Thus, one needs to be cautious when comparing the results with studies in other educational contexts, with other listening tasks and with learners of other listening comprehension abilities. A further limitation is that learner variables, such as, for example, their individual differences including motivation, number of years studying English, previous exposure to academic listening and to EMI were not controlled for. It might be that other factors rather than the six-month EMI exposure affected the participants' strategy use.

There are several limitations connected with the research methods. The questionnaire might have limited the participants' choices in reporting strategies (Berne, 2004); its substantial length (65 items) might have been discouraging for the participants, who could have considered the questions less carefully; a five-point Likert scale might have forced the participants to choose the easiest option, i.e., the middle variant (Cohen et al., 2018). Moreover, interview volunteers might have had their own motives for participating which should be taken into consideration when interpreting their comments (Cohen et al., 2018). Finally, the present study did not measure the participants' L2 listening comprehension abilities after six months of EMI exposure. Thus, it is

not possible to establish whether listening strategy development resulted in changes in learners' L2 listening comprehension abilities.

6.2 Implications for teaching practices

Listening comprehension in this study has been portrayed as 'an active and conscious process', where learners deployed 'multiple strategic resources to fulfill the task requirements' (O'Malley et al., 1989, p. 434). The findings of the present study taken with those of Soruç et al. (2018) demonstrated that EMI learners, who were L2 learners in real-world listening situations, used a great variety of strategies during listening in an EMI setting. This allowed them to select strategies effectively and, more importantly, to rely on rational combinations of strategies and 'regulate [their] learning processes and to achieve [high levels of] comprehension' (Vandergrift, 2007, p. 193). However, not all L2 listeners are aware of which strategies may benefit their comprehension. Instruction should be planned with the aim of raising awareness about the processes involved in listening and to help learners in determining the effectiveness of different strategies for different listening tasks (Macaro et al., 2015).

On the one hand, the strategies that were found to be the most frequently used in the present study and the studies conducted in similar contexts may be used as guidance for practitioners in terms of which strategies students should be aware of, particularly, in preparation for L2 listening to teacher talk in an EMI setting. On the other hand, the studies reviewed in the present research do not always demonstrate the effectiveness of explicit strategy training (e.g., Noguerolés López, 2017). Training programmes, therefore, should be only devised in accordance with the student's individual linguistic and strategic knowledge, their learning needs and goals and their specific learning situation. This requires on the part of the L2 teacher, who will prepare students for EMI, awareness of what mental processes an academic listener usually engages in (Field, 2011), which strategies they already use (Macaro et al., 2015) and which strategies might be most needed to assist listening comprehension in their future learning contexts.

If explicit strategy training is not feasible, teachers, in addition to their regular work such as 'increasing vocabulary knowledge; [and] developing automaticity in lower-level processes' (Macaro et al., 2015, p. 63), could focus on creating such learning situations that provide multiple opportunities for L2 learners to activate both bottom-up and top-down knowledge and practice orchestrating listening strategies in the same way as they would do in real-world listening activities. This may be done by adopting a 'more holistic, process-oriented approach to

L2 listening’ (Vandergrift, 2007, p. 198). The present study demonstrated that L2 listeners may benefit from the teacher’s guidance through the listening process (Vandergrift, 2007). Teachers may help learners during the listening task by making it contextualised, giving learners opportunities to engage in ‘prediction, monitoring, evaluating and problem-solving’ (Vandergrift, 2007, p. 197), encouraging meaning negotiation.

Also, it might be that learning objectives beyond language acquisition, found in the present study, foster the use of a broader range of listening strategies. In ESL learning settings, similar learning situations may be created, for example, by integrating content and language, e.g., in Content and Language Integrated Learning (CLIL) programmes. In addition, teachers should create a classroom culture (Coyle, 2007) where learners are encouraged to be more evaluative, reflective, more strategy-aware and more ‘in control of their learning’ (Macaro, 2001, p. 25). It might be achieved by giving more of a voice to students in devising a learning curriculum or by encouraging peer work and collaboration when working on listening tasks. Moreover, listening strategy use may be enhanced when learning is facilitated by deliberate focus on developing skills such as social, thinking, self-management, etc. Given that there may be more opportunities for interaction when listening to teacher talk than in other listening tasks, this kind of listening might create a more positive learning environment that encourages the ‘freedom to negotiate meaning’ by itself (Vandergrift, 2007, pp. 195-196). In listening to recordings some positive features of listening to teacher talk may still be exploited for the benefit of developing students’ listening skills, for example, teachers may mediate it by their own ‘interjections and explanations’ (Macaro, 2018, p. 271). Overall, there may be a variety of ways to create opportunities for L2 listeners in any learning context to develop, through continuous practice, a decent repertoire of strategies, to encourage students to select the right strategies in accordance to their needs and then use them in most effective combinations to assist with their L2 listening comprehension.

6.3 Future research

There are many questions in L2 listening strategy research that remain unclear and require further exploration. Which strategies should be taught? Does L2 learners’ listening comprehension improve because of successful strategy use or vice versa? Do learners adapt their L2 listening to teacher talk strategies to suit particular teaching styles? What is the relationship between the L2 learner’s listening strategies repertoire and self-regulation?

Future work, therefore, may attempt to shed light on these questions. A comparative study into academic listening to an academic lecture and to teacher talk in a seminar, with smaller class size and more room for interaction, might provide some valuable data and implications for practitioners in terms of devising listening tasks better suited to prepare learners for real-world listening situations. Further, additional studies are required to ‘unpack [...] causal directions’ (Macaro, 2018, p. 265) between L2 listening strategy use and successful listening to teacher talk, possibly with a similar sample but with other qualitative research instruments that allow the researcher to obtain a richer and more accurate data, e.g., focus groups (Rose, 2012). Also, in order to identify how teaching styles or content difficulty may affect L2 listening strategy use, research studies may investigate EMI listening to teacher talk in relation to different teaching approaches with a variety of teachers (Macaro, 2018) or with classes being taught different subjects. Finally, a study comparing L2 listening strategy use with EMI participants of different levels of self-regulation, i.e., strategic knowledge, knowledge about cognitive tasks and self-knowledge (Nilson, 2013) may clarify the relationship between strategies L2 listeners deploy in real-world EMI listening and self-regulation.

Appendix A: CUREC approval email

Dear [REDACTED]

Learner listening strategies to teacher talk in EMI settings

Thank you for your timely and extremely thorough submission – and how interesting. The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly, approval has been granted.

Please continue to follow all current guidance issued by CUREC during the pandemic, notably COVID-19: CUREC guidance on research involving human participants,
<https://researchsupport.admin.ox.ac.uk/governance/ethics/coronavirus>

Good luck with your research study,

Keep well and safe,

Yours sincerely,

All good wishes,

Liam

Liam Gearon
Chair, DREC

Liam Francis Gearon, PhD, FHEA, FRSA



Appendix B: Participant information sheet

Department of Education

University of Oxford

15 Norham Gardens Oxford, OX2 6PY

Phone +44 (0) 1865 274024



PARTICIPANT INFORMATION SHEET

Learner strategies when listening to teacher talk in EMI settings

1. *Why is this research being conducted?*

This project is looking at strategies that learners use when listening to teacher talk in English Medium Instruction settings. We are especially interested in which strategies are used by learners in the classroom where English is used to teach and study academic subjects, whether these strategies differ according to learners' listening comprehension abilities, and whether they change over six months of EMI exposure. Unfortunately, we know very little about what learners do when they listen to a teacher delivering academic content in English (learners' second language). This project will help us to understand which strategies learners deploy. We hope that our findings will allow us to find ways how teaching academic subjects in English may be improved.

More information about the project can be obtained by contacting the research team (contact details overleaf).

2. *Why have I been invited to take part?*

You have been invited to take part because you are a young person, aged between 16 and 17 years, attending xxxxx School. We are inviting 20 young people to take part.

3. *Do I have to take part?*

No - It is up to you. We will ask you to sign a form to say that you agree to take part (a consent form). We will give you a copy of this information sheet and your signed form to keep. You are free to stop taking part at any time during the research without giving a reason, by telling the researcher. If you decide to stop, we will not use the information we have already collected from you.

4. *What will happen to me if I take part in the research?*

You are invited to complete a questionnaire and participate in a follow-up interview with me twice: in early October 2020 and late April 2021. If you agree to take part in the study, you will sign a consent form and send it to me by email, and I will reply with the date of the interview.

On the scheduled date you will be given a detailed explanation of the study's aim and the procedures. You will also have a chance to ask any questions. It will also be made explicit that your participation is voluntary. If you are happy to take part in the research, you will be given a questionnaire. The questionnaire will include 65 statements which you will rate according to a five-point scale. This should take approximately 15 minutes to complete. You can ask not to complete the questionnaire at any time.

I will also observe an academic lesson a week after questionnaire completion and will invite some learners to participate in a follow-up interview with me. The participation in the interview is voluntary. The interview should take approximately 15 minutes and during this time I will ask you to tell me what you do when you listen to the teacher conducting an academic subject in English. You can ask to pause or stop the interview at any time.

With your consent, I would like to record the audio of our interview so that I can refer back to it later and know exactly what you said.

5. *Are there any potential risks in taking part?*

There are some risks. I am collecting personal data from you, including your name, IELTS listening score and audio recordings. If the data were to leak to a third party, it could lead to a breach of privacy and theft of personal information.

To reduce these risks, I will treat your personal data with extreme care and do everything that I can to protect your privacy. Your data will be shared with no one and kept in secure storage to ensure confidentiality. Your data will be pseudonymised – in other words, I will not use your real name or any other identifying information when storing or reporting your data.

6. *Are there any benefits in taking part?*

There will be no direct or personal benefit to you from taking part in this research. However, if you would like to receive a copy of my research report, I am happy to provide this to you.

7. *What happens to the data provided?*

The information you provide during the study is the **research data**. Any research data from which you can be identified (name, IELTS listening score, audio recording), is known as **personal data**.

Personal data in physical form will be stored in a locked safe in my home until it is no longer need to conduct research, at which point it will be destroyed.

Personal data in digital form will be stored in encrypted files on my computer and backed up on an encrypted USB drive which will be stored in a locked safe in my home. This digital data will be kept until it is no longer needed to conduct research, at which point it will be destroyed.

Opt-out forms will be retained by the school for the duration of the study, and for as long as the school determines appropriate after research activities have concluded at the school.

Other research data (such as transcripts) will be stored for at least 3 years after publication or public release of the work of the research.

I, xxxxx, will have access to the research data. Responsible members of the University of Oxford, such as my supervisor, may be given access to non-personal data for monitoring and/or audit of the research.

Regular summaries of our findings will be given to the school and will be available to interested families.

I would like your permission to use direct quotes against a pseudonym in any research outputs.

8. *Will the research be published?*

The research will be written up as my Masters thesis and may be published in an academic journal in the future.

On successful submission of the thesis, it may be deposited both in print and online in the University archives to facilitate its use in future research. If so, the thesis will be openly accessible.

The University of Oxford is committed to the dissemination of its research for the benefit of society and the economy and, in support of this commitment, has established an online archive of research materials. This archive includes digital copies of student theses successfully submitted as part of a University of Oxford postgraduate degree programme. Holding the archive online gives easy access for researchers to the full text of freely available theses, thereby increasing the likely impact and use of that research.

9. *Who has reviewed this study?*

This study has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.

10. *Who do I contact if I have a concern about the study or I wish to complain?*

If you have a concern about any aspect of this study, please contact xxxxx or xxxxx and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a

formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible: Dr Liam Gearon, Chair of the Departmental Research Ethics Committee by e-mail: xxxxx.

11. *Data Protection*

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data are used in the study.

The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest.

Further information about your rights with respect to your personal data is available from <http://www.admin.ox.ac.uk/councilsec/compliance/gdpr/individualrights/>.

12. *Further Information and Contact Details*

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

xxxxx

Appendix C: Participant consent form

Department of Education

University of Oxford

15 Norham Gardens Oxford, OX2 6PY

Phone +44 (0) 1865 274024



PARTICIPANT CONSENT FORM

Learner strategies when listening to teacher talk in EMI settings

Purpose of Study: This project is looking at strategies that learners use when listening to teacher talk in English Medium Instruction settings. We are especially interested in which strategies are used by learners in the classroom where English is used to teach and study academic subjects, whether these strategies differ according to learners' listening comprehension abilities, and whether they change over six months of EMI exposure. Unfortunately, we know very little about what learners do when they listen to a teacher delivering academic content in English (learners' second language). This project will help us to understand which strategies learners deploy. We hope that our findings will allow us to find ways how teaching academic subjects in English may be improved.

More information about the project can be obtained by contacting the research team (contact details overleaf).

*Please initial
each box*

- 1 I confirm that I have read and understand the information sheet version 4.4 dated July 2020 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
- 2 I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences or penalty.
- 3 I understand that research data collected during the study may be looked at by authorised people outside the research team. I give permission for these individuals to access my data.

- 4 I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee. ☐
- 5 I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project. ☐
- 6 I understand how this research will be written up and published. ☐
- 7 I understand how to raise a concern or make a complaint. ☐
- 8 I consent to being audio recorded. ☐
- 9 I understand how audio recordings will be used in research outputs ☐
- 10 a I agree to the use of pseudonymised quotes in research outputs ☐
OR
- 10 b I do not wish to be directly quoted. ☐
- 11 I agree to take part in the study ☐

_____	<u>dd / mm / yyyy</u>	_____
Name of Participant	Date	Signature

_____	<u>dd / mm / yyyy</u>	_____
Name of person taking consent	Date	Signature

Appendix D: Participant invitation email

Department of Education

University of Oxford

15 Norham Gardens Oxford, OX2 6PY

Phone +44 (0) 1865 274024



Invitation email

Dear Sir/Madam,

This is xxxxx, English language teacher at xxxxx school and current graduate student at the University of Oxford. Thank you for taking your time to read this invitation.

As a part of my Masters dissertation I would like to conduct a research study on learner strategies when listening to teacher talk in English Medium Instruction settings. As part of my research, I would like to ask you to complete a **questionnaire** and participate in a **15-minute follow-up interview**. Before you decide whether to participate or not, please read the following three attachments:

1. Participant information sheet
2. Participant consent form

If you understand and agree with the information in the attachments, please reply to this email with an attached consent form (Attachment 2), filled out and signed.

Please send the above information by **15.09.2020**. I will respond to you within 5 days to confirm the date of the questionnaire and interview.

If you do not wish to participate, do not reply to this email.

Thank you for your cooperation, and I look forward to hearing from you soon.

Kind regards,

xxxxx

Appendix E: The questionnaire

What do you normally do, particularly in your mind, to understand the teacher **when you are listening to the teacher speaking to the whole class during academic lessons taught in English?**

Please read the following strategies, and respond by rating 1 to 5 according to the description below.

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

Strategies	1	2	3	4	5
1 I focus attention on every word in the teacher's talk.					
2 I repeat fully what the teacher just said in my mind.					
3 I follow the physical actions that my classmates do.					
4 I simplify what the teacher said into something I understand.					
5 I visualise in my mind what the teacher is asking me to do.					
6 I translate the entire teacher's talk into Russian.					
7 I recall what I read during my preparation for the lesson.					
8 I evaluate how much attention I am giving to the teacher.					
9 I anticipate the key vocabulary of the topic of this lesson.					
10 I guess the intention of the teacher in saying something.					

11 I list out in my mind step by step what the teacher is asking me to do.					
12 I list out in my mind what I learnt in the previous lesson.					
13 I identify the overarching meaning of the teacher's talk.					
14 I integrate everything I understand within the teacher's talk.					
15 I visualise in my mind a picture to represent the new vocabulary being taught.					
16 I review my notes.					
17 I rephrase what the teacher said into something I understand.					
18 I recall what I have learnt in the previous lesson to help me understand the present teacher's talk.					
19 I evaluate my understanding and find out how much I understand.					
20 I look up the difficult words in a dictionary.					
21 I focus attention on the keywords of the teacher's talk.					
22 I ask my classmates what the teacher means.					
23 I recall the key contents of this lesson.					
24 I use my knowledge on English pronunciation to help me understand.					
25 I ask the teacher what s/he means.					
26 I recall all knowledge about English grammar.					
27 I focus attention on what the teacher has corrected me, when s/he repeats what I said.					
28 I recall my previous experiences in doing exercises.					
29 I anticipate what the teacher is going to say later.					
30 I recall the key contents of the previous lesson.					

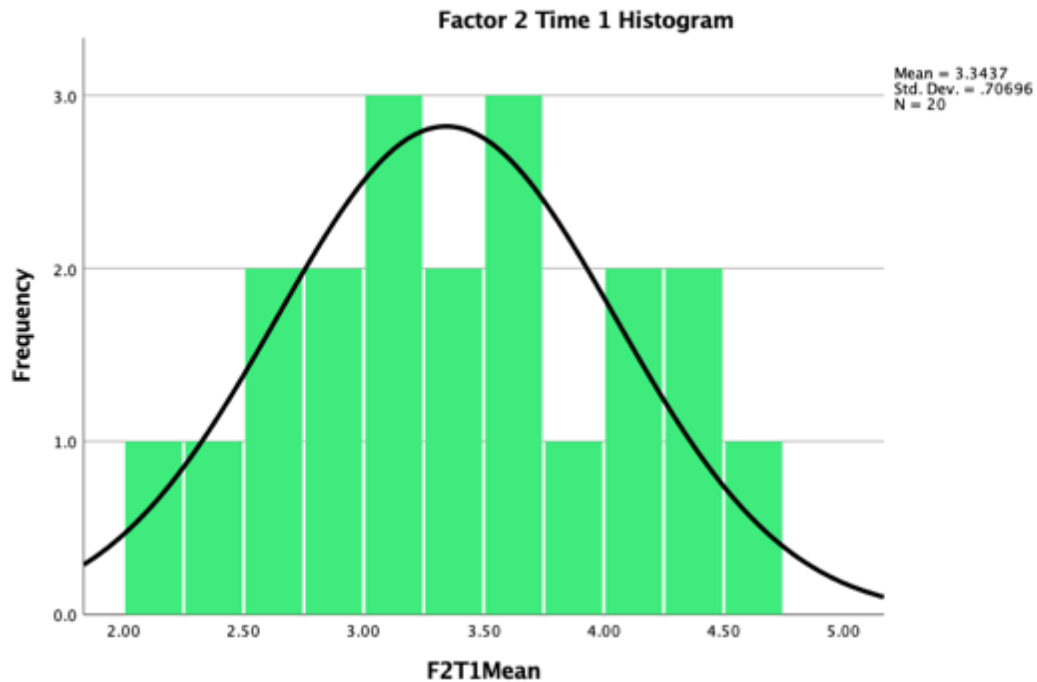
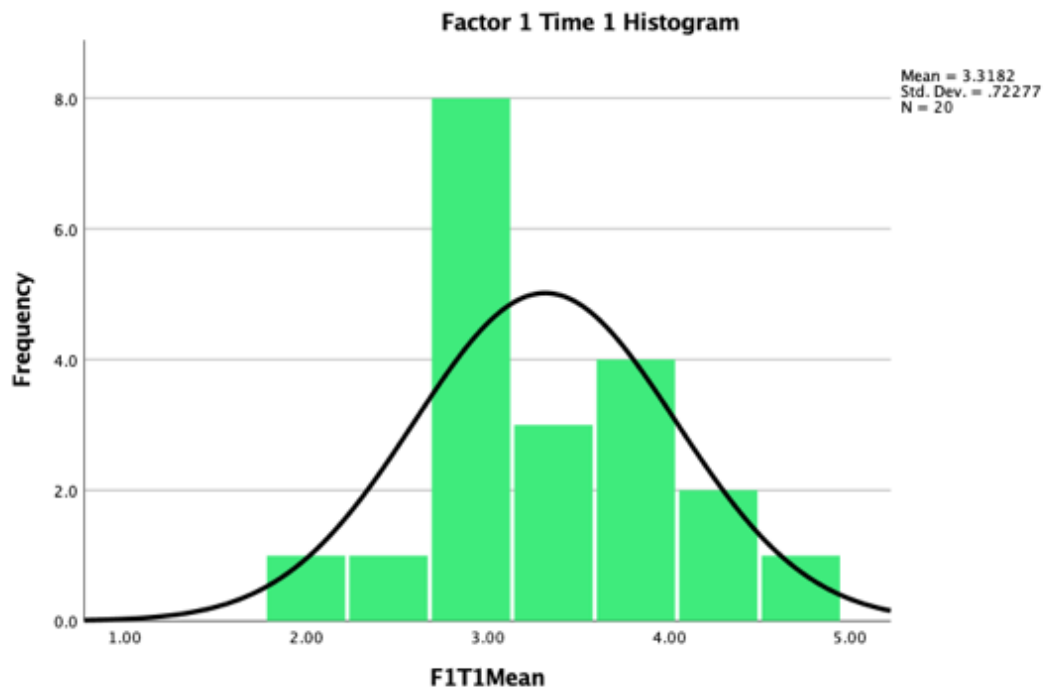
31 I translate the keywords in the teacher's talk into Russian.					
32 I recall previous life experiences which are related to the teacher's talk.					
33 I search in my mind to find out if I have learnt about the topic of this lesson before.					
34 I visualise in my mind the picture of my learning in the previous lesson.					
35 I focus attention on all the difficult words in the teacher's talk.					
36 I refer to my textbook or worksheets to remind myself the key contents of this lesson.					
37. I ask the teacher to repeat.					
38 I repeat partially what the teacher just said in my mind.					
39 I focus attention on one of the difficult words in the teacher's talk.					
40 I focus attention on the sounds of the difficult words.					
41 I focus attention on the words emphasised by the teacher.					
42 I signal to the teacher that I don't understand.					
43 I find clues on the blackboard to help me understand the teacher.					
44 I observe what my classmates do to help me understand the present teacher's talk.					
45 I focus attention on the unfamiliar words in the teacher's talk.					
46 I write down what the teacher said.					
47 I focus attention on the content words in the teacher's talk.					
48 I look up the difficult words in my textbook.					
49 I anticipate what the teacher is going to ask me to do later.					
50 I recall the mistakes I made in the past.					
51 I search in my mind to find out if I have learnt about this vocabulary before.					

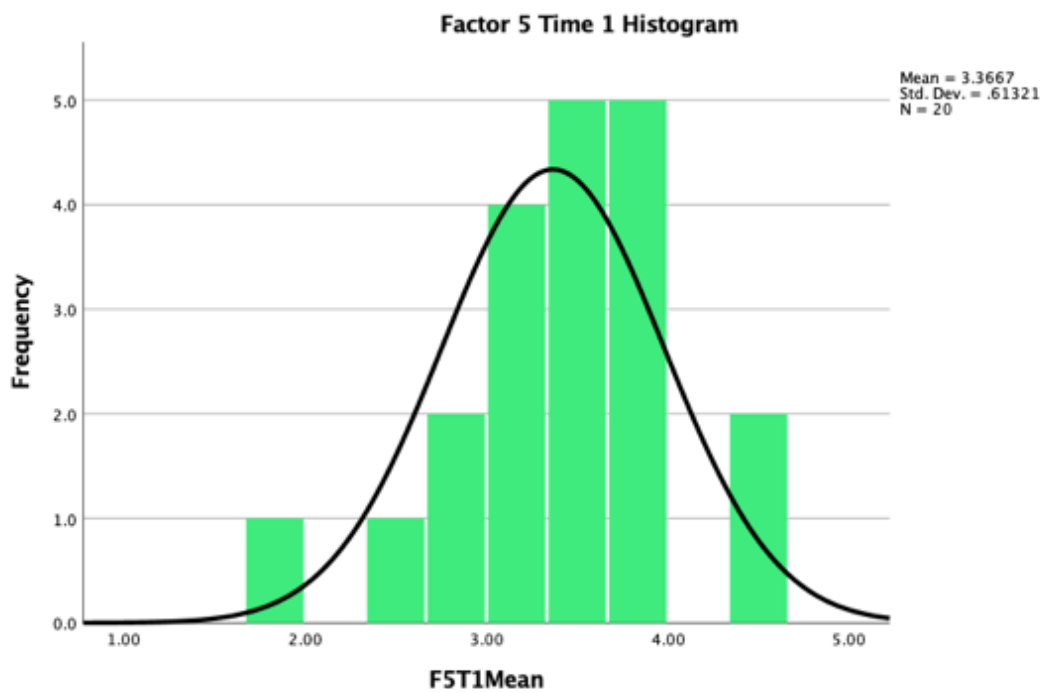
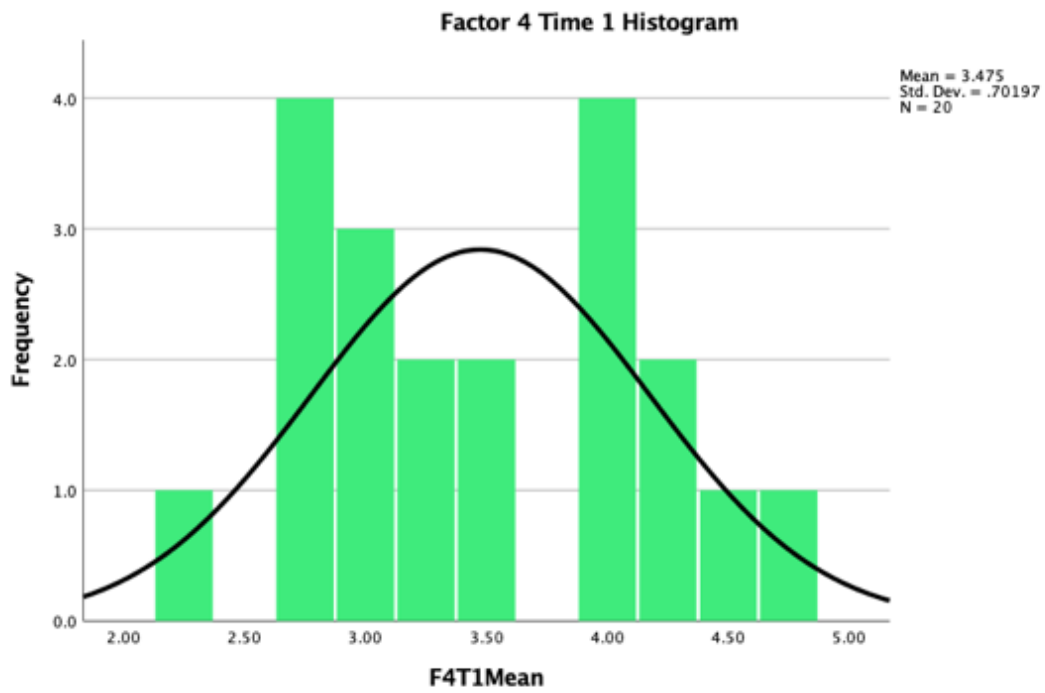
52 I remind myself of the teacher's usual way of saying things.					
53 I recall the vocabulary which I know.					
54 I break the teacher's talk into smaller segments to ease my understanding.					
55 I hold the sounds of the difficult words in my mind.					
56 I focus attention on the simple words in the teacher's talk.					
57 I search in my mind to find out if I have learnt similar words before.					
58 I pretend that I understand (e.g. nod my head).					
59 I recall what I read in my textbook.					
60 I focus attention on the familiar words in the teacher's talk.					
61 I refer to my textbook or worksheets to remind myself the key contents of the previous lesson.					
62 I summarise what the teacher said into a short sentence.					
63 I identify the important points of the teacher's talk.					
64 I integrate my old knowledge and the new content which I don't understand.					
65 I recall what the teacher said previously to help me understand the present teacher's talk.					

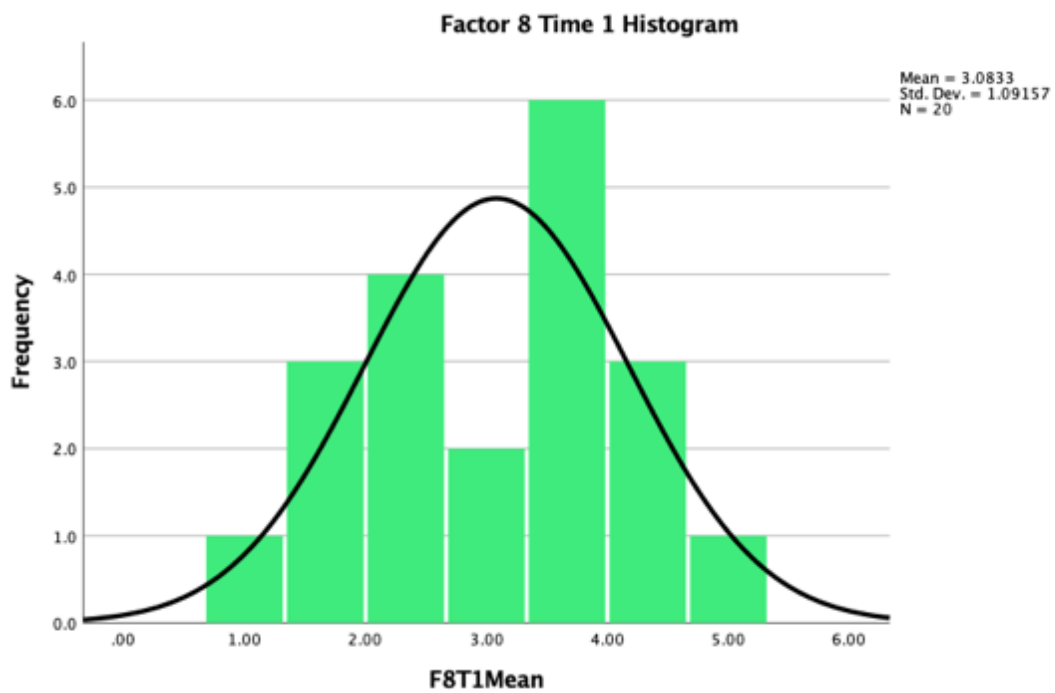
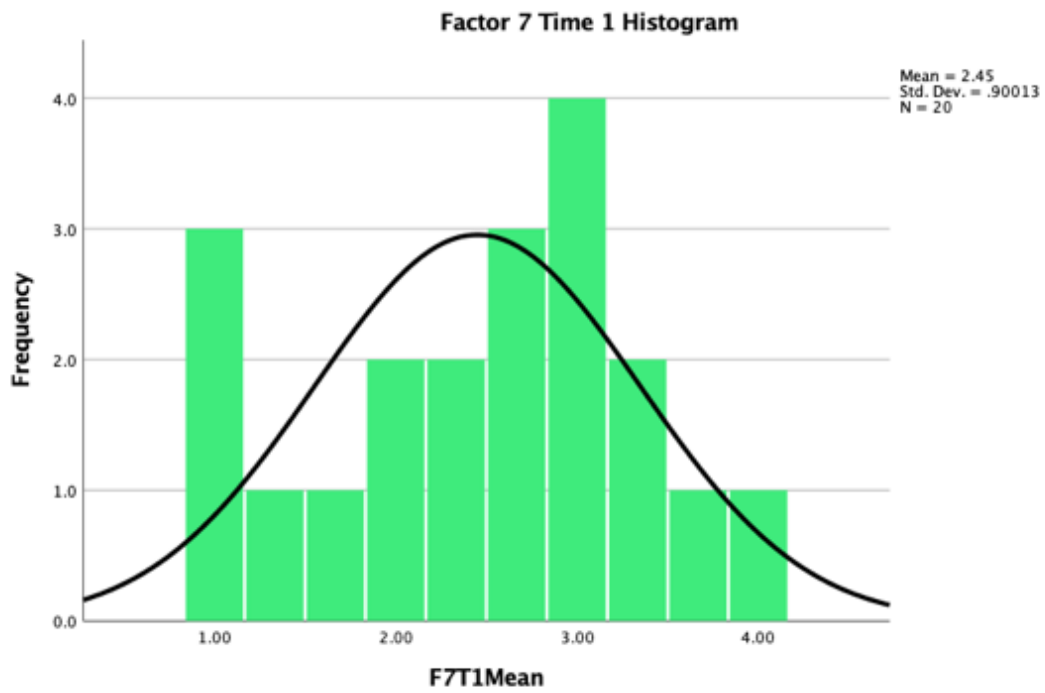
Appendix F: Sample interview questions

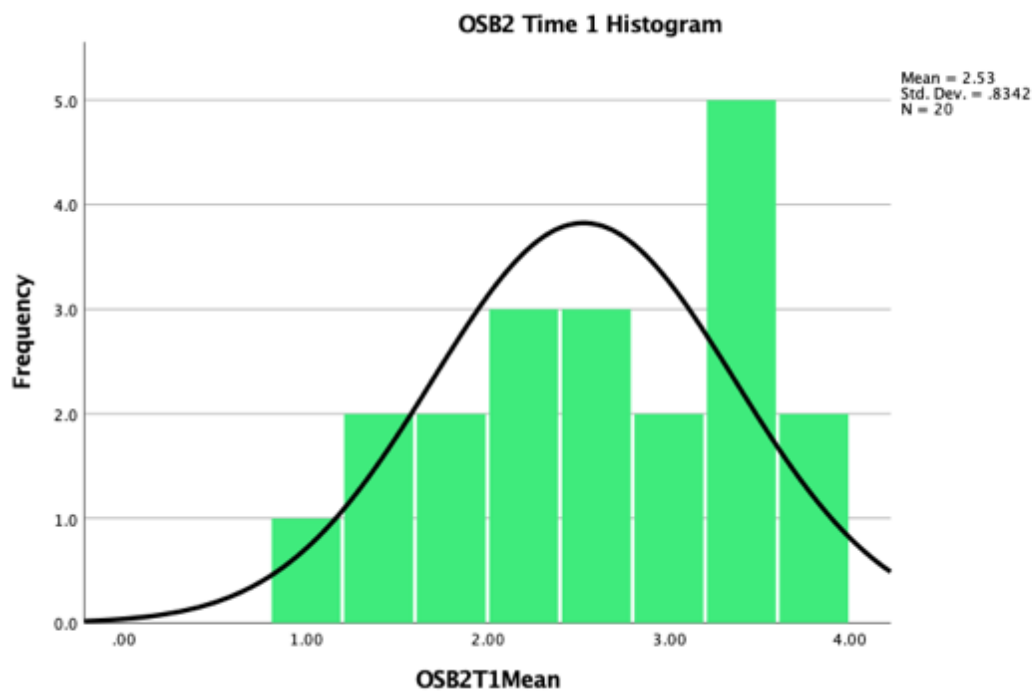
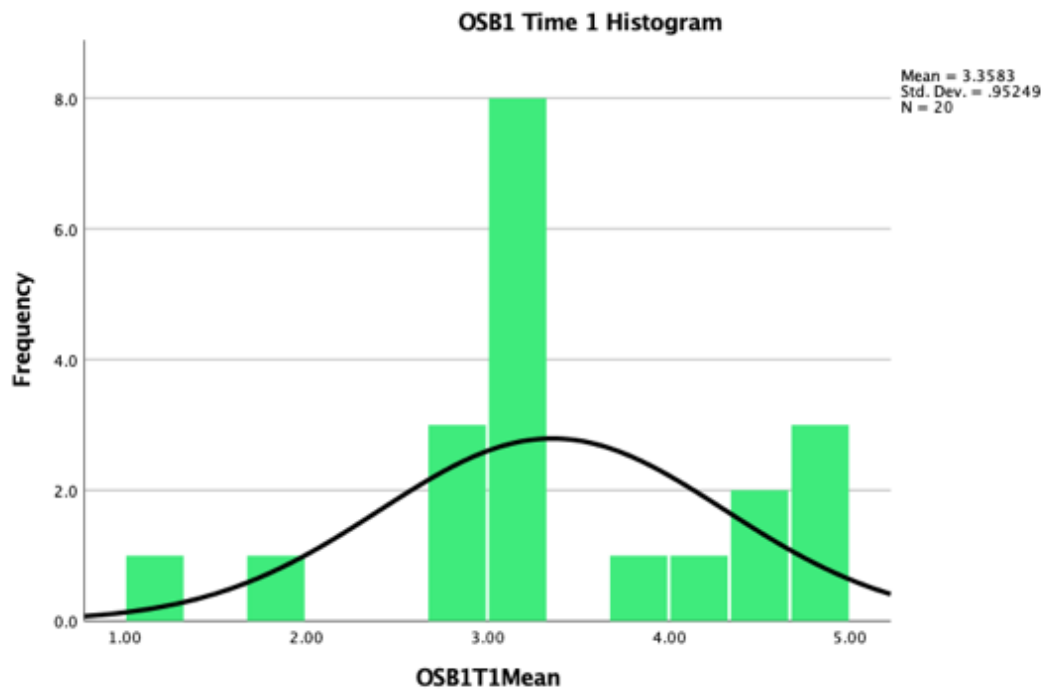
The following questions may be asked in a different order and/or the wording may vary slightly.

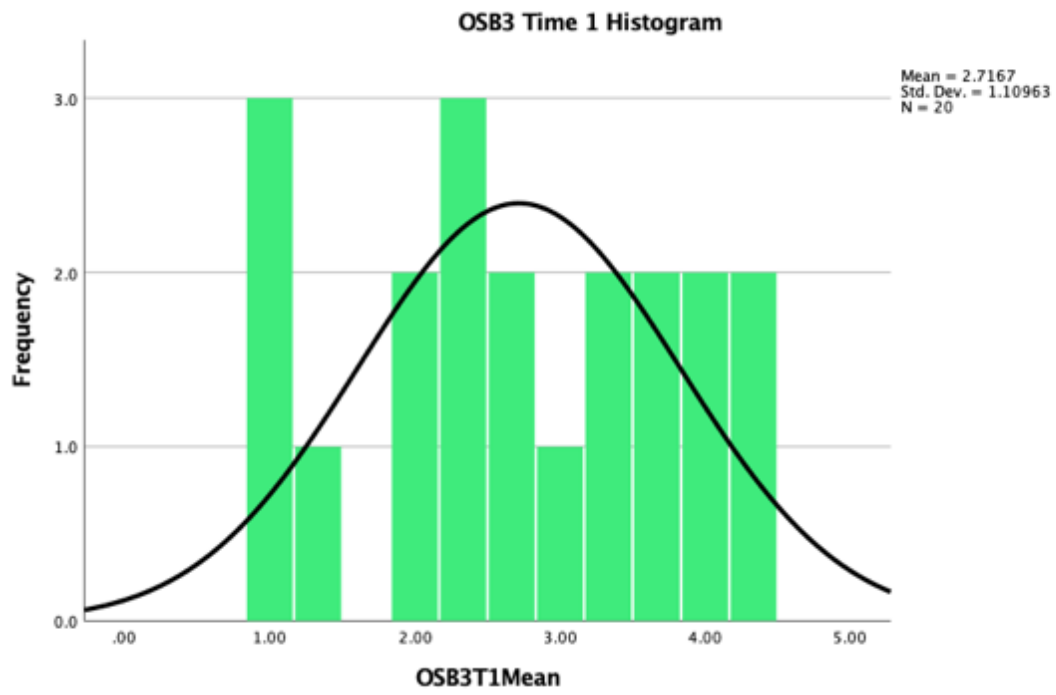
1. How do you prepare for the lesson?
2. What do you do when you listen to the teacher?
3. Do you take notes when you listen to the teacher?
4. If yes, what kind of notes do you take?
5. What do you focus on when you listen to the teacher?
6. What do you do if you come across unknown words in the teacher's talk?
7. What do you do if you don't understand the lesson material?
8. Do you ask questions/interact with the teacher?
9. Do you ask your classmates for help?
10. What helps you to remember the lesson material better?
11. What do you do after the lesson?

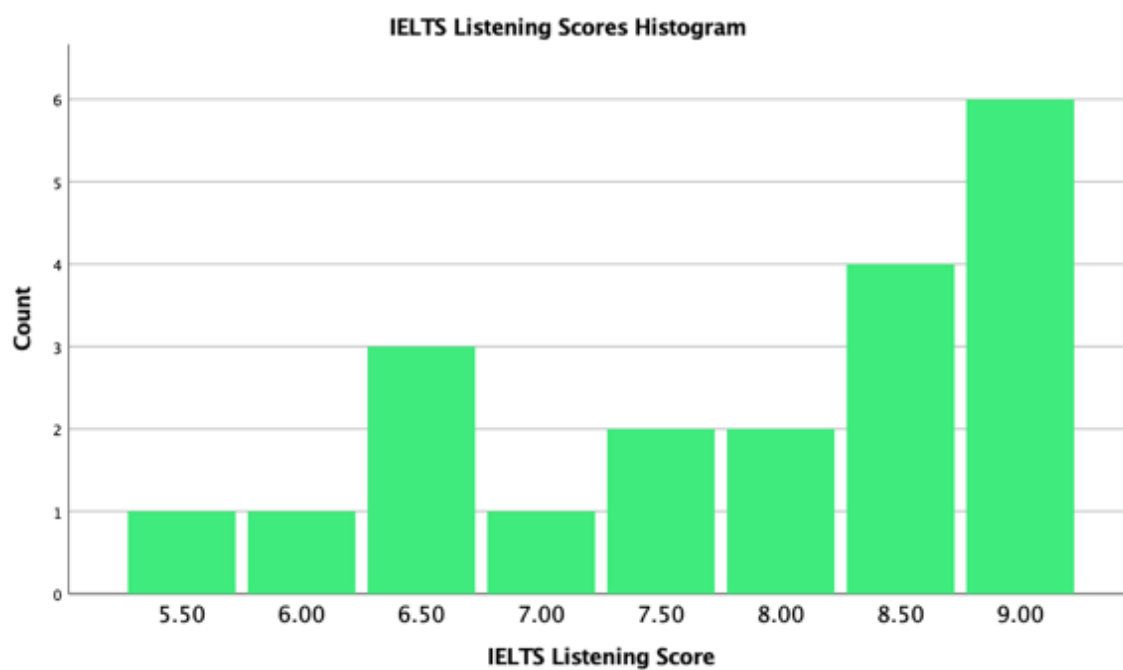
Appendix G: Distribution tests at Time 1





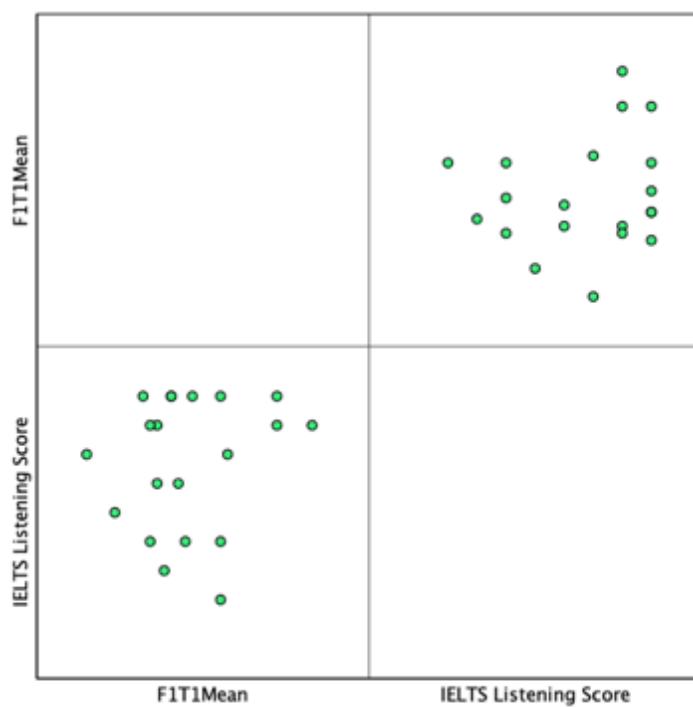




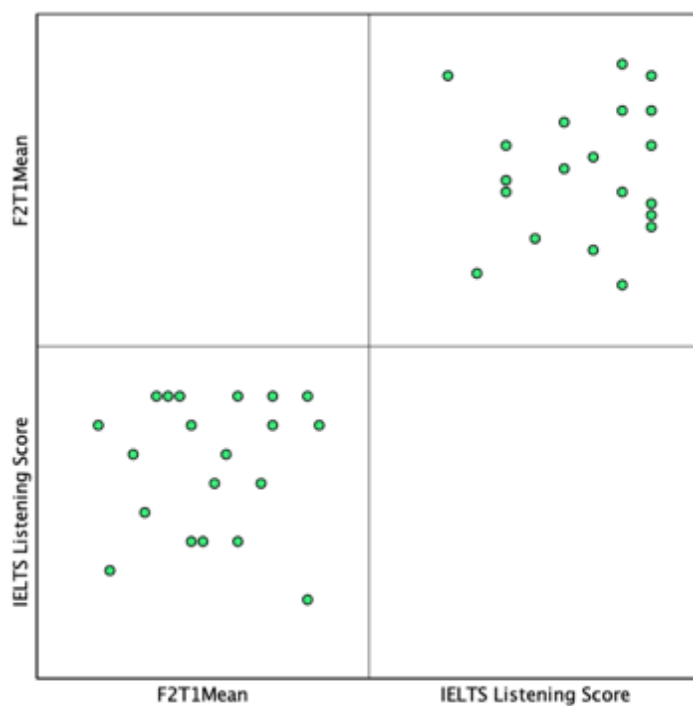
Appendix H: IELTS listening scores distribution test

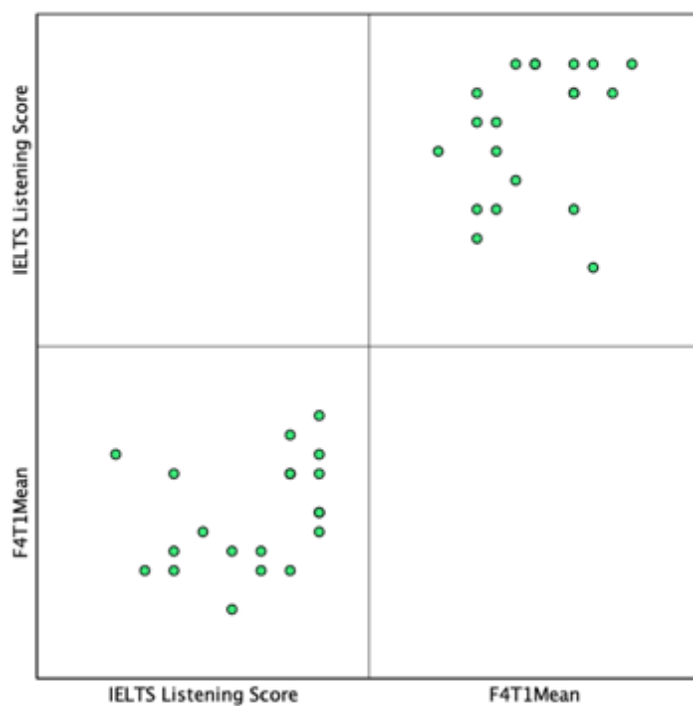
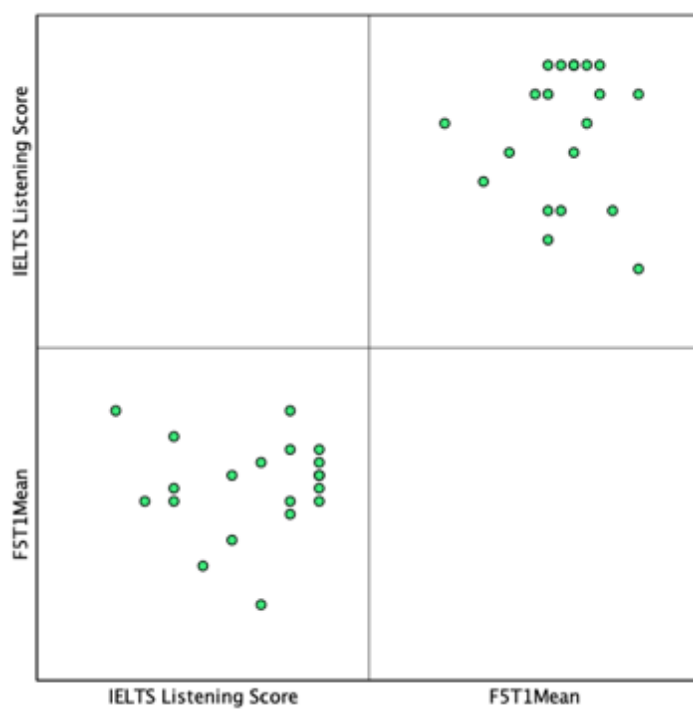
Appendix I: Linearity at Time 1

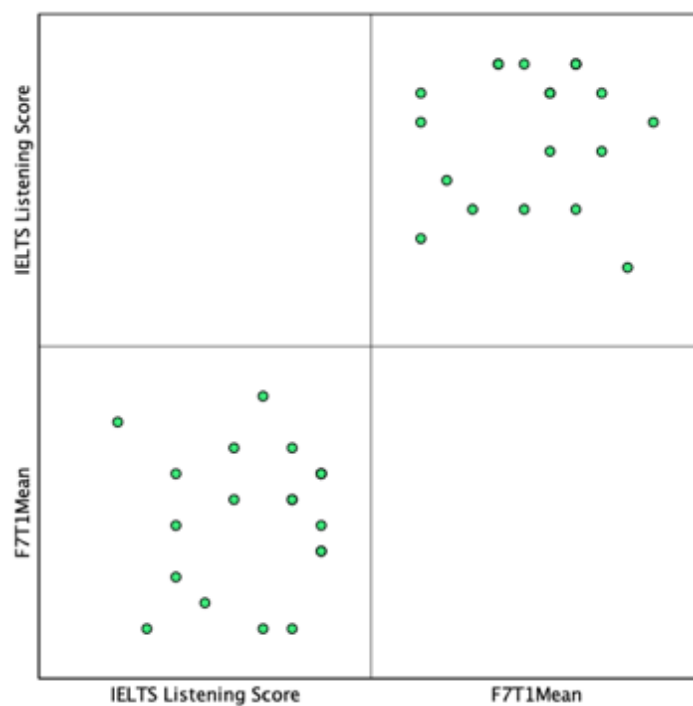
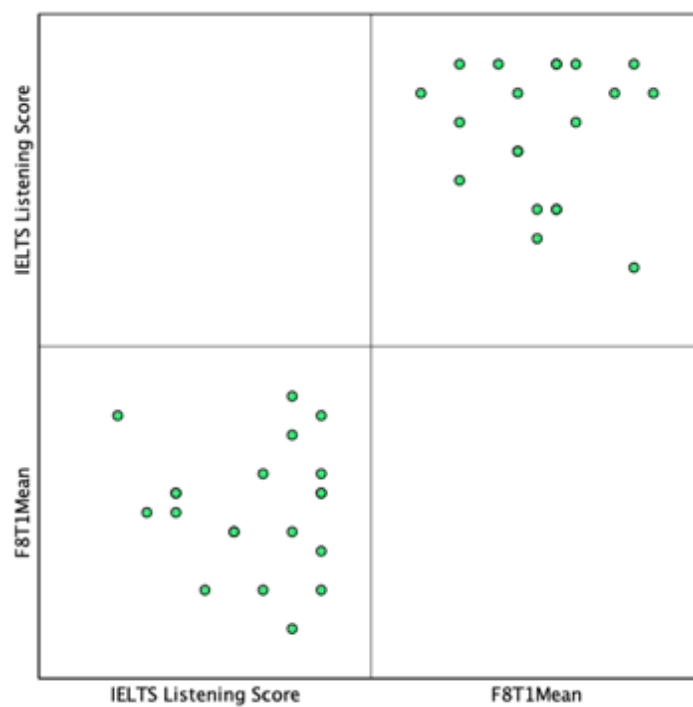
Factor 1



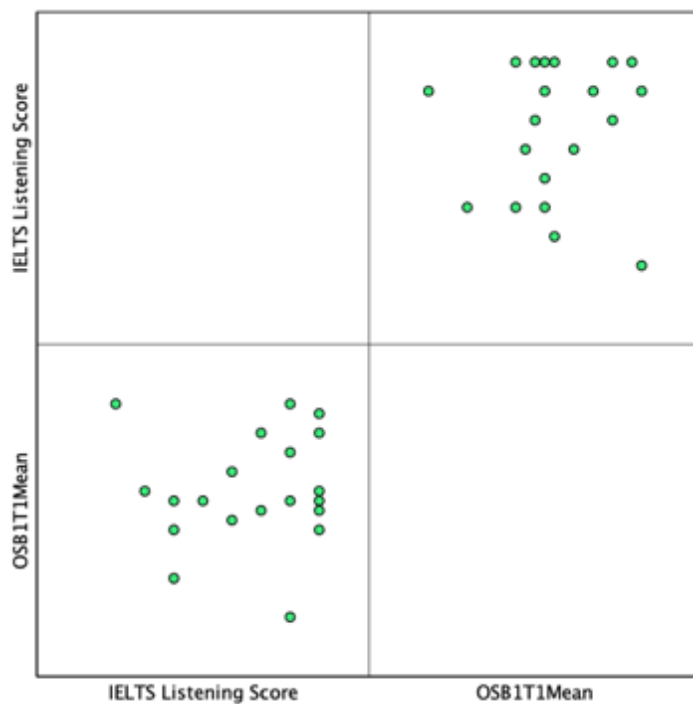
Factor 2



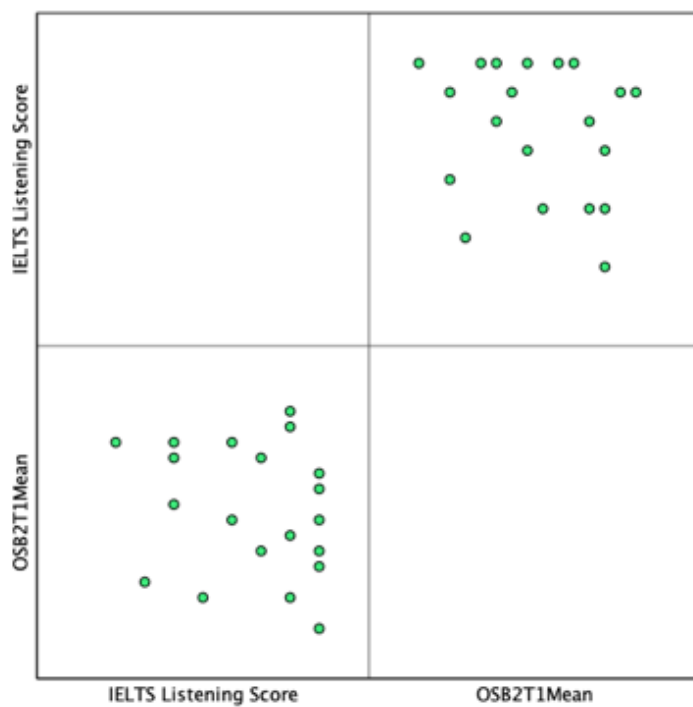
Factor 4**Factor 5**

Factor 7**Factor 8**

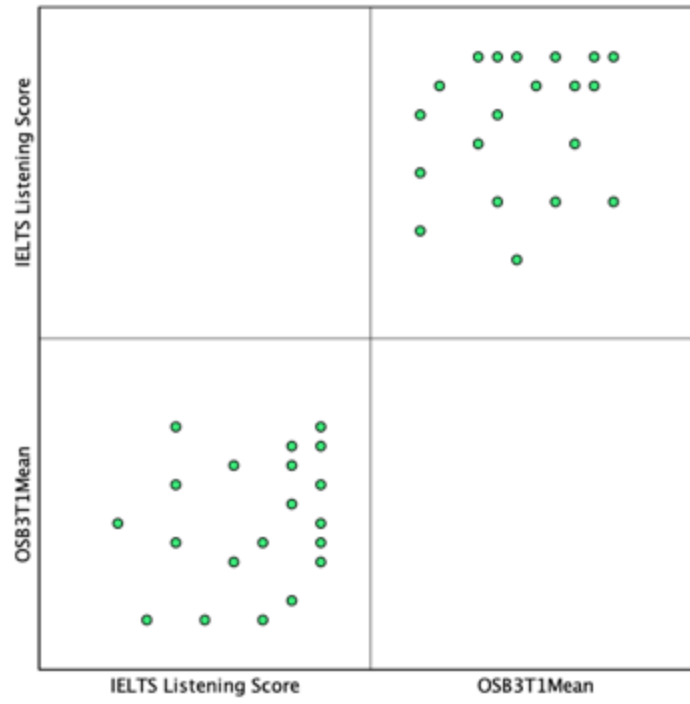
OSB1

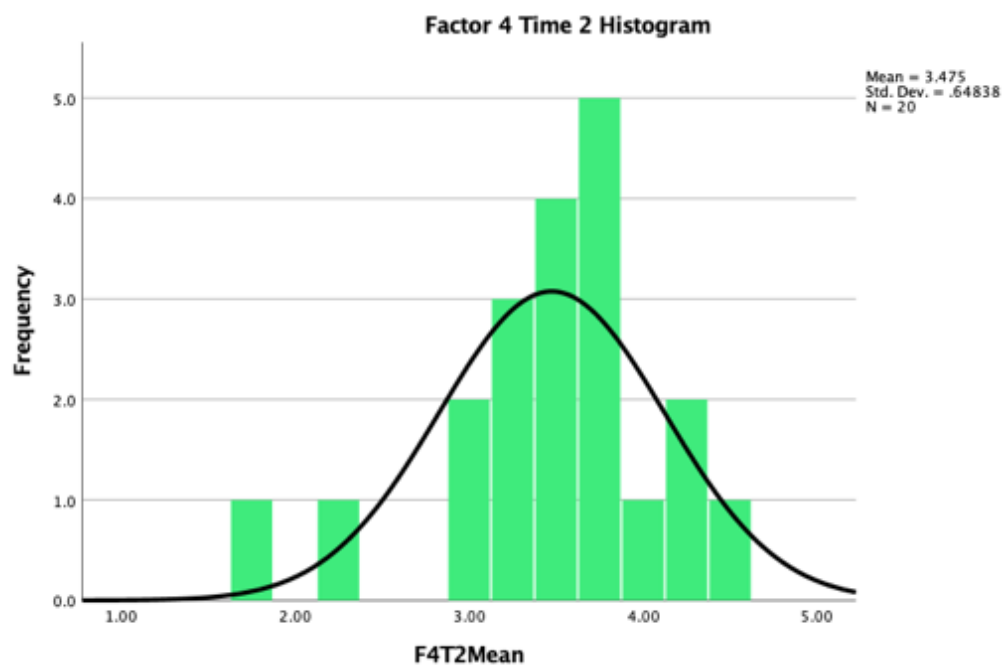
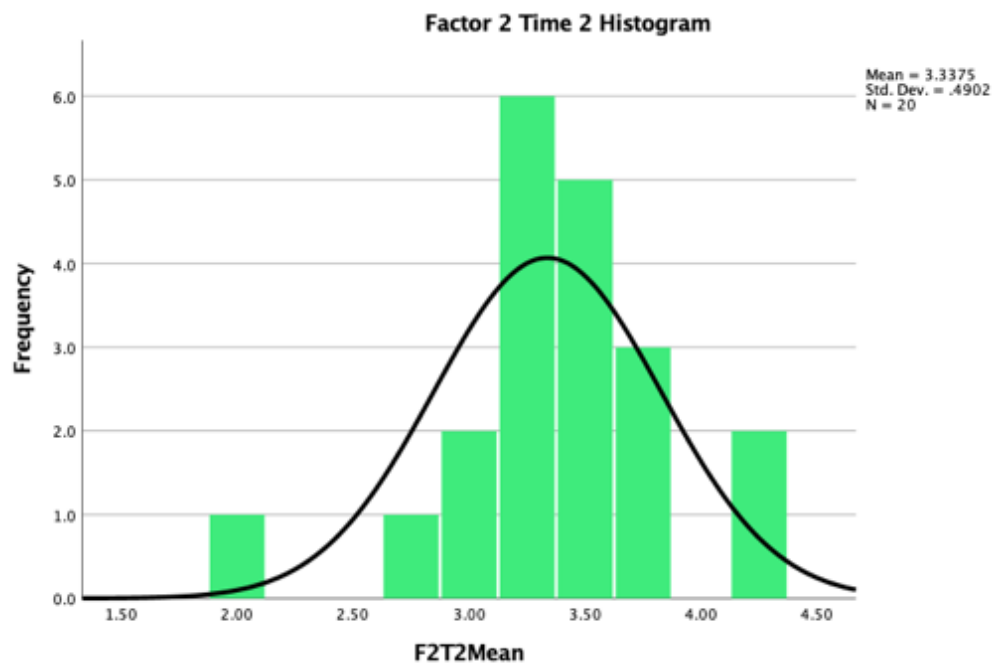


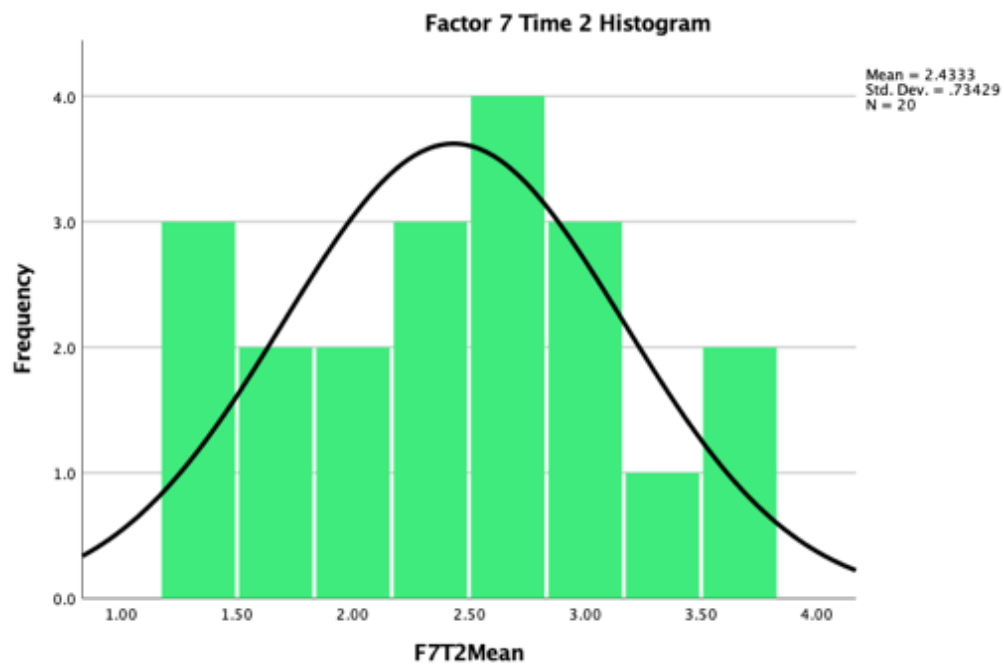
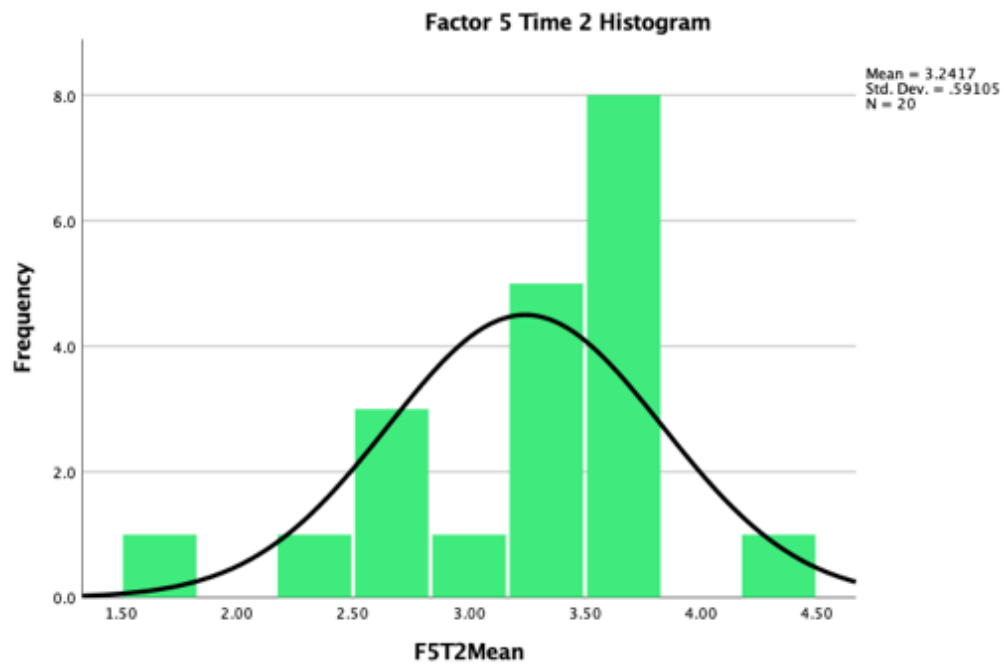
OSB2

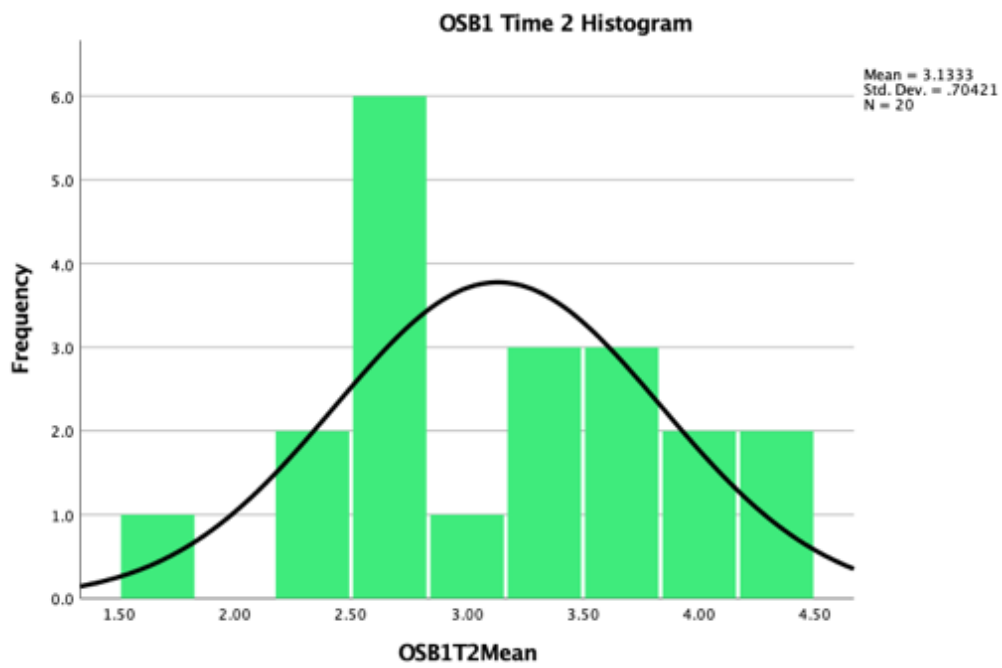
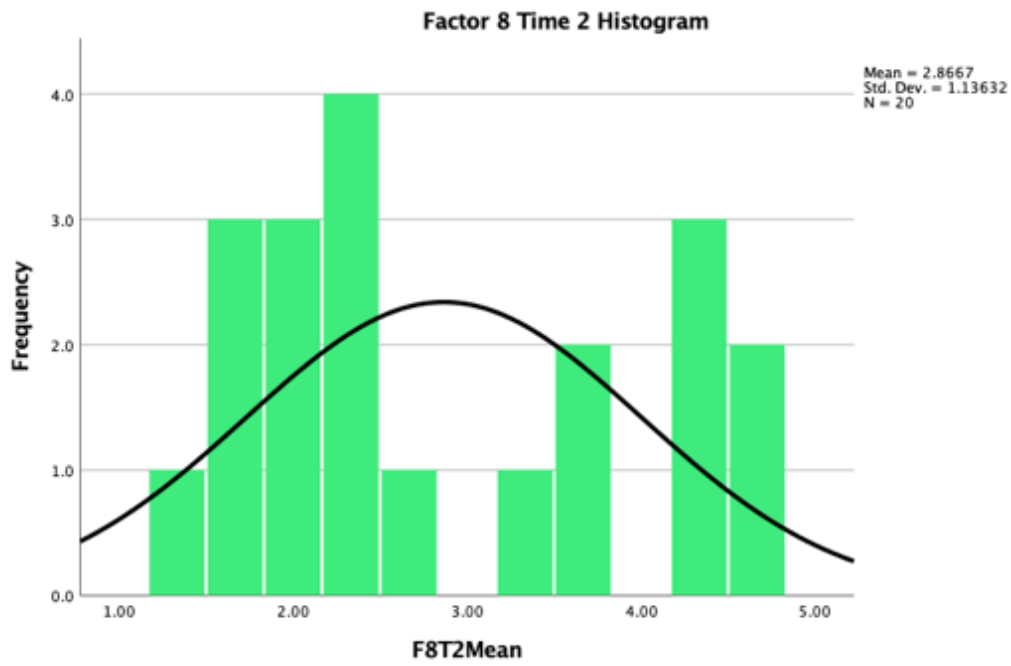


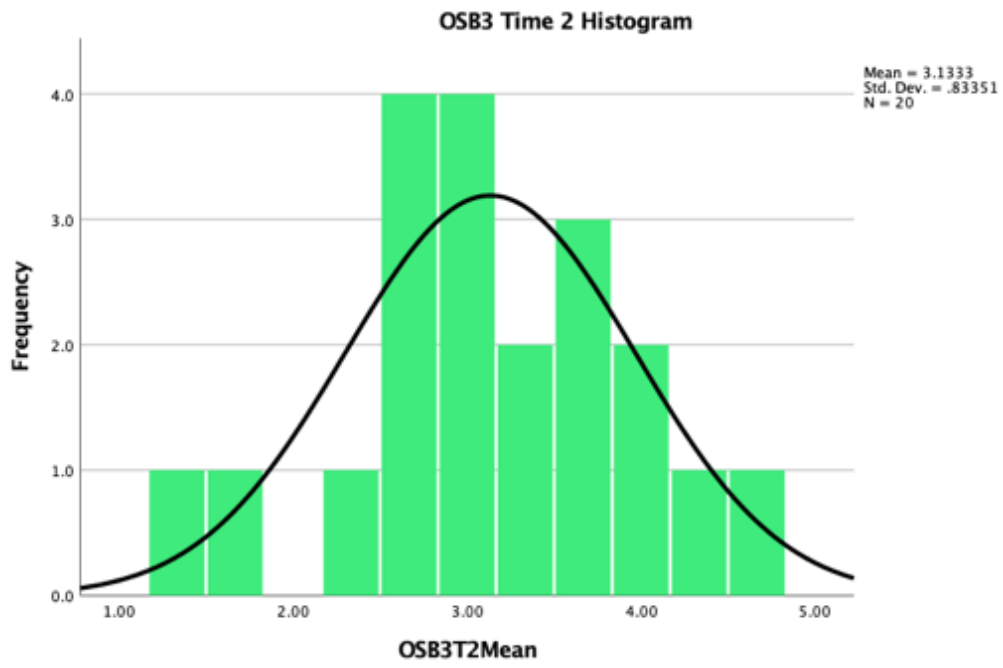
OSB3

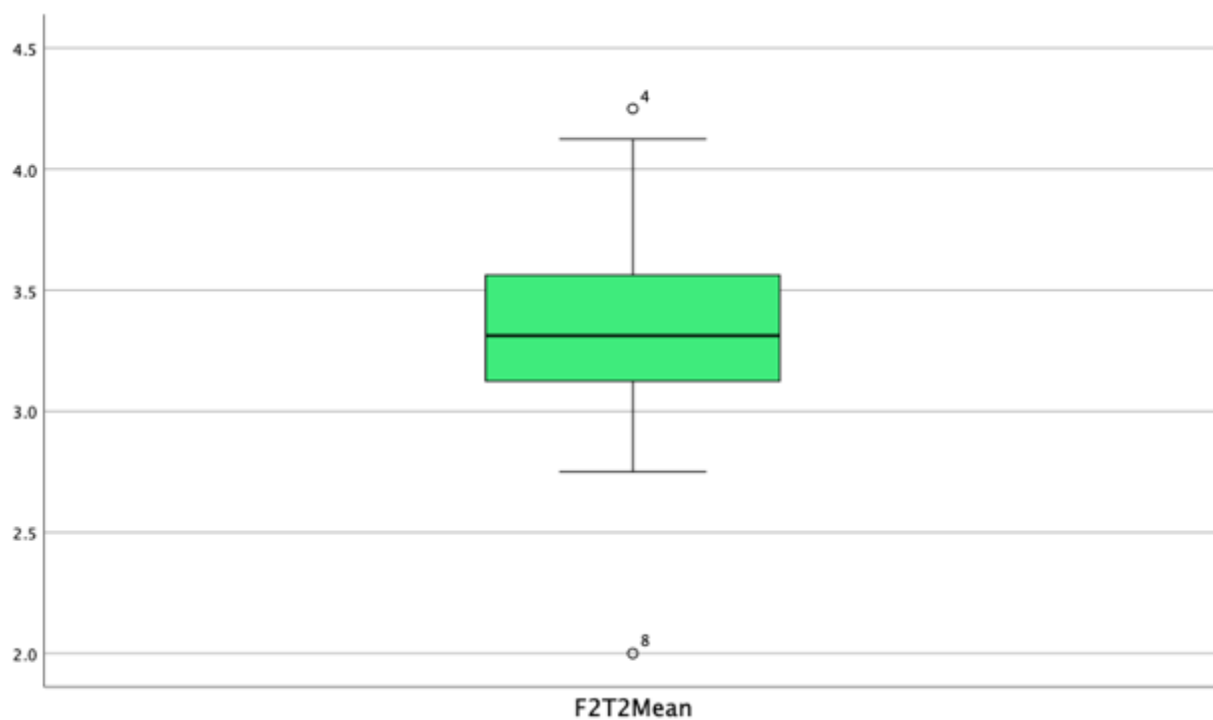
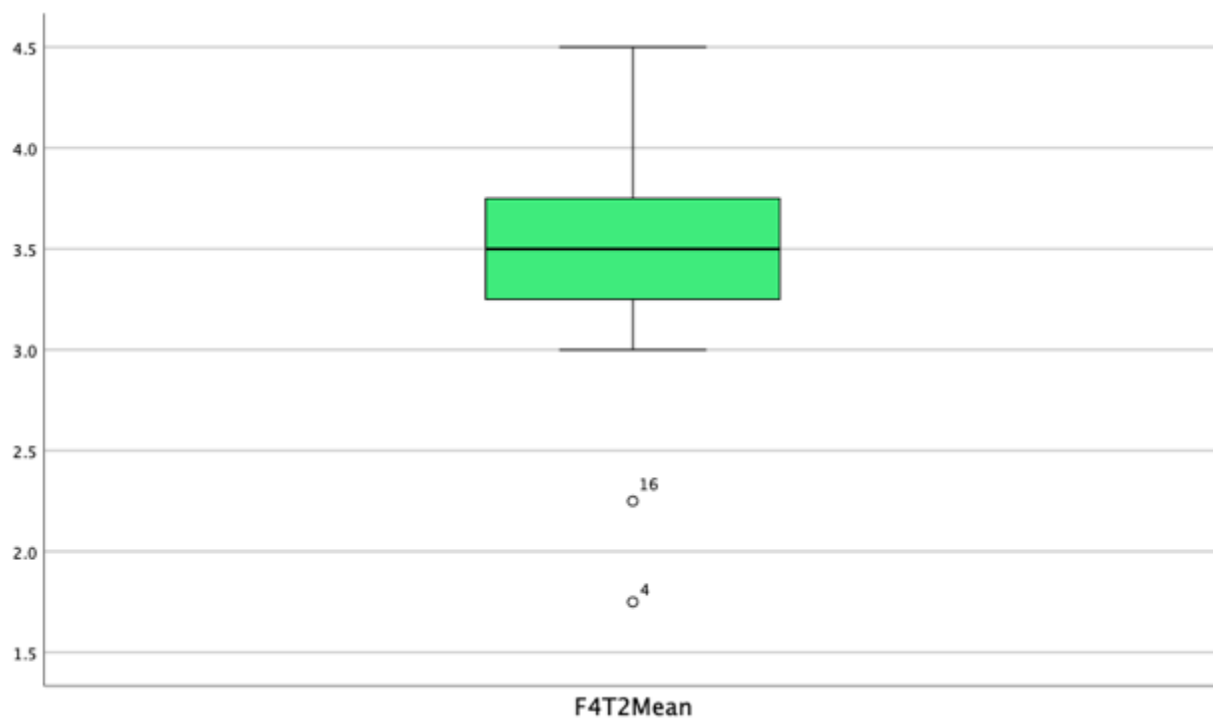


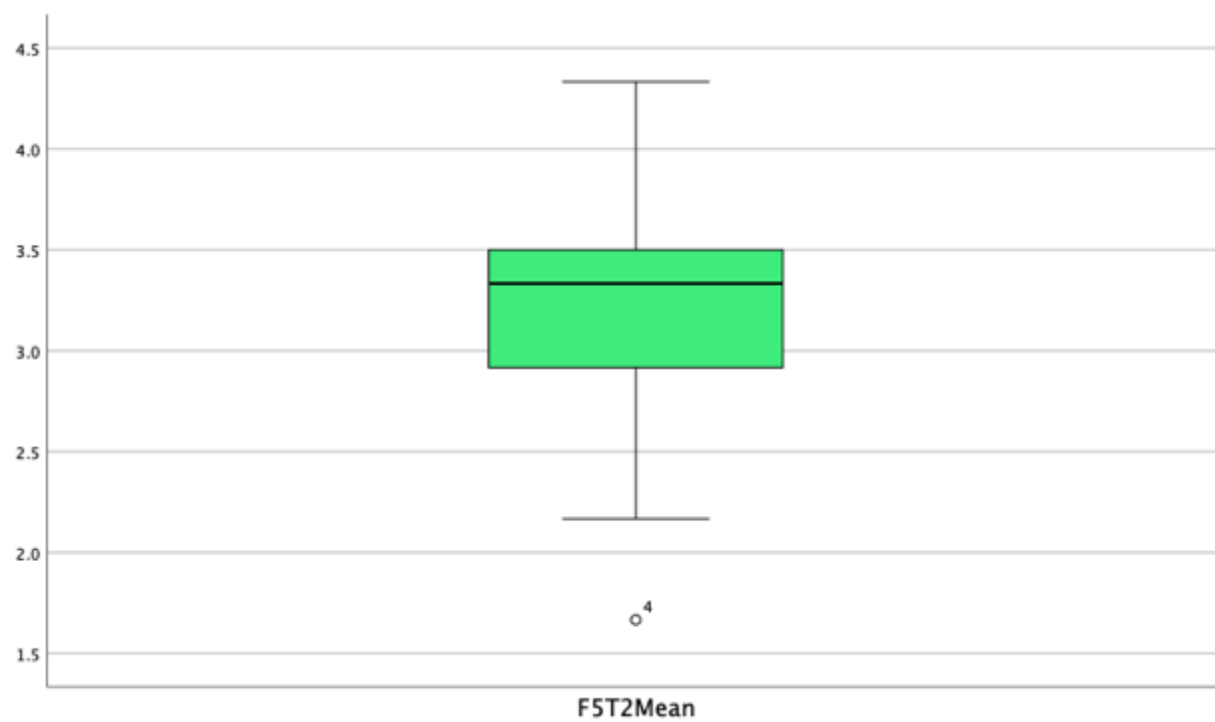
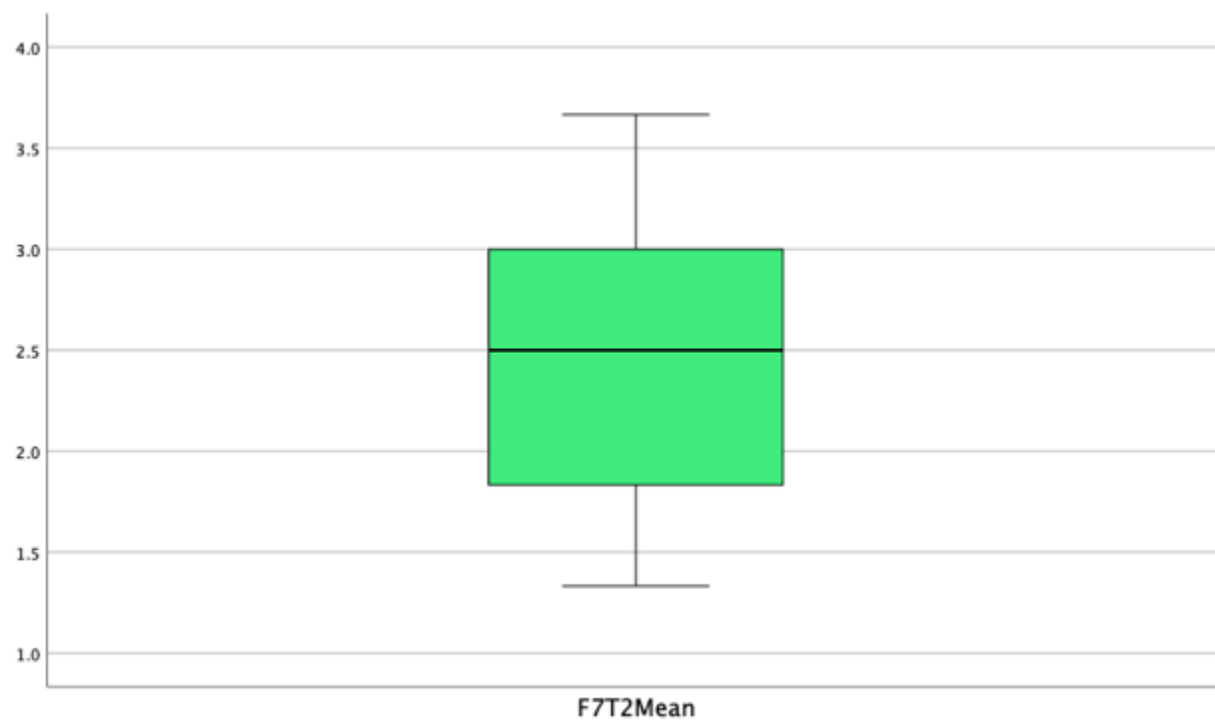
Appendix J: Distribution tests at Time 2

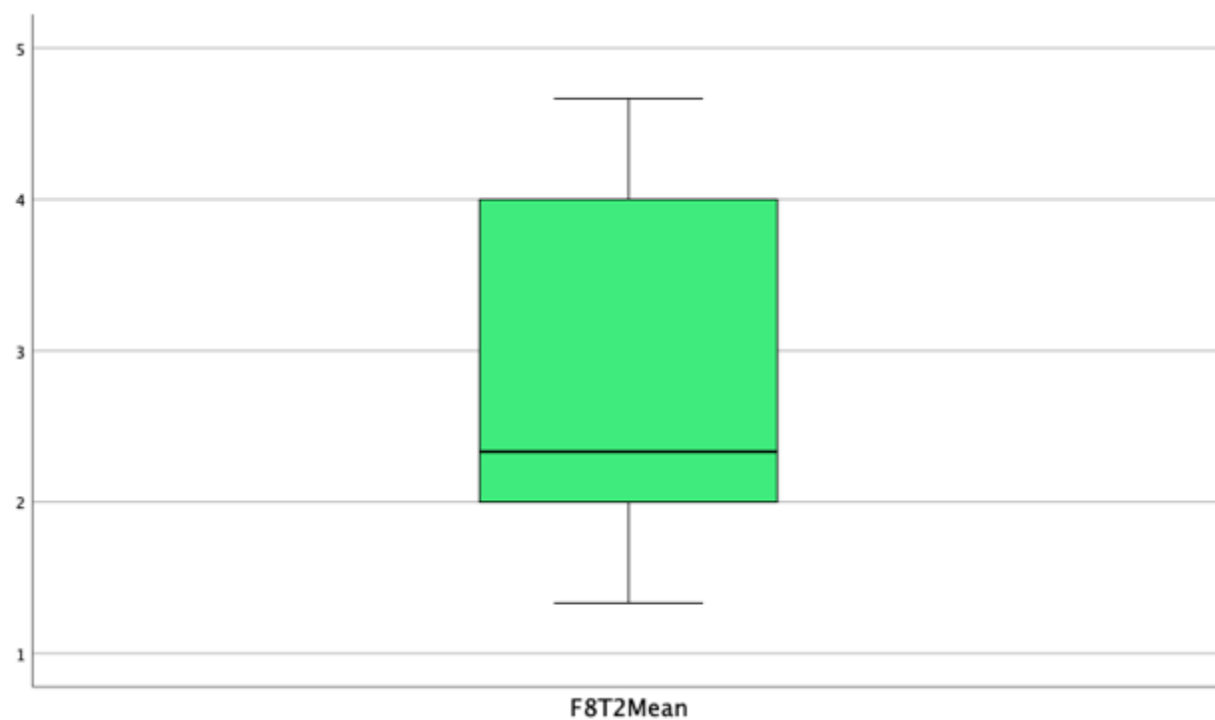
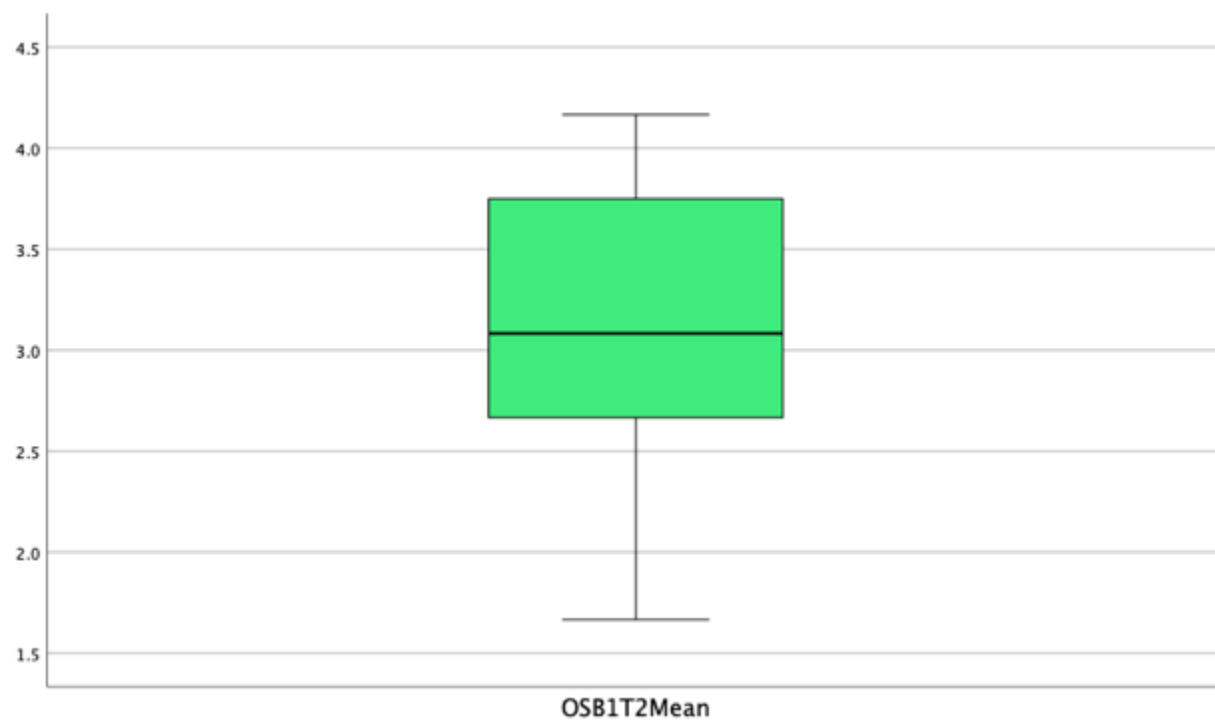




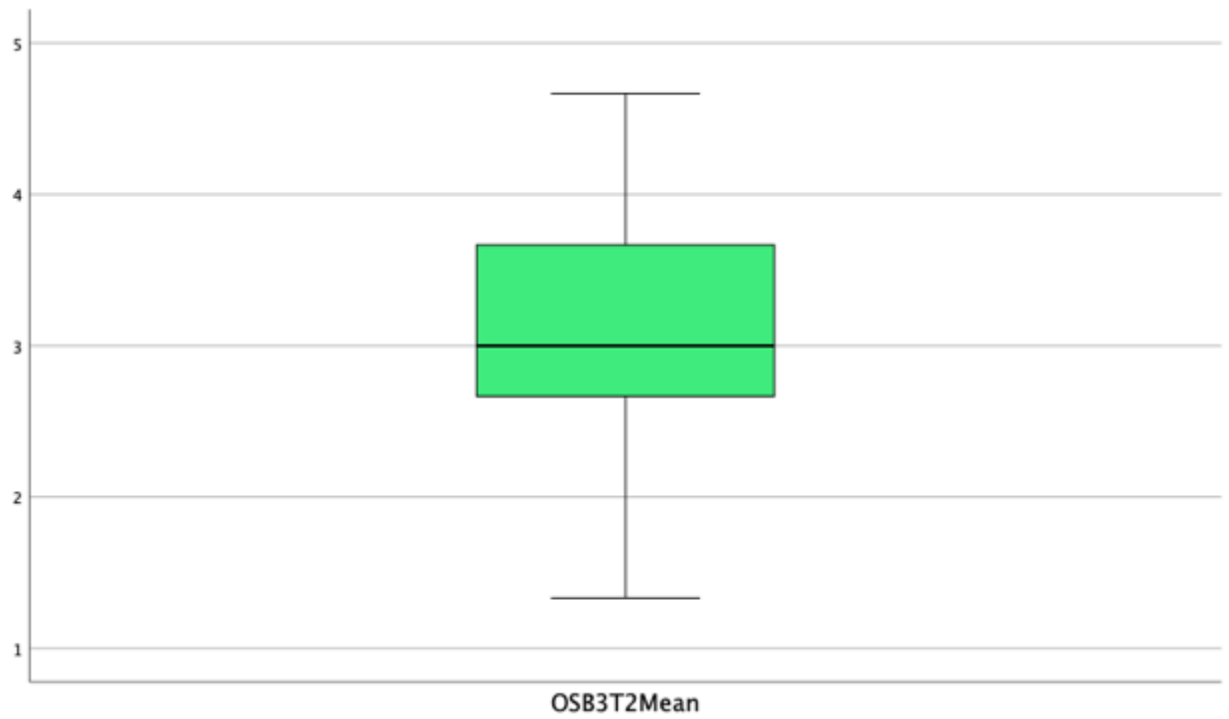


Appendix K: Outliers at Time 2**Factor 2****Factor 4**

Factor 5**Factor 7**

Factor 8**OSB1**

OSB3



Appendix L: Descriptive statistics of the questionnaire at Time 1

Strategies	Mean	Standard deviation	Minimum	Maximum
Factor 1: Contextualisation for the present lesson				
I recall what I read during my preparation for the lesson.	3.20	1.06	2.00	5.00
I anticipate the key vocabulary of the topic of this lesson.	3.50	1.24	1.00	5.00
I list out in my mind what I learnt in the previous lesson.	3.30	.73	2.00	4.00
I recall what I have learnt in the previous lesson to help me understand the present teacher's talk.	3.00	1.17	1.00	5.00
I recall the key contents of this lesson.	3.65	.81	3.00	5.00
I recall all knowledge about English grammar.	3.05	1.23	1.00	5.00
I recall my previous experiences in doing exercises.	3.65	1.31	1.00	5.00
I recall the key contents of the previous lesson.	3.55	1.10	1.00	5.00
I search in my mind to find out if I have learnt about the topic of this lesson before.	4.10	.91	2.00	5.00
I visualise in my mind the picture of my learning in the previous lesson.	3.05	1.19	1.00	5.00
I recall what I read in my textbook.	2.45	1.43	1.00	5.00
Factor 2: Selective attention on difficult words or segments				
I focus attention on the keywords of the teacher's talk.	3.25	1.21	1.00	5.00
I focus attention on what the teacher has corrected me, when s/he repeats what I said.	4.30	.86	2.00	5.00
I focus attention on all the difficult words in the teacher's talk.	3.30	1.30	1.00	5.00
I focus attention on one of the difficult words in the teacher's talk.	2.25	.85	1.00	4.00
I focus attention on the sounds of the difficult words.	2.80	1.64	1.00	5.00
I focus attention on the words emphasised by the teacher.	3.90	.97	2.00	5.00
I focus attention on the unfamiliar words in the teacher's talk.	3.40	.94	1.00	5.00
I focus attention on the content words in the teacher's talk.	3.35	1.19	1.00	5.00
Factor 3: Recall of prior knowledge				
I guess the intention of the teacher in saying something.	3.70	1.08	2.00	5.00
I list out in my mind step by step what the teacher is asking me to do.	3.80	.89	2.00	5.00
I recall the mistakes I made in the past.	3.85	1.09	2.00	5.00
I search in my mind to find out if I have learnt about this vocabulary before.	3.80	1.32	1.00	5.00
I recall the vocabulary which I know.	3.95	1.00	1.00	5.00
I search in my mind to find out if I have learnt similar words before.	3.35	1.18	1.00	5.00

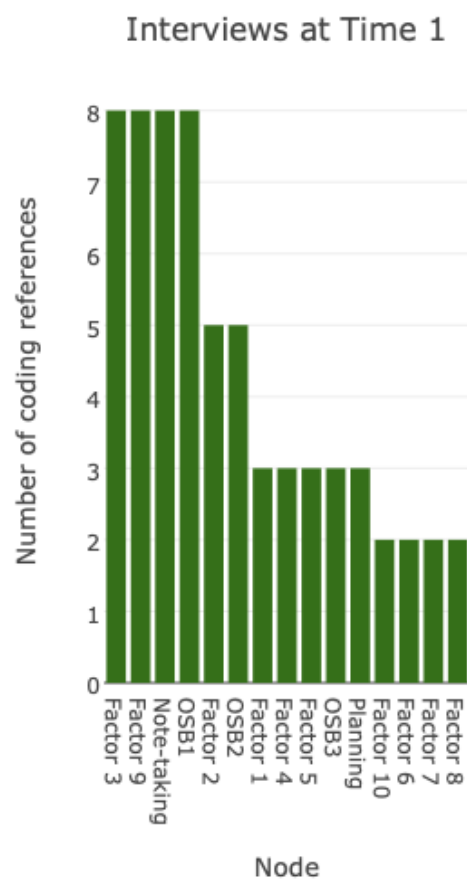
I integrate my old knowledge and the new content which I don't understand.	4.10	.85	2.00	5.00
I recall what the teacher said previously to help me understand the present teacher's talk.	3.90	1.07	1.00	5.00
Factor 4: Understanding through recalling teacher's approach				
I visualise in my mind what the teacher is asking me to do.	3.30	1.30	1.00	5.00
I anticipate what the teacher is going to say later.	3.35	.88	2.00	5.00
I anticipate what the teacher is going to ask me to do later.	3.60	.94	2.00	5.00
I remind myself of the teacher's usual way of saying things.	3.65	.88	2.00	5.00
Factor 5: Summarisation / Appropriation				
I simplify what the teacher said into something I understand.	3.00	1.26	1.00	5.00
I identify the overarching meaning of the teacher's talk.	3.95	.89	2.00	5.00
I integrate everything I understand within the teacher's talk.	3.90	.85	2.00	5.00
I rephrase what the teacher said into something I understand.	2.80	.89	1.00	4.00
I summarise what the teacher said into a short sentence.	2.70	1.30	1.00	5.00
I identify the important points of the teacher's talk.	3.85	1.04	2.00	5.00
Factor 6: Translation				
I translate the entire teacher's talk into Russian.	1.70	1.13	1.00	5.00
I translate the keywords in the teacher's talk into Russian.	1.75	1.02	1.00	5.00
I recall previous life experiences which are related to the teacher's talk.	3.40	1.10	1.00	5.00
Factor 7: Selective attention on simple words or segments				
I break the teacher's talk into smaller segments to ease my understanding.	2.20	1.15	1.00	5.00
I focus attention on the simple words in the teacher's talk.	1.85	.99	1.00	4.00
I focus attention on the familiar words in the teacher's talk.	3.30	1.30	1.00	5.00
Factor 8: Auditory representation and imagery				
I visualise in my mind a picture to represent the new vocabulary being taught.	3.30	1.30	1.00	5.00
I use my knowledge on English pronunciation to help me understand.	3.15	1.53	1.00	5.00
I hold the sounds of the difficult words in my mind.	2.80	1.43	1.00	5.00
Factor 9: Evaluation				
I focus attention on every word in the teacher's talk.	3.80	.70	3.00	5.00
I evaluate how much attention I am giving to the teacher.	3.90	.85	2.00	5.00
I evaluate my understanding and find out how much I understand.	4.05	1.10	1.00	5.00
Factor 10: Repetition				

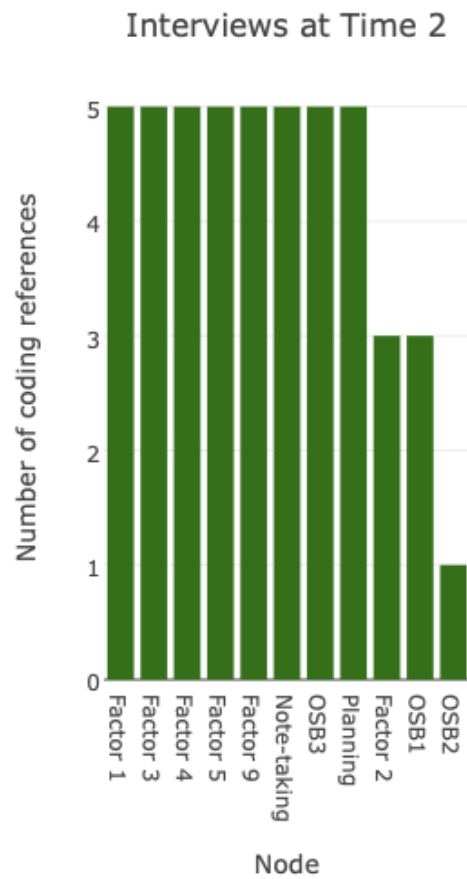
I repeat fully what the teacher just said in my mind.	2.55	1.28	1.00	5.00
I repeat partially what the teacher just said in my mind.	2.50	1.19	1.00	5.00
OSB1: Utilisation of personal physical resources				
I review my notes.	3.70	1.17	2.00	5.00
I look up the difficult words in a dictionary.	3.90	1.33	1.00	5.00
I refer to my textbook or worksheets to remind myself the key contents of this lesson.	3.30	1.30	1.00	5.00
I write down what the teacher said.	2.95	1.10	1.00	5.00
I look up the difficult words in my textbook.	3.05	1.43	1.00	5.00
I refer to my textbook or worksheets to remind myself the key contents of the previous lesson.	3.25	1.29	1.00	5.00
OSB2: Hide and seek				
I follow the physical actions that my classmates do.	2.75	1.33	1.00	5.00
I ask my classmates what the teacher means.	2.05	1.10	1.00	4.00
I find clues on the blackboard to help me understand the teacher.	3.05	1.23	1.00	5.00
I observe what my classmates do to help me understand the present teacher's talk.	2.65	1.18	1.00	4.00
I pretend that I understand (e.g. nod my head).	2.15	1.09	1.00	4.00
OSB3: Direct help seeking from the teacher				
I ask the teacher what s/he means.	2.90	1.25	1.00	5.00
I ask the teacher to repeat.	2.50	1.28	1.00	5.00
I signal to the teacher that I don't understand.	2.75	1.37	1.00	5.00

Appendix M: Descriptive statistics of the questionnaire at Time 2

Strategies	Mean	Standard deviation	Minimum	Maximum
Factor 1: Contextualisation for the present lesson				
I recall what I read during my preparation for the lesson.	3.00	.92	2.00	5.00
I anticipate the key vocabulary of the topic of this lesson.	2.95	.89	1.00	5.00
I list out in my mind what I learnt in the previous lesson.	3.35	.93	2.00	5.00
I recall what I have learnt in the previous lesson to help me understand the present teacher's talk.	3.15	1.09	1.00	5.00
I recall the key contents of this lesson.	3.30	1.03	2.00	5.00
I recall all knowledge about English grammar.	2.70	1.22	1.00	5.00
I recall my previous experiences in doing exercises.	3.70	1.03	2.00	5.00
I recall the key contents of the previous lesson.	3.20	1.03	2.00	5.00
I search in my mind to find out if I have learnt about the topic of this lesson before.	3.80	.77	3.00	5.00
I visualise in my mind the picture of my learning in the previous lesson.	2.55	1.10	1.00	5.00
I recall what I read in my textbook.	3.45	1.46	1.00	5.00
Factor 2: Selective attention on difficult words or segments				
I focus attention on the keywords of the teacher's talk.	3.90	.97	1.00	5.00
I focus attention on what the teacher has corrected me, when s/he repeats what I said.	3.90	.79	3.00	5.00
I focus attention on all the difficult words in the teacher's talk.	3.20	.95	1.00	4.00
I focus attention on one of the difficult words in the teacher's talk.	2.55	1.05	1.00	4.00
I focus attention on the sounds of the difficult words.	2.40	.99	1.00	4.00
I focus attention on the words emphasised by the teacher.	3.55	.69	3.00	5.00
I focus attention on the unfamiliar words in the teacher's talk.	3.50	1.10	1.00	5.00
I focus attention on the content words in the teacher's talk.	3.70	.57	3.00	5.00
Factor 4: Relational: Understanding through recalling teacher's approach				
I visualise in my mind what the teacher is asking me to do.	3.45	.83	2.00	5.00
I anticipate what the teacher is going to say later.	2.95	.89	1.00	4.00
I anticipate what the teacher is going to ask me to do later.	3.70	.92	1.00	5.00
I remind myself of the teacher's usual way of saying things.	3.80	.77	2.00	5.00
Factor 5: Summarisation / Appropriation				
I simplify what the teacher said into something I understand.	3.15	1.31	1.00	5.00

I identify the overarching meaning of the teacher's talk.	3.60	.75	2.00	5.00
I integrate everything I understand within the teacher's talk.	3.15	.88	2.00	5.00
I rephrase what the teacher said into something I understand.	3.15	.93	1.00	5.00
I summarise what the teacher said into a short sentence.	2.75	.91	1.00	5.00
I identify the important points of the teacher's talk.	3.65	.93	2.00	5.00
Factor 7: Selective attention on simple words or segments				
I break the teacher's talk into smaller segments to ease my understanding.	2.70	.66	2.00	4.00
I focus attention on the simple words in the teacher's talk.	2.30	.98	1.00	4.00
I focus attention on the familiar words in the teacher's talk.	2.30	.98	1.00	4.00
Factor 8: Auditory representation and imagery				
I visualise in my mind a picture to represent the new vocabulary being taught.	3.05	1.43	1.00	5.00
I use my knowledge on English pronunciation to help me understand.	3.45	1.23	1.00	5.00
I hold the sounds of the difficult words in my mind.	2.20	1.06	1.00	4.00
OSB1: Utilisation of personal physical resources				
I review my notes.	3.50	1.05	2.00	5.00
I look up the difficult words in a dictionary.	3.45	1.28	1.00	5.00
I refer to my textbook or worksheets to remind myself the key contents of this lesson.	2.80	1.11	1.00	4.00
I write down what the teacher said.	3.35	.93	2.00	5.00
I look up the difficult words in my textbook.	3.00	1.34	1.00	5.00
I refer to my textbook or worksheets to remind myself the key contents of the previous lesson.	2.70	1.03	1.00	4.00
OSB2: Hide and seek				
I follow the physical actions that my classmates do.	2.40	.99	1.00	4.00
I ask my classmates what the teacher means.	2.10	.85	1.00	4.00
I find clues on the blackboard to help me understand the teacher.	3.65	.81	2.00	5.00
I observe what my classmates do to help me understand the present teacher's talk.	3.30	.73	2.00	5.00
I pretend that I understand (e.g. nod my head).	1.95	1.05	1.00	4.00
OSB3: Direct help seeking from the teacher				
I ask the teacher what s/he means.	3.45	.89	2.00	5.00
I ask the teacher to repeat.	2.95	1.15	1.00	5.00
I signal to the teacher that I don't understand.	3.00	.79	1.00	4.00

Appendix N: Interview codes at Time 1

Appendix O: Interview codes at Time 2

Appendix P: Sample interview transcript at Time 1

R – researcher

S – student (Participant 20, IELTS listening 6.5)

R: How do you prepare for the lesson?

S: *We've got our school's platform where we have all the lessons. Usually the teacher opens a new lesson in the morning so I have some time to look through the material. And I revise what I write during the lesson.*

R: What do you do when you listen to the teacher?

S: *Well, I am always focused so I... I listen. Oh, and I take notes. In my notes I have a special colouring system to identify if I understand something or not. I put green ticks next to those concepts or processes that I understand, yellow next to something that my classmate [name] can explain (she is a genius in Economics), and red next to something I will need to ask the teacher later.*

R: What do you focus on when listening to the teacher?

S: *I focus on the key ideas and on something I don't understand. I remember my very first lesson, I think I knew only about half the concepts we were talking about. Now I know a lot more, though I still focus on difficult things...how else would I learn and improve.*

R: What do you do if you come across unknown words in a teacher's talk?

S: *When I don't understand a word, I just write it out so that I could find out what it means later. I usually don't have enough time to look it up in the dictionary as I try to write down everything the teacher says. Umm...I haven't looked out most of the words I have written out so far. Sometimes I get the impression I didn't understand the teacher, usually when he uses an idiom or something. I then translate words in my head to understand the literal meaning and maybe try to figure out what they mean.*

R: What do you do if you don't understand the lesson material?

S: *We actually always revise things, and the teacher explains everything multiple times. So, it's almost impossible not to understand. And also, it helps me to find an example from my past, or a similar case from a newspaper and connect these to what I don't understand.*

R: Do you ask questions/ interact with the teacher?

S: *Yeah, that's what I mean by 'impossible not to understand'. We always give a lot of examples to understand a point and I personally ask questions to clarify the material and whether I understand everything correctly.*

R: Do you ask your classmates for help?

S: *I mostly ask [name] after lessons, you know, sometimes I might not have such experience to help me get something even with our teacher's explanations. [Name] really helps me. But like I said, it's mostly outside lessons because we get a lot of help in them.*

R: What helps you to remember the lesson material better?

S: *After lessons, my friends and I have something like a study group, they have a different teacher so it's nice to hear another perspective. We share our notes, revise or learn the material. Sometimes we try to explain something to each other.*

Appendix Q: Sample interview transcript at Time 2

R – researcher

S – student (Participant 13, IELTS listening 5.5)

R: How do you prepare for the lesson?

S: Now that I know how our lessons are constructed, I do prepare. We have several...kind of...lesson types. Today, for example, we were not given any new material, but we were discussing something we learned last time. So, for such lessons, I have a special template where I write down all the discussed ideas so that I could have a better picture of the topic.

R: What do you do when you listen to the teacher?

S: I take notes...not as many as before. I wish I knew how to take more effective notes from the start...Now I use templates, so my notes are more organised and I have improved my subject knowledge a lot so I don't have to write down every single term.

R: What do you focus on when listening to the teacher?

S: I focus on key ideas so that I could summarise them into a couple of sentences and write them down. And I focus on new content vocabulary. I try to always keep track of what I understand and what not. Kind of a mental tick, you know, tick, this is something I know...or this is something I need to learn better.

R: What do you do if you come across unknown words in a teacher's talk?

S: I became much better at guessing words from context, so I do that. If I still can't understand, I ask the teacher what it mean.

R: What do you do if you don't understand the lesson material?

S: Ask the teacher. I was a bit shy to ask the teacher directly but now I know that our teacher really wants to help and really wants us to understand, so I ask. Sometimes we end up spending the whole lesson just to give more examples of our experience to understand better. It's important for me to understand everything and get good marks, so I will not stop until I am 100% sure of my knowledge.

R: Do you ask your classmates for help?

S: Less than I used to. Although yes, I do. Mostly when it is about something from a different subject that they have and I don't.

R: What helps you to remember the lesson material better?

S: *My new notes system turned out to be really effective for revision, so I do that. Also, as I started to talk to the teacher more during the lesson, it helped me a lot.*

R: Do you think anything has changed in your listening strategies?

S: *I have started to make a template for my notes. In this way, I am a lot more effective and write down only the necessary information. I have become more confident in my English and Economics ...and how to talk about Economics in English. I now rely on our teacher more and ask him directly if something is unclear.*

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