T.R.

ISTANBUL SABAHATTIN ZAIM UNIVERSITY

GRADUATE EDUCATION INSTITUTE

DEPARTMENT OF ENGLISH LANGUAGE TEACHING

DEVELOPING TURKISH EFL STUDENTS' METACOGNITIVE AWARENESS AND LISTENING COMPREHENSION SKILLS THROUGH PROCESS-BASED INSTRUCTION

MA THESIS

Ezgi DEMİREL YILMAZ

Istanbul

July-2024

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This study has been approved in partial fulfillment of the requirements for MA Degree in English Language Teaching

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DECLARATION OF SCIENTIFIC ETHICS AND ORIGINALITY

This is to certify that this MA thesis titled "Developing Turkish EFL Students' Metacognitive Awareness and Listening Comprehension Skills through Process-based Instruction" is my own work and I have acted according to scientific ethics and academic rules while producing it. I have collected and used all information and data according to scientific ethics and guidelines on thesis writing of Sabahattin Zaim University. I have fully referenced, in both the text and bibliography, all direct and indirect quotations and all sources I have used in this work.

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ABSTRACT

DEVELOPING TURKISH EFL STUDENTS' METACOGNITIVE AWARENESS AND LISTENING COMPREHENSION SKILLS THROUGH PROCESS-BASED INSTRUCTION

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In this study the impact of a metacognitive, process-based instruction on metacognitive awareness and listening comprehension skills of Turkish EFL students was analyzed. Additionally, the study also investigated the participants' attitude towards the implementation of process-based instruction in listening lessons. The study adopted a similar methodology to the study of Vandergrift and Tafaghodtari (2010). In total, 44 preparatory school students (N=21 control, N=23 experimental) took part in the study in Istanbul, Türkiye. For the experimental group, process based listening instruction was implemented whereas for the control group proceeded their regular lessons. The treatment process lasted for 5 weeks, two sessions each week (10 sessions in total). Quantitative data were collected through the Metacognitive Awareness Listening Questionnaire (MALQ) (Vandergrift et al. 2006) and a TOEFL listening test administered as pre-and post-tests. Qualitative data were collected through a focus group interview and the researcher's reflective field notes. Research findings revealed that the disparity between the experimental and the control groups were statistically significant with regard to metacognitive awareness and listening comprehension performance, and raising students' metacognitive awareness enhanced their listening comprehension. The results coincidentally indicated that the participants expressed a favorable attitude to the usage of process-based instruction for listening lessons and the majority of the students recommended its further implementation.

Keywords: Process-based instruction, metacognition, metacognitive awareness, listening comprehension, metacognitive instruction

ÖZET

YABANCI DİL OLARAK İNGİLİZCE ÖĞRENEN TÜRK ÖĞRENCİLERİN ÜST BİLİŞSEL FARKINDALIĞININ VE DİNLEME-ANLAMA BECELERİNİN SÜREÇ TEMELLİ ÖĞRETİM YOLUYLA GELİŞTİRİLMESİ

Ezgi DEMİREL YILMAZ

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Bu çalışma, üst bilişsel, sürece dayalı öğretimin yabancı dil olarak İngilizce öğrenen Türk öğrencilerin üst bilişsel farkındalığı ve dinleme-anlama becerileri üzerine etkisini incelemiştir. Ayrıca, bu çalışma katılımcıların dinleme derslerinde sürece dayalı öğretimin uygulanmasına yönelik tutumu da araştırmıştır. Bu çalışma Vandergrift ve Tafaghodtari'nin (2010) yaptığı araştırmaya benzer bir metodoloji izlemektedir. İstanbul, Türkiye'de yer alan bir vakıf üniversitesinin hazırlık okulunda eğitim gören toplam 44 öğrenci (N=21 kontrol grup, N=23 deneysel grup) çalışmaya katılmıştır. Deneysel grup sürece dayalı dinleme öğretimi alırken kontrol grubu geleneksel öğretim ile derslerine devam etmiştir. Uygulama 5 hafta sürmüş ve haftada ikişer kez yapılan toplamda 10 oturumdan oluşmuştur. Nicel veriler, Üst Bilişsel Dinleme Anketi (Vandergrift vd., 2006) ve bir TOEFL dinleme sınavı ön ve son testleri; nitel veriler ise bir odak grup görüşmesi ve öğretmenin alan notları yoluyla toplanmıştır. Araştırmanın bulguları deneysel ve kontrol grupları arasında üst bilişsel farkındalık ve dinleme-anlama performansı açısından istatistiksel bağlamda anlam ifade eden bir farklılık olduğunu ve öğrencilerin üst bilişsel farkındalığını artırmanın dinleme-anlamayı geliştirdiğini ortaya koymuştur. Sonuç aynı zamanda katılımcıların dinleme derslerinde sürece dayalı öğretim kullanımına olumlu bir tutum sergilediklerini ve çoğunluğunun bu öğretim yönetiminin ileride de uygulanmasını tavsiye ettiklerini göstermiştir.

Anahtar Sözcükler: sürece dayalı öğretim, üst biliş, üst bilişsel farkındalık, dinleme-anlama, üst bilişsel öğretim

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LIST OF ABBREVIATIONS

L2	: Second language
EFL	: English as a foreign language
SLA	: Second Language Acquisition
PBI	: Process-based Instruction
MALQ	: Metacognitive Awareness Listening Questionnaire
CEFR	: Common European Framework Reference
TOEFL	: Test of English as a Foreign Language

CHAPTER I

INTRODUCTION

The first chapter presents an overview of this study which examines the effect of metacognitive process-based instruction (PBI) on Turkish students' metacognitive awareness and listening comprehension skills in English as a Foreign Language (EFL) classrooms. Additionally, the chapter presents the statement of the problem, the significance, rationale, limitations, research questions, and outline of the research.

1.1. Statement of the Problem

Within the current social media-dominated environment in daily life, there has been a discernible decrease in the attention spans of people (Mark, 2023). Students today have immense difficulty in maintaining concentration during extended oral texts in EFL classes. This challenge presents a serious obstacle to their capacity to improve listening skills that are vital for efficient language learning (Vandergrift, 2007). Instructors at a foundation university have observed an alarming decrease in student concentration and engagement during listening activities in lessons and struggled to receive positive results in improving students' overall listening skills. Therefore, they have been in search of innovative strategies and methods to tackle this urgent issue. To address the evident decline in student focus during language learning activities, the researcher aims to explore the effectiveness of metacognitive PBI in boosting the metacognitive awareness of the students as well as their listening comprehension skills as a potential solution. Additionally, the researcher seeks to provide a relatively recent method for improving instructors' teaching practices and the effectiveness of their instructional materials. The researcher not only aims to uncover the potential benefits of PBI but also to provide insight into the complex relationship between teaching methods and students' academic achievements.

1.2. Significance of the Study

In the field of second language (L2) instruction research, listening is considered to be less delved into as emphasized by Vandergrift (2007). Brown (2014: 247) states that

listening is an essential skill that serves as the foundation for all language skills. According to Rost (2013: 29), listening is a crucial method of analyzing and understanding language in practical application. Although listening skills play a crucial part in communication and learning a new language, they have been overlooked due to the focus on reading, writing, and speaking. Nevertheless, the profession of language instruction is not impervious to numerous drastic changes attributed to technological breakthroughs and the widespread use of social media platforms. Mark (2023) observed the major and enduring influence these technological advancements have had on people's collective ability to focus, a phenomenon that has had a ripple effect in the educational environment, as well. Instructors are struggling with the consequences of this cultural shift, especially in the classroom setting where it has become more difficult to keep students engaged during listening tasks. As Vandergrift and Goh (2012: 89) also state instructors are frustrated with the challenges in providing listening instruction due to unsatisfactory student participation, which lead to the reconsideration of current methods. Amidst the changing approaches to teaching, the idea of PBI arises as a promising solution.

1.3. Rationale of the Study

Process-based listening refers to the deliberate instruction of listening techniques and procedures that students may use to decipher and comprehend spoken language (Field, 2008: 15-17). Process-based listening instruction deviates from the conventional teaching method which focuses on the product by emphasizing the need to comprehend cognitive processes involved in effective listening (Vandergrift, 2004). By exploring the complexities of how learners receive auditory information, instructors may have a more profound understanding of the listening process. This instructional method not only seeks to improve students' capacity to understand spoken language but also fosters metacognitive awareness, enabling learners to monitor and regulate their own listening process (ibid).

Examining the effectiveness of PBI may offer benefits to both instructors and students as it signifies a crucial point in the development of language teaching methods, providing an alternative solution to the urgent difficulties encountered by instructors in today's classrooms. Through the analysis of empirical research, instructors may acquire essential insights that can enhance their teaching practices.

Hence, this study aims to examine the complex correlation between teaching methods and student performance in order to pave the way for a fundamental change in the instructional practices of the higher education institution the current research was conducted by offering a potentially more efficient and student-oriented method for teaching listening skills. The research also aims to add new data on language teaching approaches by examining the efficacy of process-based instruction and contributing to the existing literature.

1.4. Limitations of the Study

This study was subject to several limitations, including sample size, demographic diversity, the duration of the treatment, and the language competence level of the participants. Firstly, the study had a rather limited number of participants. The study recruited a total of 44 students from the preparatory school of a foundation university who were placed into experimental and control groups. Although the size of the sample group was adequate to conduct the study, it limited the depth and generalizability of the data collected. Data collected from questionnaires and the focus group interview were based on self-reports of the students, thus, increasing the potential for answer biases and errors, which inevitably might impact the validity of research findings. Next, the treatment process in the experimental group lasted for five weeks, consisting of ten sessions due to the restrictions posed by the curriculum and overall schedule of the institution. Due to the limited time allocated to the treatment, the data collected throughout the process might not be overly comprehensive. Furthermore, both experimental and control groups consisted of upper-intermediate students which might have affected the data collected. This is particularly relevant considering previous research (Vandergrift, 2004) indicated that less proficient learners tend to benefit significantly more from the instructional method of the study.

1.5. Research Questions of the Study

The study seeks to shed light on the research questions presented below by examining the potential effects of metacognitive PBI on listening comprehension skills and metacognitive awareness of the EFL students at the preparatory school of a foundation university:

RQ 1: Does the use of a metacognitive, process-based instruction result in a statistically significant difference in listening comprehension skills compared to the regular instruction for EFL students?

RQ 2: Does the use of metacognitive, process-based instruction result in a statistically significant difference in metacognitive awareness compared to regular instruction for EFL students?

RQ 3: What is the EFL students' attitude towards metacognitive strategy training and process-based instruction?

1.6. Outline of the Study

The thesis consists of five chapters. In Chapter I, the introduction and overview of the thesis are presented. In Chapter II, the relevant literature on the research topic is reviewed in extensive detail. In Chapter III, the methodology used in the research is addressed and the procedure followed throughout the treatment process is explained. Data collection instruments of the research are introduced including Metacognitive Awareness Listening Questionnaire (MALQ), a listening test, a focus group interview, and the researcher's reflective field notes. In Chapter IV, the findings from the mentioned data collection instruments are presented. Finally, in Chapter V, the research findings are discussed, the limitations encountered during the study are presented and prospective research areas in process-based instruction and metacognitive strategy practices in Türkiye are recommended.

1.7. Definitions of Key Terms

Listening comprehension: An individual's capacity to understand spoken language including the comprehension of dialogues, stories, and speech (Schmitt & Rodgers, 2018).

Metacognition: An individual's ability to recognize and comprehend their own thinking or cognition, also described as "thinking about thinking" (Flavell, 1979).

Metacognitive awareness: One's awareness, understanding, and control of their cognitive processes such as the selection of effective learning strategies and evaluation of their learning outcomes (Flavell, 1979).

Process-based instruction: An instructional practice aiming to empower learners to establish and modify their learning strategies as their learning needs evolve (Rezai et al., 2023).

CHAPTER II

LITERATURE REVIEW

In this chapter listening comprehension in L2 learning, metacognitive awareness, and a detailed explanation of PBI in this context will be presented. The first section covers the critical role of listening comprehension and strategy training in the L2 learning process. The second section delves into metacognitive awareness and related studies on the topic. Finally, in the third section, the definition, history, and stages of metacognitive PBI in the L2 listening context will be explained.

2.1. Significance of Listening in L2 Learning

Second Language Acquisition (SLA) is an intricate process that encompasses multiple skills with listening playing a crucial role. According to Vandergrift (2004: 4), of the fundamental skills of L2 learning, listening is likely the least overt, which makes it the most challenging skill to acquire. Krashen (1985) argues that comprehensible input is vital for the process of language learning and listening plays a pivotal role as a main source of input. Lynch and Mendelsohn (2013: 180) state that listening is a process going beyond simply receiving information. It also involves understanding spoken language as well as using auditory and visual cues, existing knowledge, and contextual cues. The process of listening incorporates several interrelated components such as sound recognition, intonation, pattern perception, and relevance assessment of the subject matter (ibid: 180). Long (1996) also posits that meaningful interaction is crucial for language learning and highlights the significance of listening as the primary initiator of effective communication. The contemporary interpretation of listening recognizes it as an active process that requires interpretation and accepts that there are distinct differences in understanding among listeners owing to contextual cues and non-linguistic elements (Lynch & Mendelsohn, 2013: 180). Vandergrift (1999: 168) explicates listening as a multifaceted, dynamic process that requires the individuals who listen to distinguish between sounds, comprehend the lexical chunks and grammar components, perceive and construe the word and sentence stress and the tone of speakers, recall the information acquired from the factors mentioned, and analyze it in both immediate and broader social and cultural setting of the language being used.

As Rost (2013: 146-147) states, improving listening skills is the basis of communicating effectively for in-person interactions, allowing individuals to comprehend and react suitably to verbal expressions. Along with facilitating interaction between speakers, by engaging with authentic recordings, learners are exposed to a wide range of cultural viewpoints, which allows them to attain a deeper understanding of practices, traditions, and conventions of the community that speaks the target language (Gilmore, 2007).

2.2. Challenges in L2 Listening Comprehension

Listening is a complex skill, thus gaining extensive knowledge about it is difficult to acquire (Lynch, 2012). Nunan (2010: 238) asserts that listening can be considered as the "Cinderella skill" among the four basic language skills and is not usually the focus of lessons owing to its complicated nature. Unlike other skills that allow learners the opportunity to seek clarification, learners usually have one single opportunity to comprehend information in real-time while listening (Lynch & Mendelsohn, 2013: 180). Depending on how confident learners are with their skills, they struggle due to various reasons during their listening process. Ur (1984: 24) examined the factors that contribute to challenges in listening comprehension. The author listed the complex nature of the oral texts, the different accents of speakers, and the existence of outside noise as elements that significantly influence the listening experiences of L2 learners (ibid).

Goh (2000: 56-57) researched learners' perceptions of their listening problems and analyzed the results based on the model Anderson (1995: 379) proposed. The model is comprised of three stages: "perception, parsing, and utilization": 1. Perception: the listener concentrates on the information received and stored in memory; 2. Parsing: the listener converts words into cognitive representations of their collective significance divided based on syntactic or semantic clues; 3. Utilization: the listener connects the mental image to their current knowledge and stores it in their long-term memory (ibid: 56-57). Learners reported that they faced challenges in distinguishing sounds as discrete words or word clusters, concentrating, constructing cohesive images of the words they hear in their minds, comprehending the speaker's intended meaning, activating background knowledge, or applying it correctly (ibid: 59). Goh concluded that the challenges language learners encountered through the study can be tackled

with the implementation of appropriate strategy instruction (ibid: 74). Table 2.1 below demonstrates the findings of Goh's study.

Table 2.1: Problems Related to Different Phases of Listening Comprehension

Perception	Parsing	Utilisation
Do not recognise words they know	Quickly forget what is heard	Understand words but not the intended message
Neglect the next part when thinking about meaning	Unable to form a mental representation from words heard	Confused about the key ideas in the message
Cannot chunk streams of speech	Do not understand subsequent parts of input because of earlier problems	
Miss the beginning of texts		
Concentrate too hard or unable to concentrate		

Source: Goh, 2000: 59

Vandergrift (2007: 191) states that as an inherent challenge, the rapid pace and intricate nature of spoken language might cause learners to overlook significant details during listening. As a result, it might lead them to feel discontent with their listening performance and less self-assured in their skills (ibid). In contrast to reading or in-person communication, the learners cannot rely on visual cues to make inferences to understand key information and context, hence increasing the difficulty of comprehending and following oral texts (Rost, 2002: 59).

As Field (2008: 130) explains, different accents and dialects of the target language are another challenge that may impede understanding during listening. He emphasizes that learners usually encounter difficulties with phonological diversity since distinct accents might make it harder to understand the underlying message and affect the comprehension of speech negatively (ibid). Brown and Yule (1983: 54) explore the problems learners face due to insufficient familiarity with variations in speech patterns while learning a new language and how it affects their capacity to adjust to different speakers. The authors highlight that language-teaching practices focus on standardized forms which may result in learners feeling unprepared for the diversity in actual language use. The limited exposure to various accents and dialects may prevent

learners from developing adaptable listening skills essential for comprehending a diverse range of speakers and situations (ibid).

2.3. Strategy-Based Instruction

Gu (2012: 336) defines a learning strategy as a deliberate, purposeful, and exerted approach that seeks to address the challenges in one's learning process and optimize the learning outcomes. An effective strategy entails the set of steps below at the very least:

- *Identifying problems and selective attention*
- *Analyzing the task, self, and learning context*
- *Making decisions and plans*
- *Executing the plan*
- *Monitoring progress and modifying plan*
- *Evaluating result* (Gu, 2012: 337)

Upon encountering a learning challenge or a new task, learners promptly study it and seek appropriate techniques from their repertoire. Subsequently, they implement a strategy derived from this process, adapting it to the needs of the task. Ultimately, they assess the efficacy of their selected strategy to ascertain whether their goals are accomplished or if any adaptation is required (Gu, 2012: 337).

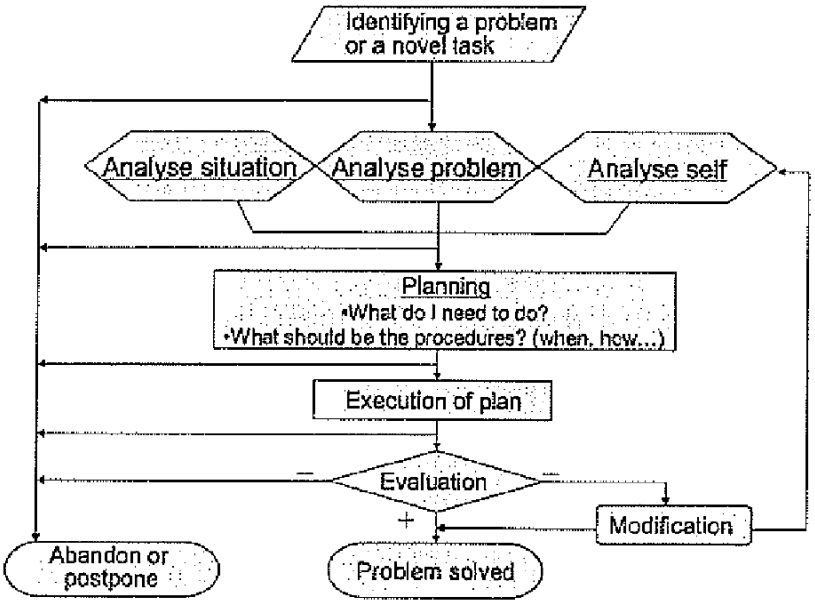

Figure 2.1: What is in a strategy?

Source: Gu, 2012

According to Oxford (1992: 178), good language learners tend to use learning strategies in an organized and integrated way. Primarily, effective use of suitable learning strategies results in the enhancement of skills. Efficient learners employ higher levels and a larger variety of learning strategies in contrast to less skilled learners, and they incorporate effective strategies required for the language activity. Finally, to reinforce one another, learners synthesize cognitive and metacognitive strategies (ibid: 178). Thus, it is essential for novice L2 learners to adapt learning strategies and implement them into their learning process.

Chamot et al. (1994: 42) state that providing clear and direct teaching on strategies helps learners develop a conscious understanding of their learning processes and the actions they may take to improve their learning experience and decide on appropriate strategies or a mix of strategies when necessary. The premise of their approach is that the learning process ought to be directed by the cognitive processes and learning patterns of students. The emphasis is placed on learners who engage in mental activity and critically assess and contemplate their learning experience. Furthermore, learners are consistently given the option to engage in discussions where they articulate their thoughts and strategic decisions to help them enhance their ability to acquire and implement strategies more efficiently (ibid: 43).

Brown (2007: 137) defines strategy-based instruction as equipping learners with specific and useful strategies by explicitly teaching them to enhance learners' language skills and development. The author emphasizes that proficient L2 learners employ a diverse range of strategies to improve their understanding, written and oral expression, and general acquisition of knowledge (ibid). According to Brown, instructors should demonstrate and exemplify effective strategies during the lessons, while also offering learners incentives to apply and contemplate how efficiently they employ these strategies (ibid: 145). The author suggests that strategy instruction should be integrated into regular classes instead of considering it as a distinct element. Employing activities that are inherently suitable for the implementation of different strategies, therefore integrating the implementation of strategies into relevant settings (ibid: 148).

Brown (2007: 150) stresses the significance of engaging learners as fully involved participants in the lessons, providing them with the necessary resources to make progress in language learning. The author states that strategy-based instruction helps

learners become more efficient, develop more autonomy by cultivating a variety of skills they might utilize in different domains of education and daily activities, and enhance their motivation by boosting their self-confidence by equipping them with strategies to effectively control their learning experience (ibid).

2.3.1. Listening Strategy Instruction in L2 Learning

As one of the fundamental components of SLA, listening comprehension presents challenges for learners such as unknown vocabulary, distinguishing accents, and speed of delivery (Cheng, 2018; Nushi & Orouji, 2020). According to Rost (2013: 236), listening strategies are "conscious plans to manage incoming speech". Researchers and instructors alike have investigated the efficacy of strategy training to improve L2 learners' listening comprehension skills. Vandergrift (1997: 387) elucidates that making learners aware of appropriate listening strategies and implementing them accurately will enable students to utilize the input they receive. In addition, Goh (2008: 200) suggests that explicit strategy training elevates L2 learners' listening comprehension skills. She further explicates that explicit strategy training is actively instructing learners on techniques that might enhance their ability to comprehend spoken language including making predictions, actively listening for details, using contextual cues to deduce meaning. Goh suggests instructors may assist students improve their listening skills and autonomy in language use teaching them these techniques and their practical use (ibid: 200-201)

As suggested above, the usage of cognitive, metacognitive, and socio/affective strategies may contribute to the process of listening instruction. Flavell (1976: 232) differentiates cognitive and metacognitive strategies as such: the former 'facilitates' learning and completing tasks, while the latter 'monitors' the entire process. In the listening context, cognitive methods such as categorization, making inferences, and note-taking assist learners in analyzing and comprehending what they hear (Vandergrift, 1997: 393-395). O'Malley and Chamot (1990) categorize learning strategies as metacognitive, cognitive, and socio/affective. According to O'Malley et al. (1989: 422), metacognitive strategies encompass the awareness and regulation of one's own learning process, achieved through "planning, monitoring and evaluating" the learning activity. Learners are encouraged to assume responsibility for their learning process by using said strategies effectively which can also help learners in

developing self-awareness of their listening process, establishing objectives, and evaluating their understanding. Chamot (1995: 15) defines metacognitive strategies as "executive processes". However, cognitive strategies are employed while implementing a task to alleviate understanding or output through categorizing, inferencing, note-taking, and activating existing knowledge. Lastly, socio-affective strategies encompass inquiry for clarification, collaboration on tasks with peers, and managing emotions (ibid: 15). These strategies assist learners in reducing their anxiety, fostering confidence in their skills, and participating in interactive listening activities while instructors may prove them with the necessary skills to become more proficient and independent listeners by incorporating these strategies in their listening instruction (Chamot, 1995).

2.3.1.1. Cognitive Strategies in L2 Listening Context

L2 learners use cognitive strategies to understand and derive meaning from input when engaging in listening activities. Cognitive strategies, as defined by Oxford (1990: 177), refer to the mental processes that learners employ in the context of learning activities including making inferences or summarizing information. Cognitive strategies encompass various cognitive processes such as top-down and bottom-up processing. Top-down processing involves using pre-existing information, contextual cues, and social expectations to understand the target language (Scovel, 2001: 81) Making predictions, activating schemata are prominently associated with top-down processing. However, in bottom-up processing learners concentrate on deciphering linguistic components which include phonemes, words, and syntax to construct meaning (Vandergrift, 2007: 193). Prime examples of said strategies are identifying cognates, recognizing keywords, and parsing grammar structures (ibid: 193). According to Goh (2000: 57) these strategies also facilitate listening comprehension by synthesizing linguistic and contextual cues to derive meaning from auditory input.

Vandergrift (2007: 193) explicates the cognitive mechanisms implicated in listening comprehension and accentuates the significance of bottom-up and top-down processing strategies. The author stresses that for effective listening, simultaneously using top-down and bottom-up processing strategies along with mental processes including activation of lexical and background knowledge, and the context of listening activity are required (ibid: 193). Top-down processing entails employing of existing

information, context-dependent cues, and preconceived notions in order to comprehend spoken interaction (Rumelhart, 2017). Higher-level cognitive processes such as schema activation, making inferences, and predictions play an essential role in the processes (Carrell, 1983). Whereas bottom-up processing involves concentrating on the constituent linguistic components of spoken language, including phonemes, words, and grammatical structures (McClelland & Rumelhart, 1981). According to Schmitt (2018), said components have a crucial role in facilitating the decoding and interpretation of meaning precisely.

2.3.1.2. Metacognitive Strategies in L2 Listening Context

In L2 learning, metacognitive strategies are deemed crucial to improve fundamental skills including listening comprehension. Flavell (1976: 232) defines metacognition as an individual's understanding of their won cognitive processes and outcomes, or everything associated with them. It pertains to the proactive observation and subsequent adaptation and coordination of these activities in respect to cognitive assets or information they correspond to, in order to achieve a particular purpose or desired outcome (ibid: 232).

Nisbet and Shucksmith (1984: 75) explicate metacognition as the 'seventh sense' which signifies conscious knowledge and reflection on learners' cognitive processes. It involves being aware of how learning occurs, enhancing memory, and approaching challenges in a systematic fashion. Metacognition encompasses contemplation, Goh (2008: 192) explains metacognition as thinking about thought processes and learners' awareness of what they are capable or incapable of linguistically. According to the researcher, metacognition fosters the development of autonomous learners and thinkers who have the capacity to deal with unexpected circumstances, acquire skills to learn, and adapt constantly to the fast-paced nature of modern life (ibid: 192). Additionally, Garb (2000) suggests that integrating metacognition into language instruction may cultivate a sense of responsibility and self-assurance in learners, empowering them to self-regulate their learning process. Efficient use of metacognitive strategies also serves as a defining factor that separates high-skilled language learners from lower-skilled ones (Mahdavi, 2014: 529).

Metacognitive strategies are cognitive procedures that L2 learners utilize to monitor and control their learning process (Vandergrift, 2007). According to Goh and

Vandergrift (2012), strategy use attests to the deliberate execution of techniques or behaviors to enhance the learning process by making it more efficient, expedient, entertaining, and autonomous or adaptable to unfamiliar settings.

Vandergrift (1997: 388) refers to Henner-Stanchina (1987) as she emphasizes the significance of these techniques in successfully comprehending oral texts, specifically highlighting the crucial function of overseeing one's own listening process. The author also asserts the manner learners employ semantic, schematic, and syntactic information during listening activities is a matter of using effective strategic actions. Learners who listen effectively expand upon and modify the information they receive consistently. Their cognitive process involves using their accumulated knowledge and preconceived notions to formulate hypotheses about a text. Next, they incorporate new information into their existing hypotheses, make logical deductions to compensate for missing information, assess the validity of their hypotheses, and modify the hypothesis if needed. The researcher conclusively established that good listeners could realize when they fail to understand and use relevant knowledge to rectify the breakdown in comprehension (ibid: 388).

Goh and Vandergrift (2012) affirm that good listeners use metacognitive strategies before, during, and after listening activities. Pre-listening strategies include establishing objectives, mobilizing existing knowledge, and making predictions regarding the material. While listening, the use of self-monitoring, paraphrasing, and summarizing strategies assist learners in understanding the task by helping learners identify key points, deduce meaning from the context, and rectify difficulties in comprehension. Post-listening strategy reflection and evaluation enable learners to solidify their comprehension and indicate which areas need development (ibid).

Vandergrift (1997: 392-393) classified metacognitive strategies into four categories: "planning, monitoring, evaluation, and problem identification". He provides a detailed explanation of each category in the drawing from the studies of O'Malley and Chamot (1990); Oxford (1990); and Vandergrift (1996).

2.4. Metacognitive Awareness and Knowledge

In the L2 context, metacognition alludes to the conscious recognition and understanding of learners' own cognitive processes in learning a new language. It

enables learners to monitor, control, and regulate how they use learning strategies as well as understand and produce L2 (Flavell, 1976). According to Oxford (1990: 181) the integration of metacognition into L2 learning enhances learners' awareness of their own acquisition process through effectively using language learning strategies, understanding what a task requires, and its learning objectives. Consequently, metacognition translates to a deliberate and constructive analysis of one's thought process which, as a result, contributes to improving necessary aspects of learning processes and strategies employed for a specific objective (Anderson, 2009).

As Flawell (1979: 907) states, metacognitive awareness of individuals is comprised of metacognitive knowledge, regulation, and experience. The integration of these fundamental components consequently facilitates the learning process and problem-solving when individuals encounter an obstacle during verbal interaction. Goh and Hu (2014: 256) explain metacognitive knowledge as an individual's understanding of themselves as cognitive beings and their awareness of various cognitive tasks, objectives, behaviors, and experiences in addition to Flawell's (1979) own definition which explicates the term as the information and opinions about the elements and variables that influence and corroborate to shape the progress and results of cognitive processes of learners.

Metacognitive knowledge consists of three components as proposed by Flavell (1979): 1. person knowledge, which refers to the manner people acquire the skill of listening, and the elements affecting an individual's listening skills, 2. task knowledge, which is defined as the characteristics and requirements of listening tasks and activities individuals encounter, 3. strategy knowledge, which attests to effective and appropriate strategies to comprehend or successfully complete a listening task. In addition to facilitating learners' comprehension of the cognitive processes associated with learning, metacognitive knowledge also fosters the efficient application and modification of the strategies in response to varying learning contexts and requirements (Vandergrift and Goh, 2012).

Flavell (1979: 908) asserts that metacognition has a positive impact on learning in a broader sense as he proposes that metacognitive knowledge may provide various tangible and significant impacts on the cognitive process of both young and older individuals. According to the author, this enables learners to choose, assess and modify, and discard mental tasks, objectives, and strategies based on their

interconnections and their alignment with learners' own skills and preferences regarding their learning process. Additionally, it may result in a range of metacognitive related to self-awareness, tasks, objectives, and strategies while also assisting in understanding the significance and social effects of these metacognitive experiences (ibid: 908).

In a nutshell, having a better understanding of metacognition enables learners of all ages to control their learning process which as a result makes it easier for them to adapt their strategies to overcome the challenges they face. Raising learners' metacognitive awareness plays a pivotal role in assisting learners to evolve into self-regulated learners by shaping their cognitive processes to become more efficient and effective.

2.4.1. Metacognitive Awareness in L2 Listening Context

Developing students' metacognitive awareness is key for them to regulate the use of appropriate listening strategies (Vandergrift, 2003: 489. According to Goh (2008: 195), metacognitive strategy instruction might give learners an opportunity to enhance their awareness during listening activities and practices and assist them in selecting relevant strategies. She affirms that teaching metacognitive practices regulates emotional response in listening, hence boosting learners' self-assurance and motivation, and reducing anxiety. It positively impacts listening comprehension skills and specifically, learners with weaker listening skills stand to gain the most from it (ibid: 195). To put it simply, by increasing metacognitive awareness, learners not only gain greater confidence in their skills but also become better learners. Pintrich (1999) states in essence self-regulation means learners activate their metacognitive awareness to direct and coordinate their learning processes. Vandergrift (2005) describes proficient learners as capable of self-regulating intrinsically. According to Xu and Huang (2018), metacognitive awareness requires learners to manage their cognitive processes and apply their existing information repertoire necessary for the interpretation and comprehension of information during the tasks by using metacognitive strategies in the processes of planning, monitoring, controlling, and evaluating input. Vandergrift et al. (2006) conclude that learners who have mastered an elevated level of metacognitive awareness show greater success in understanding and retaining unfamiliar information as well as identifying the most effective strategies for exercising and consolidating the knowledge they have acquired.

Goh (1997: 362) contests that it is not possible to directly inspect learners' awareness similar to most cognitive processes, thus only learners themselves provide instructors with such information. She continues that instructors may encourage learners to articulate their listening strategies and their understanding of what it means to be an L2 learner. She concludes that instructors can receive comprehensive insights into learners' metacognitive awareness through 'self-reporting'. Zhang and Goh (2006) further attest that being cognizant of the advantages of essential listening strategies may enable learners to enhance their listening comprehension in interpersonal exchanges.

2.4.2. Previous Studies on Metacognitive Awareness and Listening Skills

Various research empirically investigated the impact of metacognitive awareness on listening comprehension and the potential correlation between the two. To begin with, in their study, Goh and Hu (2014) explored the relation between metacognitive awareness and the listening skills performance of Chinese students. MALQ and an official sample IELTS listening exam were administered to collect the data. The findings demonstrated a notable and favorable correlation between the scores of students for metacognitive awareness and listening skill performance.

Similarly, Rahimirad and Shams (2014) aspire to explore the influence of using metacognitive strategies on the listening proficiency of ELF learners. Moreover, they aimed to evaluate how these strategies affect the Iranian students' awareness of their own cognitive processes throughout the listening task. The results of the IELTS test showed that the experimental group who received metacognitive strategies training outperformed the control group significantly. Furthermore, the results of the questionnaire indicated a notable change in the students' levels of metacognitive awareness following the implementation of the strategy training. The responses of the interview supported the findings further.

Kobayashi (2018) examined the impact of metacognitive instruction in listening for EFL university students. The implementation of the instruction process lasted a semester. Listening comprehension tests and the Self-Regulated Learning in Listening Questionnaire developed by the researcher were the data collection instruments. The results of the research displayed that the participants of both groups became self-regulated at the conclusion of the research. It was also unveiled that the experimental

group who had weaker listening skills benefited the most from metacognitive instruction.

Chen (2019) aimed to discover the impact of keeping a listening journal on Taiwanese university students' metacognitive awareness and their perceptions towards it. The data was obtained from 81 listening journals. The findings of the research demonstrated that some of the participants found keeping listening journals beneficial claiming that they helped them organize and monitor their listening process while others thought that the process was time-consuming.

Similar to the previous study, the research conducted by Liu (2020) aimed to examine the influence of metacognitive strategy instruction on the listening skills of Chinese ESL students. The participants were divided into three sections: self-directed, teacher-led, and control group. The results of the study revealed that there was not a discernible disparity between the sections regarding metacognitive awareness and listening performance improvement. Moreover, the results suggested that inadequate time for treatment and metacognitive strategy training that does not involve cognitive strategies do not produce a significant impact.

Razavi et al. (2023) examined the impact of L1-mediated metacognitive intervention on motivation, listening comprehension skills, and metacognitive awareness of Iranian EFL students. There were two separate experimental groups and a control group. The students in the experimental groups followed a structured curriculum for metacognition in either English or Persian for a seventeen-week period. The findings demonstrated that metacognitive instruction made a significant impact on the metacognitive awareness, listening comprehension performance and motivation of the students in experimental groups. The participants of experimental group two, who received L1-mediated metacognitive intervention, achieved better results compared to those who received L2 instruction in experimental group one.

Finally, Fu et al. (2023) explored whether Chinese EFL university students' metacognitive awareness contributes to their listening performance as well as subskills. The results demonstrated that the connection between students' metacognitive awareness, listening comprehension performance and listening subskills was positive.

2.5. Process-based Instruction

Process-based instruction encompasses the dual aspects of knowledge acquisition and self-regulation in learning, in addition to the implementation of metacognitive strategies in a specific subject with the presentation of an expert (Baron Levi, 2020: 7). According to Baron Levi, the concept of using metacognitive strategies on learners originated from the research conducted by Conway and Ashman (1989) who introduced the model of PBI specifically designed for students with intellectual impairment. In this model, the instructor establishes a plan for a specific lesson, and under the instruction of the instructor, students gradually devise their own plans for the curricular materials using their own language (ibid: 7). Vermunt (1994: 326) states that process-based instruction focuses on instructing cognitive strategies and domain-specific information in a coherent way. The instructor's purpose is to stimulate students' cognitive processes and foster the development of effective self-regulated mechanisms for acquiring new information (ibid: 326). Volet et al. (1995: 386) assert that teaching methods that include organized forms of interpersonal communication and directed learning were the most efficient at fostering students' acquisition of cognitive and metacognitive strategies. The core of process-based instruction is the combination of enhancing metacognitive strategies and transferring ownership of learning from the instructor to the student with the help of modeling, coaching, and reflective learning (ibid: 386). Dignath and Büttner (2008) explicate self-regulated learning in their study and refer to the process as process based. The authors also characterize self-regulated learners as individuals who take ownership of their learning resolutely by using metacognition, being motivated to acquire new skills, and being responsible for their learning behavior.

2.5.1. Process-based Instruction in L2 Context

Process-based instruction of second language learning prioritizes actively involving learners in the learning experience, with a specific emphasis on the mechanisms of language acquisition rather than the production at the end of it (Silva & Matsuda, 2012; Vandergrift, 2004; Guo et al., 2021: 2). The instructional approach is learner-centered, and it incorporates the four essential language skills systematically. Instructors guide learners through the learning process by scaffolding and providing students with prompt feedback (Vandergrift, 2004). Guo et al. (2021: 2) state the phases of PBI

enable learners to plan, generate ideas, and evaluate their performance. It promotes and redirects L2 learners to strategize, oversee, and assess their performance which is crucial for understanding their learning process (Guo et al., 2021; Rijlaarsdam & Van den Bergh, 2006; Rezai et al., 2023: 1348). Furthermore, it addresses the deficits of learners contributing to their progress, and it motivates learners as a result of its focus on learners assuming accountability for their own acquisition of knowledge and skills, selective attention to individual needs, and collaboration (Graham & Sandmell, 2011; Rezai et al., 2023). Despite its several benefits, the instruction is also criticized for following a procedure characterized by its narrowness, inflexibility, and rigidity (Sharp, 2016; Rezai et al., 2023: 1348).

2.5.2. Process-based Instruction in L2 Listening Context

Process-based instruction for listening comprehension skills concentrates on the cognitive and metacognitive processes that are essential for proficient listening comprehension. Vandergrift (2004: 3) professes that there has been a shift from product-based listening, "listening to learn", to process-based listening, "learning to listen". According to Vandergrift (2007), listening is acknowledged as a dynamic process of constructing meaning, which is necessary for learners to participate in different cognitive activities, for instance focusing, understanding, combining, and assessing auditory input. Process-based instruction in listening promotes adopting metacognitive and cognitive strategies by learners including goal setting, comprehension monitoring, and self-regulation of listening habits (Vandergrift & Tafaghodtari, 2010: 471-472).

To successfully implement process-based instruction for listening skills, it is necessary to incorporate several teaching strategies and practices. Instructors assist learners through the listening task and improve understanding by executing pre-listening activities such as stimulating existing knowledge, establishing objectives for listening, and previewing the listening material (Rost, 2013). Learners actively undertake activities such as taking notes, summarizing, making predictions, and making inferences to comprehend the message conveyed in oral texts while listening (Anderson & Lynch, 1988). Post-listening activities include discussing and reflecting on the oral text, and metacognitive evaluation which enables learners to contemplate on how they listen and utilize listening strategies, cultivate metacognitive awareness,

and self-regulated learning (Goh & Vandergrift, 2012). Instructors enable learners to explore and expand their skills to improve their overall listening comprehension, as a result, learners continue to foster their listening skills independently outside of the classroom with the instruction they receive during the lessons (Kobayashi, 2018: 310).

While there are advantages to using process-based instruction to improve listening comprehension skills, there are also several issues and factors to consider. According to Graham (2006: 178), instructors may have challenges in creating and organizing listening exercises that specifically focus on listening processes and comprehension objectives of the learners. Additionally, Buck (2001) points out that it would be challenging for instructors to assess listening comprehension accurately and provide learners with immediate feedback while implementing process-based instruction. Rost (2013) concludes that it is crucial to be flexible and diversify the way instruction is designed and delivered to meet the needs and preferences of different types of learners.

2.5.3. Process-based Metacognitive Instruction

In order to regulate learners' strategy use during listening and enhance their metacognitive awareness, Vandergrift (2004), Goh (2010), Vandergrift and Goh (2012) proposed innovative process-based teaching models for listening. These models underline the significance of instructing learners to plan, monitor, and evaluate their own strategies during listening activities. The integration of metacognitive instruction into the lessons aims to enhance learners' consciousness of their cognitive processes and their ability to modify their strategies simultaneously as they listen. The common objective of these instructional models is to cultivate learners who are self-regulated and independent, enabling them to manage their listening comprehension process. Consequently, students are expected to attain a superior level of competency in listening and improve their proficiency in the language as a whole (ibid).

Firstly, Vandergrift (2004: 10) developed a "metacognitive cycle" as a means to assist learners in effectively incorporating the adoption of different strategies throughout their listening process. At certain points in listening practice, learners are encouraged to employ specific strategies to control their understanding and attain knowledge. Effective learners participate in critical metacognitive stages, including verification and evaluation, as part of the cycle. These procedures not only increase learners' understanding of strategy use but also provide essential support when learners are

engaged with listening materials. The researcher suggests that learners effectively using these strategies to enhance their understanding may also become more motivated (ibid: 11). The pedagogical cycle aims to assist learners in the integration of a variety of strategies, encouraging them to employ them at critical points to regulate their comprehension and acquire knowledge. This cycle highlights key stages in listening as explained in detail below to motivate learners, boost their interaction with the oral text, and improve their use of strategies. Table 2.2 presents the stages of Vandergrift's pedagogical cycle and corresponding metacognitive strategy:

Table 2.2: Vandergrift's Metacognitive Pedagogical Cycle

Stage of Listening Instruction	Related Metacognitive Strategies
Planning/predicting stage	
1. Once students know topic and text type, they predict types of information and possible words they may hear.	1. Planning and directed attention
First verification stage	
2. Students verify initial hypotheses, correct as required, and note additional information understood.	2. Monitoring
3. Students compare what they have written with peers, modify as required, establish what needs resolution and decide on details that still need special attention.	3. Monitoring, planning, and selective attention
Second verification stage	
4. Students verify points of disagreement, make corrections, and write down additional details understood.	4. Monitoring and problem solving
5. Class discussion in which all contribute to reconstruction of the text's main points and most pertinent details, interspersed with reflections on how students arrived at the meaning of certain words or parts of the text.	5. Monitoring and evaluation
Final verification stage	
6. Students listen for information that they could not decipher earlier in the class discussion.	6. Selective attention and monitoring
Reflection stage	
7. Based on discussion of strategies used to compensate for what was not understood, students write goals for next listening activity.	7. Evaluation

Source: Vandergrift, 2004: 11

According to Vandergrift (2004: 12), this cycle was implemented, and it received successful results with novice language learners from various age groups. However, the researcher attests that more proficient learners may also benefit from this method when they encounter challenging material or an unfamiliar version of L2. Finally, Vandergrift asserts that this pedagogical cycle assists learners in cultivating metacognitive awareness, which is essential to developing self-regulated listening (ibid: 12).

Goh (2010: 187) proposed the term "metacognitive instruction in listening" to describe a new model of process-based listening instruction drawing from Vandergrift's (2004: 11) "metacognitive cycle". The researcher reckons that listening instruction should involve exercises that directly train L2 learners to properly engage in the act of listening, as a crucial component of their continuous progress in language acquisition. Each session is an avenue for individuals to increase their self-awareness as L2 listeners, understand characteristics and requirements of listening, and utilize strategies to improve understanding and advancement while they listen (ibid: 182).

Goh (2010) states the methodology of her "metacognitive instruction" is based on Bruer's (1998: 681) comprehensive framework that incorporates both cognitive and social processes in learning:

> *1. Learning is an active, strategic, and constructive process.*
>
> *2. It follows developmental trajectories in subject-matter domains,*
>
> *3. It is guided by learners' awareness and control of their mental processes*.
>
> *4. It is* facilitated *by social and collaborative settings that value self-directed student dialogue* (Bruer, 1998: 681; Goh, 2010: 183).

Goh's process-based listening instruction model aims to guide students to become self-regulated listeners. Goh (2008: 193-196) suggests teacher training and "scaffolded listening practice" during metacognitive activities provide benefits to facilitate L2 learners' acquisition of listening skills by modeling and providing structured listening practices in metacognitive processes. The strategies elucidate the skills required for effective listening by explicitly presenting the implicit processes used by experienced listeners to novice listeners. Individuals who are eager to enhance themselves are provided with straightforward strategies for effectively controlling their cognitive

processes during listening activities. According to Goh, one drawback of metacognitive instruction is its narrow emphasis on employing strategies to understand listening texts in lessons as she considers it inadequate to assist learners with different aspects of listening both within and outside the classroom (ibid: 192).

2.5.3.1. Previous Studies on Process-based Instruction

Researchers delved into the efficiency of metacognitive PBI in L2 learning by examining its effects on language learning and listening skills. In the research by Vandergrift and Tafaghodtari (2010), the effect of process-based metacognitive instruction on L2 listening was examined. The experimental group had a 13-week period of process-based metacognitive instruction. Data collection tools included a listening achievement test and MALQ. The research findings demonstrated that the experimental group received higher scores than the control group which indicates that the instructional method may enhance learners' L2 listening by making them more aware of the fundamental processes influencing the listening activity. Nevertheless, the disparity between the experimental and control groups did not demonstrate statistical significance.

Azizinia et al. (2017) aimed to explore the effects of the product-oriented instruction and process-oriented instruction on EFL students' listening comprehension. 120 students from private language institutes participated in the research assigned to two separate experimental groups along with a control group. To collect data, a listening comprehension test was conducted as a pre-and post-test. The findings of the data revealed that the experimental group subjected to process-oriented instruction outperformed the control group subjected to product-oriented instruction.

Madarbakus-Ring (2020) examined the impact of three-stage process-based listening instruction on university students' attitudes and listening strategy awareness. The results indicated that although no substantial change was detected in individual attitudes towards listening, the use of a pedagogic approach that included process-based listening components resulted in an increased understanding of methods and their use among the learners.

2.5.3.2. Previous Studies on Process-based Instruction and Metacognitive Awareness

Several studies focus on the effect of metacognitive PBI on metacognitive awareness in the field. For instance, Goh and Taib (2006) examined the metacognitive understanding of a primary school pupils on listening and exploring the advantages of PBI. Ten participants scheduled to take a listening exam at the end of that year took part in the study. The findings demonstrated that the process-based approach was especially beneficial for weaker students. Moreover, students stated that they became more confident during the listening activities and had a more developed understanding of the listening process.

Bozorgian (2014) investigated how metacognitive instruction affects the listening skills and metacognitive awareness of L2 learners in Iran. Data was collected through an IELTS listening test and MALQ. Although the findings indicated an improvement on participants' listening skills, there was no indication of substantial change in their metacognitive awareness.

In the same vein, Wang (2016) examined the impact of the metacognitive pedagogical cycle on listening skills and metacognitive knowledge of Chinese university students. A listening test and reflective journal entries of participants were used to collect data. The findings revealed that there was no notable disparity in the performance of the groups statistically.

Moradian and Baharvand (2017) examined the effect of PBI on enhancing metacognitive awareness and listening comprehension of young learners aged between 11-13. The findings of the listening test demonstrated that the experimental group received greater results than the control group significantly. Furthermore, the findings of MALQ indicated a substantial change in metacognitive awareness of the experimental group students.

Mahdavi and Miri (2019) studied the impact of metacognitive process-based and product-based instruction methods on improving metacognitive awareness and listening comprehension skills of the students. The participants in the research assigned as the process-based instruction group and the product-based instruction group. The results showed the group that focused on the process-based instruction had

a better performance than the group that focused on the product with regard to listening comprehension and metacognitive awareness.

Maftoon and Alamdari (2020) examined how metacognitive strategy training influenced the listening skills and metacognitive awareness of Iranian EFL learners through process-based instruction. The treatment process took 10 weeks and the experimental groups received metacognitive strategy training through process-based instruction. The findings indicated that providing metacognitive awareness strategy training resulted in a significant variation in participants' metacognitive awareness and listening comprehension. Moreover, the analysis of MALQ components indicated the training had a substantial impact on students' metacognitive awareness.

Echalico-Bermillo and Aradilla (2022) examined the efficacy of metacognitive process-based listening instruction in junior high school students' listening performance and metacognitive awareness. The findings revealed that metacognitive process-based listening instruction resulted in improved performance in listening comprehension and increased metacognitive awareness.

Robillos and Bustos (2022) aimed to examine whether providing metacognitive strategy instruction with pedagogical cycles improves listening comprehension performance and metacognitive awareness of Thai EFL students in listening. The results demonstrated a notable disparity between the participants' listening test scores, establishing a substantial correlation between their metacognitive awareness in listening. The qualitative findings indicated that the participants embraced the integration as they expressed positive attitudes on the way listening strategies assisted them in the process of accomplishing their listening tasks.

Rezai et al. (2023) aimed to investigate the impact of group-dynamic assessment and PBI on enhancing Iranian EFL students' metacognitive awareness listening comprehension skills. The participants were placed into three groups: group-dynamic assessment group, process-based instruction group, and the control group. The findings indicated that both group-dynamic assessment and the process-based instruction group showed a better performance than the control group. Nevertheless, the results from the data showed that group-dynamic assessment was more efficient than process-based instruction in enhancing listening comprehension skills and metacognitive awareness.

CHAPTER III

METHODOLOGY

The third chapter explores the research method used in this study. The research design of the study, along with the setting and participants will be introduced. Furthermore, data collection tools and procedures will be presented and explained. Finally, the process of data analysis will be explicated. The research aims to analyze the impact of metacognitive PBI on EFL students' metacognitive awareness and listening comprehension skills and address these research questions:

1. Does the use of a metacognitive, process-based instruction result in a statistically significant difference in listening comprehension skills compared to regular instruction for EFL students?
2. Does the use of a metacognitive, process-based instruction result in a statistically significant difference in metacognitive awareness compared to regular instruction for EFL students?
3. What is the EFL students' attitude towards metacognitive strategy training and process-based instruction?

3.1. Research Design

This research was conducted using a mixed-method methodology, using both qualitative and quantitative data collection instruments. To ensure verification and reliability, triangulation was used. Four distinct data collection instruments were employed to collect data. To collect quantitative data, the listening test and Metacognitive Awareness Listening Questionnaire (MALQ) were administered as pre- and post-tests. Meanwhile, qualitative data was collected through a semi-structured interview was conducted, and the researcher's reflective field notes were analyzed.

3.2. Research Setting

The research was conducted at the preparatory school of a foundation university in İstanbul, Türkiye. The objective of the preparatory school is to enhance students' proficiency in four fundamental language skills in English (reading, writing, listening,

and speaking) as well as foster 21st-century skills. The preparatory school operates on a two-term academic year, with both terms consisting of two modules that span from seven to fourteen weeks. The institution is comprised of five primary faculties: Law, Engineering, Arts-Science, Arts and Design, Economics, and Administrative Sciences. Students pursuing a degree in Engineering, Arts-Science, Economics, and Administrative Sciences are obligated to enroll in the preparatory school meanwhile Arts and Design and Law students may enroll voluntarily. Nevertheless, all students must undergo the placement test which is conducted at the start of the academic year to assess their language level if they choose to study at the preparatory school. Following the test, students are assigned to a level; foundation (A1), pre-intermediate (A2), intermediate (B1), and upper-intermediate (B2) based on their results. The proficiency levels are determined by the Common European Framework of Reference (CEFR), an established benchmark for evaluating language competence acknowledged on a global scale. Each class consists of 19 to 25 students. Students from all levels receive 24 weekly hours of lessons, 5 hours for 4 days of the week, and 4 hours for one day of the week. The main course and skills courses are spread into the weekly lesson plans at differing numbers of hours. In each module, students are to complete online homework, a writing and speaking task, give a presentation, and take a midterm exam. Students must accumulate at least 60% of the scores from the mentioned tasks and the final exam to successfully finish the level. Students must attend 80% of the lessons to be eligible to take the final exam.

This research was administered to B2 (upper-intermediate) students during their main and skills courses. B2 level students dedicate 24 hours per week to study English lessons covering four fundamental language skills: listening, reading, speaking, and writing. The research was conducted during the listening sessions of both groups. The researcher was tasked with instructing both groups in listening skills throughout the treatment.

3.3. Participants

The study was conducted during the 2023 Spring Term first module. Two groups were assigned to the researcher randomly from eight B2 classes by the institution. Forty-four students participated in the research as experimental and control group. The students were assigned to the groups before the beginning of the term by the

administrators and remained in their groups until the end of the treatment process. There were ten females and thirteen males, overall, twenty-three students in the experimental group. While in the control group, there were nine females and twelve males, and overall, twenty-one students. All forty-four students were Turkish, with ages ranging from eighteen to twenty-four (See Table 3.1).

Table 3.1: Participants

Control Group			Experimental Group		
Student	**Number**	**Rate**	**Student**	**Number**	**Rate**
Male	12	57.10%	**Male**	13	56.50%
Female	9	42.90%	**Female**	10	43.50%
Total	21	100.00%	**Total**	23	100.00%

3.4. Data Collection Instruments

The data collection instruments for the study were determined considering the research questions. Data collection included both quantitative and qualitative data. A TOEFL listening comprehension test and Metacognitive Awareness Listening Questionnaire by Vandergrift et al. (2006) were administered to collect quantitative data (see appendix A & B). For the qualitative data, the researcher conducted a focus group interview to gain insight into students' attitudes toward the implementation of process-based instruction, and the field notes were taken into record throughout the procedure to describe how the treatment proceeded.

3.4.1. Listening Comprehension Test

The aim of the first research question was to reveal whether there is a substantial change between the listening comprehension skills of the students in experimental and control groups. Thus, the participants sat for a listening test. To ensure reliability, a TOEFL mock exam based on a test that was piloted priorly was used. The listening test included 33 multiple-choice questions with four options each. Questions were mostly focused on listening for the main idea, listening for detail, and listening for making inferences. The test was conducted as a pre-test and post-test in the classroom environment as a traditional paper exam. During the implementation of the listening test, students were allocated one minute to read the question and the options for each

audio. They listened to every audio twice, and they were given 30-second breaks between the first and second listen for them to check their answers.

3.4.2. Metacognitive Awareness Listening Questionnaire (MALQ)

To find an answer to the second research question, Metacognitive Awareness Listening Questionnaire by Vandergrift et al. (2006) was conducted. MALQ is a data collection instrument developed to evaluate the L2 learners' level of awareness and the control they have over their listening comprehension process. The questionnaire is comprised of 21 items and a 6-point Likert scale (Strongly disagree=1, disagree=2, partially disagree=3, partially agree=4, agree=5, strongly agree=6). The statements in the questionnaire were classified into five subscales of metacognitive strategies identified by Goh and Vandergrift (2012): person knowledge, directed attention, planning and evaluation, mental translation, and problem-solving. In Table 3.2 below subscales were matched with the corresponding MALQ items.

Table 3.2: Subscales of the Metacognitive Strategies

MALQ subscales	MALQ items
Directed attention	2, 6, 12, 16
Mental translation	4, 11, 18
Planning and evaluation	1, 10, 14, 20, 21
Problem solving	5, 7, 9, 13, 17, 19
Person knowledge	3, 8, 15

Source: Goh and Vandergrift, 2012

According to Vandergrift and Tafaghodtari (2010: 477), directed attention can be defines as the listeners' ability to focus, remain focused, and actively engage in the listening activity. Mental translation is described as the skill of using mental translation less. Planning and evaluation are the techniques learners employ to get ready to listen and assess the outcomes of their listening activity. Problem-solving involves making conclusions about parts not comprehended and focusing on those inferences. Finally, person knowledge is the learners' beliefs about their preferred learning style, the

challenges they face in L2 listening, and their confidence in their listening skills overall. For both groups, a pre-and post-test of the questionnaire was conducted. Through an online platform, students answered the questionnaire while they were in the classroom setting.

3.4.3. Focus Group Interview

To answer the final research question and to ensure triangulation, qualitative data was collected. As the first qualitative data collection instrument through, a focus group interview was conducted. Creswell (2015) describes focus group interviews as effective data collection instruments to obtain information on shared and unique perspectives on the studies. Therefore, eight students out of the experimental group were selected to take part in the focus group interview to discuss their shared experiences and viewpoints. The students who participated in the interview were determined using purposive sampling, a purposeful and non-random strategy used by the researcher to choose participants based on criteria relevant to the aim of the study (Creswell, 2015). In order to include as many perspectives as possible, the researcher selected students with different levels of strength in listening. The researcher selected the student to interview based on their listening test results from the exams and quizzes as well as their level of engagement during the classes. The interview was conducted face-to-face after the treatment process was completed. The interview took a total of thirty minutes, and was audio recorded into a voice file. After the interview was completed, the researcher listened to the recording and transcribed it into a Word document. Consequently, the transcription of the data was reviewed. The participants answered the questions below (also see appendix D).

1. What are your thoughts on learning through process-based instruction?

2. Which part of the listening strategy activities did you find beneficial? Why?

3. What are your thoughts on your listening performance? Have you observed any changes since the commencement of the term?

4. Would you advise implementing this instructional method in the lessons next term? Explain the reason if yes or not.

3.4.4. Researcher's Field Notes

As the final qualitative data collection instrument, field notes are used. According to Creswell (2015), reflective field notes are the cognitive reflections of the researcher that emerge throughout the process of observation. Reflective field notes serve the purpose of enabling researchers to rectify errors made throughout the study and they underscore the fact that observation and reflection are not the concluding stages of research but rather fundamental components of the entire process (Maharaj, 2016). During the study, to gain more in-depth data, the researcher took notes in each session to identify the weaknesses and the strengths of process-based instruction. The researcher observed students while they were working during the activities and takes notes about their interactions and behaviors. Students' comments and conversations during the sessions and process-based discussions were also included in the notes. The researcher wrote down a report for each session after reviewing her notes and students' handouts. Vandergrift and Goh (2012) explain that process-based discussions center on the comprehension of spoken language and the enhancement of cognitive and metacognitive strategies used by the learner. Therefore, they are a key element to both the teaching and learning experience.

3.5. Data Collection Procedure

This study follows Vandergrift and Tafaghodtari's (2010) research on the effects of metacognitive listening instruction and applies a similar methodology to analyze the impact of a metacognitive process-based instruction on students' metacognitive awareness and listening comprehension skills. Although their study only targeted L2 learners of French, the purpose of this study is to examine the effects on Turkish EFL learners which might possibly demonstrate its applicability in different language learning settings.

The data for this research which was conducted at the preparatory school of a foundation university, was obtained through four distinct instruments. Both experimental and control groups were upper-intermediate level students who followed an identical curriculum designed by the administrators of the institution. Both groups utilized the same course book and skills books: Language Hub Upper Intermediate (Rogers, 2020) Unlock Listening, Speaking & Critical Thinking 3 (Ostrowska et al., 2019), Unlock Reading, Writing & Critical Thinking 3 (Westbrook et al., 2019). While

the control group proceeded their classes with regular instruction, the experimental group was subjected to metacognitive strategy training in listening lessons through PBI. The researcher was responsible for instructing both groups.

The study overall took 7 weeks including pre and post-tests, and the treatment process. The experimental group underwent 10 metacognitive training sessions, each taking 90 minutes in a face-to-face classroom environment. Training sessions started in week 2 and finalized in week 6. Pre and post-tests for listening comprehension and MALQ took place in week 1 and week 7 as shown in Table 3.3 below.

Table 3.3: Data Collection Procedure

	Control group	Experimental group
Week 1	Listening pre-test MALQ pre-test	Listening pre-test MALQ pre-test
Week 2 Week 3 Week 4 Week 5 Week 6	Regular lessons	Treatment, field notes
Week 7	Listening post-test MALQ post-test	Listening post-test MALQ post-test Focus group interview

3.5.1. Instruction in the Control Group

The control group followed their regular 7-week schedule at the institution and received regular instruction throughout the study. Language Hub Upper Intermediate and Unlock Listening, Speaking & Critical Thinking 3 were the coursebooks that were taught, and ready-made tests and worksheets of all three books were used as extra materials. Both books were used during the listening classes.

In the first week of the treatment process, the control group sat for the listening pre-test and answered MALQ with no difference in instruction along with the experimental group. Having completed the first stage, the control group proceeded to their classes receiving regular instruction until the end of the treatment process. The concept of regular instruction in the study refers to the instructional approach regularly used in classes throughout the academic year. The curriculum, lesson plans, and objectives are

prepared by the administrators, and instructors follow the schedule and course book lesson plans with occasional additions during the teaching. Due to the environment of the class, the instruction was mostly instructor-driven while students took a more passive stance and mostly adhered to the researcher's directions to reach the lesson objectives. Students in the control group were generally unmotivated and not enthusiastic to participate which led to extended teacher talking time. Students mostly preferred to engage in activities individually and refrained from pair or group work.

Instruction in the control group was executed similarly until the last week of the treatment. Students completed the tasks in the books as they were originally prepared. The listening activities in the books mostly followed a series of exercises that were organized into the following stages: answering general discussion questions, recognizing key vocabulary, listening for the main idea, listening for details, listening for taking notes, and expressing own viewpoints. The control group adhered to the schedule designed by the administrators.

In a regular listening lesson, students were presented with discussion questions in the book and discussions were usually conducted with the whole class as the majority of the students did not prefer to engage in conversations in pairs or groups. If provided in the book, they commented on pictures. Next, they worked on vocabulary activities, and the target vocabulary was chosen by the book. During the first and second listens they listened to complete fill-in-the-blank or multiple-choice activities focusing on listening objectives and strategies presented in the book. To conclude the listening exercise, they were expected to respond to discussion questions in the book which were usually skipped due to no response or lack of time.

To give a more in-depth overview of the instruction in the control group, one of the lessons was explained in detail. In this specific lesson, students were supposed to listen to a presentation about human threats to polar bears. Before they listened, they completed a multiple-choice vocabulary activity to understand the key vocabulary presented in the book.

Next, they were presented with three photos and three discussion questions. They were asked to answer questions while looking at the photos for ideas. At this stage, when the students were unable to offer answers, they were presented with possible ideas by the researcher, as well. Later, they listened to the audio and checked if their ideas were

mentioned. They listened for the second time and were instructed to complete the notes given in the book. After they finished listening, the researcher inspected their notes and checked their understanding.

Finally, they were asked to complete sentences with missing information and then they listened for the third time and checked their answers. After the listening, they focused on the signposting language in the oral text and completed a short fill-in-the-blanks activity. As the book did not present any discussion questions, the researcher asked students questions that relate to the theme of the activity.

In the remaining weeks, listening lessons were taught in the same fashion. The researcher presented listening strategies to the students such as note-taking, focusing on keywords, sequencing, etc. only when it was the requirements of the curriculum. The control group students were not provided with metacognitive strategy training through process-based instruction.

3.5.2. Instruction in the Experimental Group

A total of ten PBI sessions were conducted throughout the study, each session lasted ninety minutes. Along with the learning objectives of the curriculum, students were taught metacognitive strategies. Lessons took place face-to-face in the classroom environment. Both groups used the same coursebooks and materials; studied the same content. During the remaining lesson hours, they adhered to their usual routine, mirroring the control group. Table 3.4 displays the treatment schedule, including the topics covered in sessions and subskills in the lesson objectives of the books:

Table 3.4: Treatment Session Content

Week	Sessions & Topics	Lesson Subskills
Week 2	Session 1: A presentation about human threats to polar bears	Predicting content using visuals, listening for keywords, listening for signposting language, taking notes on main ideas
	Session 2: A radio talk show about extreme sports	Listening for gist, listening for detail
Week 3	Session 3: A video about natural environment	Predicting content using visuals, understanding main ideas, understanding details
	Session 4: A debate for nuclear power plants	Taking notes on main ideas, listening for detail, listening for counter arguments

Table 3.4: Treatment Session Content (continued)

Week 4	Session 5: An extract from an audio book about fear	Listening for definitions, examples, explanations
	Session 6: A radio interview with an airline staff member on fear of flying and how to reduce it.	Listening for main ideas, taking notes on detail, listening for detail, listening for rhetorical questions, listening for text organization
Week 5	Session 7: A video about planes	Understanding main ideas, understanding details (numbers)
	Session 8: Public debate about the future of transport	Identifying agreement/disagreement
Week 6	Session 9: A presentation on cycling to work	Listening for main ideas, listening for details, taking notes on details, listening for text organization
	Session 10: A radio interview about an eco-friendly home	Listening for keywords, listening for details

During the treatment process, the researcher followed the listening instruction stages along with focusing on the metacognitive strategies suggested by Vandergrift (2004) in the metacognitive pedagogical cycle he established. Throughout all ten sessions of the treatment process, the researcher adhered to Vandergrift's instruction model, and guided the students through the verification stages to ensure completion.

In the first week of the study, the students sat for a TOEFL listening test and answered MALQ during the lessons. The treatment process started in the 2nd week of the study. The researcher informed the students about the changes to be applied in the following sessions and the rationale behind the strategy training. In the first session, the researcher provided all students with a hard copy of Table 3.5 seen below to guide them through the stages smoothly.

Table 3.5: Note-Taking Handout

175	**1st Listen**	**2nd Listen**	**Reflect**
Students write their predictions about listening.	Students listen and take notes as well as checking their predictions.	Students listen again and make corrections and additions to their notes.	Students evaluate their listening experience.

In the first session students were supposed to listen to a presentation about the human threats to polar bears. In the prediction stage, they were asked to brainstorm about the pictures provided in the book and create a word cloud in their handouts with the words they know or remember. The researcher transferred the suggestions of students and introduced new vocabulary inserting them into the word cloud on the board. Afterward, students were asked questions about what a presentation is, what type of information one includes in a presentation as they have been studying and preparing presentations from the beginning of Listening and Speaking classes, and discussed what possible ideas could be shared in the audio they will listen to. After a whole class discussion, the researcher provided students with the first part of the performance checklist for listening by Vandergrift (1999) in the Table 3.6 below before listening to the recording for the first time. The instructor went through each item with the students for them to see if they are ready to listen.

Table 3.6: Performance Checklist for Before Listening

Before listening
I understand the task (what I have to do after I have finished listening)
I know what I must pay attention to while I listen
I have asked the teacher for clarifications, if necessary
I have attempted to recall all that I know about the topic
I have attempted to recall what I know about the type of text I will listen to and the type of information I will probably hear
I have made predictions on what I am about to hear
I am ready to pay attention and concentrate on what I am about to hear
I have encouraged myself

Source: Vandergrift, 1999: 175

After students completed the checklist, answering further questions the students had, the researcher told students to listen to the audio and take notes on their handouts while they listened to the audio to check their predictions and answer the questions in the book. After the first listen, the researcher requested students to compare their notes with their friends and check their predictions. Next, the researcher asked students if they realized any parts or information they missed and to decide what they were going to focus on during the second listen.

One of the objectives of the lesson included listening for signposting language. Thus, the students were asked and reminded of examples of signposts and encouraged to pay specific attention to them. While listening to the recording for the second time, the students were encouraged to make corrections and additions to their notes. After that, the whole class answered the questions in their book, and the researcher clarified the mistakes and questions the students had.

In the final stage of the listening, the researcher asked students to evaluate their performance and to think about what they did well and what they could change in the next listening activity. After the discussion, the researcher guided the students to reflect on the session and note their comments, mentioning what they liked and did not like about it.

Finally, the instructor provided students with the second part of the performance checklist for listening by Vandergrift (1999) displayed in Table 3.7 below and asked them to compare their reflection notes and see if they included any of the items similar to their notes.

Table 3.7: Performance Checklist for After Listening

After listening
I concentrated on the task to be accomplished
I attempted to verify my predictions
I revised my predictions accordingly
I focused my attention on the information needed to accomplish the task
I used background noises, tone of voice, and other clues to help me guess at the meaning of words I did not understand
I used key words, cognates, and word families to understand the text
I used my knowledge of the context and of text structure to understand the text
I evaluated the logic/plausibility of what I understood

Source: Vandergrift, 1999: 176

In the second session, the topic of the listening lesson was a radio talk show about extreme sports. The same stages for listening instruction were followed. The students once again were provided with handouts for notetaking and the performance checklist for listening. In the prediction stage, the type of content and the atmosphere of radio

talk shows were discussed. Next, the extreme sports students were familiar with or even personally experienced were discussed. The researcher asked the students to list the vocabulary they expected to hear in the audio.

When they listened the first time, the students were directed to check their predictions and also take notes to comprehend the main point of the audio. In this session, they were tasked to compare notes in groups of four. After that, the researcher asked them what information they thought they should focus on next. The students decided that they should complete the details of each speaker's experience to answer the following exercise. After the second listen, students made additions to their notes with the missing information and answered the questions on their books individually looking at their notes and their answers were checked by the researcher. Finally, the researcher allocated time for the students to evaluate their performance and review the performance checklist for listening.

In the next four weeks, the same listening instruction stages were followed during the remaining sessions. The students were provided note-taking handouts in every session. However, they were only reminded of the performance checklist items verbally. Listening strategies taught by the instructor were adjusted in accordance with the demands of the books and the objectives of the lesson plans.

While following the instruction stages, the discussions always centered around metacognitive strategies to enhance the students' awareness of their listening process. Upon the conclusion of the treatment, the handouts of students were collected, and the whole process was also taken into record through the reflective field notes of the researcher.

In table 3.8 below instruction stages in both experimental and control groups are summarized and presented. The table also indicates the major differences between instruction stages followed for both groups. Consequently, various cognitive and metacognitive strategies the students were supposed to utilize and reflect upon are displayed.

Table 3.8: Sample Instruction in Control and Experimental Groups

Control group	Experimental group
Pre-listening	**Prediction stage**
- Answering discussion questions about the potential threats to polar bears - Multiple choice vocabulary exercise - Brainstorming discussion about the presentation in the book	- Brainstorming and creating a word cloud about polar bears - Pre-teaching target vocabulary - Discussion about what a presentation is in general - Making predictions about the presentation in the book - Before-listening performance checklist
	First verification stage
While-listening	- Note-taking - Verifying predictions - Peer-checking notes - Deciding important details and - directing attention to those
- Note-taking – filling the t-chart in the book - Checking notes with the whole class	
	Second verification stage
	- Making corrections and additions to notes - Class discussion
Post-listening	
	Final verification stage
- Fill-in-the blanks activity - Recognizing signposts and fill-in-the-blanks - Discussion activity	- Identifying problems during listening
	Reflection stage
	- Evaluating performance - Setting goals for the next listening activity

3.6. Data Analysis

This research included the collection of qualitative as well as quantitative data, as mentioned above. Statistical Package for Social Sciences 25 (SPSS) was used to analyze the quantitative data. Firstly, to determine which test to use, the normality of distribution scores of the quantitative data was analyzed. The Shapiro-Wilk test was used due to the relatively small size of the sample (N=44).

To determine the disparity between the student groups in relation to metacognitive awareness and listening comprehension skills, the researcher employed an independent samples t-test. Additionally, MALQ subscales were analyzed separately

with the purpose of gaining a deeper understanding of the outcomes. Reverse-coding was required for MALQ items 3, 4, 8, 11, 16, and 18 owing to the phrasing of the statements and they were analyzed accordingly. Means and standard deviations were also included as the descriptive statistics.

Next, to analyze the researcher's field notes, the constant comparison method was used which is one of the most frequently used methods for analyzing field notes as Merriam (2009) suggested. Firstly, the field notes were compared and categorized in accordance with their similarities, and their themes were determined. Content analysis was implemented to analyze the focus group interview. As described by Hsieh and Shannon (2005), content analysis is a research method that uses systematic categorization and determining themes. Therefore, the transcription of the focus group interview was categorized and decoded in relation to the study. Inter-rater reliability was implemented to ensure the reliability of the qualitative data. The codes and themes were checked and edited by another researcher experienced in the same field. Focus group interview questions were also reviewed by three different ELT researchers.

3.7. Conclusion

To summarize, the objective of this chapter is to offer a comprehensive examination of the methodology used in this research. It covers crucial aspects such as research design, how the participants were selected and the setting was defined, the selection and the use of data collection instruments along with the strategies employed for data analysis. Moreover, it provides an explanation of the process-based instruction in the study, clarifying its design, execution, and integration within the research framework. Furthermore, this chapter elucidates the specific function assumed by the researcher throughout the study, offering a clear understanding of their participation and contribution to the research process. In the upcoming chapter, the data collected using distinct instruments will be carefully analyzed and interpreted, following the research questions of this research. This analysis strives to obtain insights and findings that contribute to the larger goals of the study through careful evaluation and synthesis.

CHAPTER IV

FINDINGS

This chapter provides a comprehensive analysis of the findings related to the study that investigates the potential effect of process-based instruction on EFL students' metacognitive awareness and listening comprehension skills in the context of L2 learning. Initially, the quantitative results were thoroughly analyzed by scrutinizing the data collected from pre/post-listening tests and pre/post-MALQ conducted on both experimental and control groups. Afterward, detailed qualitative results were presented by examining the researcher's reflective field notes and the focus group interview carried out with the experimental group students.

4.1. Research Question One

Does the use of a metacognitive, process-based instruction result in a statistically significant difference in listening comprehension skills compared to regular instruction for EFL students?

To address the research question above, a multiple-choice listening test was conducted as a pre-test and post-test for the experimental as well as the control groups. The test results were evaluated through SPSS. To ascertain whether the data adhered to a normal distribution; the Shapiro-Wilk test of normality was conducted for the listening test. As displayed in Table 4.1 below, the results of the test indicate that the data was normally distributed (control group's listening pre-test=.135, listening post-test=.482; experimental group's listening pre-test = .179, listening post-test=.115).

Table 4.1: Normality Test of Control and Experimental Groups

	Shapiro-Wilk		
	Statistic	**df**	**Sig.**
Control Group – Pre-test	0.930	21	0.135
Control Group – Post-test	0.958	21	0.482
Experimental group – Pre-test	0.940	23	0.179
Experimental group – Post-test	0.931	23	0.115

As the Shapiro-Wilk test results demonstrated a normal distribution, the independent samples t-test was implemented to assess the disparity between the experimental and the control groups in terms of listening performance.

As shown in Table 4.2, Levene's test for equality of variances was conducted to assure homogeneity of the data. The results indicated that the variance of pre-tests (p=.297, p>.05) and post-tests (p=.901, p>.05) of listening test were homogeneous.

Table 4.2: Homogeneity Test of Pre-and Post-Listening Test

Levene's Test for Equality of Variances			
		F	**Sig.**
Listening Pre-test	Equal variances assumed	0.016	0.901
Listening Post-test		1.113	0.297

An independent samples t-test was administered to establish whether there was a statistically significant difference in the listening performance of the control and the experimental group. As seen in Table 4.3, the listening pre-test scores of the control group and the experimental group did not show a statistically significant difference (p=.342, p>.05). Therefore, the analysis focused on listening post-test scores to determine the difference.

Table 4.3: Independent T-Test Statistic of Pre-Listening Test

	Groups	**N**	**Mean**	**Std. Deviation**	**df**	**Sig. (2-tailed)**
Listening Pre-Test	Control	21	14.29	4.649	42	0.342
	Experimental	23	15.70	5.049		

Upon analyzing the listening post-test scores, the mean listening post-test scores of the control group (M=13.62) and the experimental group (M=18.09) indicated that the disparity between the test scores of the experimental and control groups was statistically significant. Moreover, the independent samples t-test results reinforced the substantial improvement in the experimental group students' listening performance

after the implementation of process-based instruction (p=.014, p<.05) as indicated in Table 4.4.

Table 4.4: Independent T-Test Statistic of Post-Listening Test

	Groups	N	Mean	Std. Deviation	df	Sig. (2-tailed)
Listening Post-Test	Control	21	13.62	5.054	42	0.014
	Experimental	23	18.09	6.345		

In order to further strengthen the results, a paired sample t-test was applied to both the experimental and control groups' pre-and post-listening test results as seen in Table 4.5. The result revealed that the control group (pre-test M=14,29 / post-test M=13,62) experienced a decrease in mean of test result between pre and post-tests (p=.329, p>.05). On the other hand, the paired sample t-test results of the experimental group (pre-test M=15,70 / post-test M=18,09) indicated that there is a statistically significant improvement in their test result between pre-and post-listening tests (p=.002, p<.05).

Table 4.5: Paired Sample T-test Statistic of Pre/Post Listening Test

	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Control Group Pre/Post Tests	-0.667	3.055	0.667	-1.000	20	0.329
Experimental Group Pre/Post Tests	2.391	3.340	0.697	3.433	22	0.002

4.2. Research Question Two

Does the use of a metacognitive, process-based instruction result in a statistically significant difference in metacognitive awareness compared to regular instruction for EFL students?

Before starting the treatment process, MALQ was administered to evaluate students' metacognitive awareness of their listening process both in the experimental and control groups. Subsequently, the same questionnaire was conducted again to investigate whether process-based instruction had an impact on the metacognitive awareness of

experimental group students. To determine if the disparity in students' metacognitive awareness in listening was statistically significant before the treatment, the data was analyzed through an independent sampled t-test. Cronbach's Alpha scores were analyzed to ensure the reliability of MALQ data, and the results indicated that the data was reliable as Cronbach's alpha for each test was greater than .700 displayed in Table 4.6 below.

Table 4.6: Reliability Statistics of MALQ

Groups	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Control group - Pre-test	0.813	0.814	21
Experimental group - Pre-test	0.776	0.777	21
Control group - Post-test	0.731	0.735	21
Experimental group -Post-test	0.838	0.842	21

Levene's test for equality of variances was conducted to assure homogeneity of the data. The results indicated that the variance of pre-tests (p=.473, p>.05) and post-tests (p=.253, p>.05) of MALQ scores were homogeneous (see Table 4.7).

Table 4.7: Homogeneity Test of Pre-and Post-MALQ

Levene's Test for Equality of Variances			
		F	Sig.
MALQ Pre-test	Equal variances assumed	0.616	0.437
MALQ Post-test		1.342	0.253

As seen in Table 4.8, the pre-MALQ scores of the experimental and the control groups were not significantly different (p=.514, p>.05). Therefore, the scores of the post-MALQ test were computed to determine the difference.

Table 4.8: Independent T-Test Statistic of Pre-MALQ

	Group	N	Mean	Std. Deviation	df	Sig. (2-tailed)
Pre-MALQ	Control	21	3.69	0.572	42	0.514
	Experimental	23	3.59	0.519		

After the examination of the post-MALQ results (see Table 4.9), it was found that the experimental group's mean score (M=4.21) was higher than the control group (M=3.78). Furthermore, the results of the independent samples t-test indicated that the difference between both groups was statistically significant and provided further support for the substantial improvement in the experimental group students' metacognitive awareness after the implementation of process-based instruction (p=.036, p<.05).

Table 4.9: Independent T-Test Statistic of Post-MALQ

	Group	N	Mean	Std. Deviation	df	Sig. (2-tailed)
Post-MALQ	Control	21	3.78	0.632	42	0.036
	Experimental	23	4.21	0.668		

To reinforce the results of the independent t-tests, a paired sample t-test was applied to the pre-and post-MALQ results of experimental and control groups. The results for the control group's pre- and post-MALQ scores (pre-MALQ M=3,698 / post-MALQ M=3,787) showed no statistically significant difference (p=.667, p>.05). In contrast, the experimental group's pre- and post-MALQ (pre-MALQ M=3,590 / post-MALQ M=4,213) scores revealed that there is a statistically significant improvement (p=.000, p<.05) as indicated in Table 4.10.

Table 4.10: Paired Sample T-test Statistic of Pre/Post-MALQ

	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Control Group Pre/Post Tests	0.088	0.928	0.202	0.437	20	0.667
Experimental Group Pre/Post Tests	0.623	0.508	0.106	5.878	22	0.000

The MALQ subscales were analyzed separately to acquire a more comprehensive understanding of the students' metacognitive awareness. Levene's test for equality of variances was administered to ensure homogeneity of the data in post-MALQ. As

shown in Table 4.11 below, the results demonstrated that the variance of post-tests was homogenous as the p-value for each subscale was greater than .050 (directed attention p=.529, mental translation p=.850, planning and evaluation p=.185, problem-solving p= .346, person knowledge p=.284). Thus, equal variances are assumed.

Table 4.11: Homogeneity Test of Post-MALQ Subscales

Levene's Test for Equality of Variances			
MALQ Subscales		**F**	**Sig.**
Directed attention	Equal variances assumed	0.403	0.529
Mental translation		0.036	0.850
Planning and evaluation		1.818	0.185
Problem Solving		0.907	0.346
Person knowledge		1.176	0.284

After confirming homogeneity, the results of the t-test for equality of means were analyzed to detect any significant difference in subscales. Table 4.12 below displays the statistical data that describe the different components of students' metacognitive awareness and MALQ subscales. After comparing the p-values of the experimental and the control groups, the researcher observed that the experimental group showed statically significant improvement in directed attention (p=.012, p<.050) and person knowledge subscales (p=.002, p<.050) compared to the control group.

Table 4.12: Independent T-Test Statistic of Post MALQ Subscales

t-test for Equality of Means					
MALQ Subscales	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Std. Error Difference**
Directed attention	-2.625	42.00	0.012	-0.734	0.280
Mental translation	-0.385		0.702	-0.170	0.442
Planning and evaluation	0.207		0.837	0.067	0.325
Problem Solving	-1.601		0.117	-0.535	0.334
Person knowledge	-3.309		0.002	-0.879	0.266

4.3. Research Question Three

What is the EFL students' attitude towards metacognitive strategy training and process-based instruction?

The responses of students provided during the focus group interview and field notes the researcher took during the treatment process were analyzed to answer the final research question which attempted to determine students' attitudes towards process-based instruction. The findings of the data were reported individually below.

4.3.1. Focus Group Interview

A semi-structured interview was conducted to ascertain the students' attitudes toward the implementation of process-based instruction. Eight students from the experimental group participated in the interview. Upon careful examination of the audio scripts of the interview, distinct themes were established for each interview question. In Table 4.13 below, themes that were determined after the content analysis are shown along with the corresponding interview questions to each theme.

Table 4.13: Student Interview Themes

Questions	Themes
1. What are your thoughts on learning through process-based instruction?	- Enhancing memory and comprehension of vocabulary - Adopting process-based steps into daily life - Improved self-confidence in listening skills
2. Which part of the listening strategy activities did you find beneficial? Why?	- Brainstorming and predicting content - Activating existing knowledge - Self-reflection
3. What are your thoughts on your listening performance? Have you observed any changes since the commencement of the term?	- Improvement in focus and attitude - No improvement
4. Would you advise implementing this instructional method in the lessons next term? Explain the reason if yes or not.	- Positive attitude - Drawbacks

4.3.1.1. Interview Question One

What are your thoughts on learning through process-based instruction?

The first interview question addressed the students' attitudes and comments on process-based instruction. Three themes were established, enhanced memory and comprehension of vocabulary, transferring process-based steps outside the classroom, and improved self-confidence in listening skills.

a) Enhanced memory and comprehension of vocabulary

All students expressed that they could successfully connect their vocabulary repertoire to the listening content through mind mapping, interpreting visual aids, listing relevant vocabulary, etc. Students stated that thanks to the pre-listening discussions and activities they considered themselves more adequately equipped for the actual listening exercise, and they were able to recognize and recall vocabulary from discussions better. Some statements of the students are as follows:

"I did not usually think about what we were going to listen to or what I knew about the topic. Even if I did, I now realize that it was very superficial but now because of the discussion we had with you or with my friends I started to look at the topics from different perspectives especially when we focus on possible vocabulary we might hear, I found out that I can remember them much easier than before." (Student 1)

"The photos we looked at and the discussions we had before we started listening activities made it easier for me to remember the vocabulary we studied. I started taking more notes and now, when I imagine an eco-friendly house, I remember the photos we looked at and the first words that come to my mind are insulation and sustainable." (Student 6)

b) Transferring process-based steps outside the classroom

Almost half of the students professed that they were able to remember the listening process followed during the instruction and adopt the steps into the listening activities they do outside of the class as stated below:

"Whenever I listen to a video to practice listening, I picture the chart we complete during lessons in my head, and I try to follow it." (Student 7)

"I would normally just play the audio when I do my online listening homework, but now I try to predict the content and predict the vocabulary from the book I might hear." (Student 4)

c) Improved self-confidence in listening skills

Some of the students reported that they are considerably more self-assured during in-class listening activities and the activities they complete outside of the lessons since they know the steps to follow. They stated that the knowledge they acquired during the treatment sessions helped them become more relaxed before and after a listening exercise. They emphasized that especially hearing different accents in listening audios during lessons, exams, and the videos they watch in their spare time would normally make them extra nervous. However, they do not feel discouraged by this problem anymore. The following comments reflect students' stance on the issue:

"Before I start listening, I usually feel a bit nervous even if I do well later. But you know how we talk about the words we might hear, or we discuss… things like news and movies… I realized that this helped me immerse myself in the topic already and forget that I was supposed to be nervous." (Student 2)

"When I hear people speak in strong accents, I used to feel like I would not understand anything. This always affected my concentration negatively. In our last exam, the speakers' accents were strong, but I was still able to focus. And I did well at the end!" (Student 4)

4.3.1.2. Interview Question Two

Which part of the listening strategy activities did you find beneficial? Why?

The students were asked about the listening activities that they benefited from the most during the treatment in the second interview question. After analyzing the comments made by the students, three themes were identified: brainstorming and predicting content, activating existing knowledge, and self-reflection.

a) Brainstorming and predicting content

All the students expressed that the activities they complete individually, with their partner, or as a group before listening made the exercise much more entertaining and immersive. In addition, they reported that they improved a lot in terms of making predictions and understanding the gist of the listening audios during the lessons. The student comments are displayed below:

"I feel more prepared when I listen to the opinions and predictions of my friends." (Student 5)

"I like that we are given more time than usual to come up with ideas during the listening part. I started a list of collocations for listening classes. I write the ideas I hear during the discussion part. It helps me remember them easier later. I even use them in my writing tasks!" (Student 2)

b) Activating existing knowledge

Half of the students mentioned that doing research together with their classmates or by themselves enables them to recall if they have any previous knowledge about the topic of the listening exercise. Consequently, they added that they enjoy sharing their knowledge or personal experiences with their classmates and the instructor since it makes them feel more prepared as a student indicated below:

"I especially like it when we look at photos or videos related to the topic. It makes me feel like I already know something about the listening activity. I feel more prepared and if I catch information I already know or predict. When I answer the questions related to the exercise easier, I feel successful." (Student 2)

c) Self-reflection

Three students admit that they used to focus more on what they could not accomplish and as a result, they would feel demotivated. When they were directed to evaluate their performance, they started to perceive their performance more positively. They also mentioned that they would normally focus more on how many questions they answered correctly than how well they understood the text. Self-reflection stage helped them look at their skills in a more positive light as one student explained below:

“I could not help but feel disappointed when I did not understand some parts before, especially in the exams. But when we discussed, how well we did after every task, I started to realize my strengths.” (Student 6)

4.3.1.3. Interview Question Three

What are your thoughts on your listening performance? Have you observed any changes since the commencement of the term?

The third interview question inquired about students’ perceptions of their post-treatment listening performance, specifically whether they believed that they had made progress or not. Two themes emerged: improvement in focus and attitude and no improvement.

a) Improvement in focus and attitude

Half of the students reported that even though they find the treatment process demanding, they can concentrate better and for an extended period while listening to longer audio compared to the beginning of the module. Although most students stated that they are still wary of strong accents, they try not to allow it to impede their listening process instead of completely giving up. They also added that they feel less nervous about listening. The statements of the students are presented below:

“I used to give up listening when I heard a word that I did not understand but during the discussion we had, the others in the class also said they missed the same words, but they were able to answer questions better than me. I realized that I might do better if I keep listening and now, I try to keep my focus on listening for a longer time.” (Student 4)

“I have a really hard time understanding people when they speak in a heavy British accent and when I hear someone speaking that way, I automatically think that I will miss important information. I cannot say I have overcome that fear, but you (the researcher) helped me understand it is normal to feel this way and I try to continue listening now. I force myself to listen more carefully now.” (Student 5)

b) No improvement

Two of the students reported that they still find it difficult to keep themselves concentrated during long listening audios. One student stated that he still tries to translate words to Turkish while listening and there is no change even now. The statements of the students are presented below:

"I do not like doing listening activities and we keep listening to the same audio again and again. If I do not like the topic, I find it hard to continue listening." (Student 8)

"I always translate words into Turkish in my head and when I do not understand a word, I get stuck, and I stop listening. It makes me miss parts of listening. Sometimes I lose focus completely." (Student 3)

4.3.1.4. Interview Question Four

Would you advise implementing this instructional method in the lessons of the next term? Explain the reason if yes, or not.

The final interview question investigated whether students would be in favor of the implementation of metacognitive, process-based instruction in future classes. After analyzing data collected through the interview, two comprehensive themes emerged: positive attitude students had towards the method and drawbacks they encountered during the treatment sessions.

a) Positive attitude

Except for one student, all students expressed that they would prefer the implementation of process-based instruction because it fostered greater interactivity and resulted in improvements not only in their listening performance but also in their attitudes toward listening activities.

"I used to listen more passively during listening activities. I thought the discussion questions in the book were useless and did not pay much attention to them. However, I completely changed my mind after how much predicting and listing vocabulary helped me improve." (Student 5)

"I think process-based instruction was a refreshing change for me. I felt less bored and learned how to listen and focus better." (Student 4)

"I think I became more active during listening activities because this time, we did not just listen and answer the questions. I started taking better notes while listening and this helped me see if I understood the audio correctly." (Student 1)

b) Drawbacks

Although most students said that they benefited from process-based instruction, some of the students emphasized that the procedure requires adjustments. One student commented as follows:

"To be honest, I felt like listening classes became too demanding. Sometimes I felt overwhelmed, and I did not want to do the extra work. I think if we do it less often, I might not find it as challenging." (Student 8)

4.3.2. Field Notes

The researcher recorded the treatment process through field notes in order to acquire more comprehensive data throughout the procedure. Upon examining the field notes, four themes emerged: problem identification, self-fulfillment, improved confidence, and strategy adjustment.

4.3.2.1. Problem Identification

Through self-reflecting, students developed a greater understanding of their strengths and deficiencies throughout the treatment process. The researchers' notes included the problems and challenges students encountered during the treatment process. The problems students identified during the sessions include acknowledgment of personal limits, determining the reasons for confusion or misunderstanding, and detecting the obstacles that impede the development of their performance. Some comments from students noted down in the researcher's field notes are presented below:

"I misunderstood even the words I knew when I listened to British speakers."

"Ms. Ezgi, I think the presenter spoke too fast, I missed half of the things she said."

"There were too many numbers, and I could not catch some of them. I should have focused more on them."

“I translate everything in my mind while listening and lose focus because of this even when I concentrate well at the beginning.”

“If there is a word I do not understand, I get distracted.”

4.3.2.2. Self-fulfillment

The researcher noted that as the treatment proceeded, the experimental group students expressed their satisfaction regarding the changes they observed in their listening performance during the listening activities and exams. The students shared that they considered these changes as a personal achievement. The extracts from some of the feedback students gave during their discussions throughout the treatment process are displayed below:

“The notes I take while listening have become much more logical than before.”

“I started to translate less and less in my mind.”

“Today I understand most of the video and it made me really happy. I will try to focus more next time.”

4.3.2.3. Improved Confidence

The researcher observed that during the early stages of the treatment, students were hesitant to participate in pre-listening discussions or to share their answers even when they were correct. However, they became more active and assertive as the treatment progressed as shown in the extract below:

“I feel that my listening skills have improved even though how much of an audio I understand depends on what I listen to. However, in general, I have become more confident.”

“I do not find listening that challenging anymore.”

4.3.2.4. Strategy Adjustment

In the beginning, when students had difficulties staying focused and remembering key information during listening activities, they employed strategies with the guidance of the researcher. As the treatment progressed, they employed relevant strategies to the

requirements of the listening exercise such as listening for detail, self-monitoring, asking for repetition or clarification, self-reflection, and identifying areas to improve. The extracts from discussions are presented below:

“I should focus more on numbers this time.” [after the first listening]

“I corrected my notes and rearranged the order of the actions.” [during an activity where they order event.]

“Ms. Ezgi, can we listen to the last speaker one more time?”

Student A: “Ms. Ezgi, did the speaker say sensitive?”
Student B: “No, he said sensible.”

Overall, the data collected from the interview and field notes indicated that the implementation of the metacognitive process-based instruction resulted in enhanced language and listening skills of students. Furthermore, the data revealed that students became more confident and active. Consequently, the students supported the further implementation of process-based instruction demonstrating a positive attitude towards the instructional approach.

CHAPTER V

DISCUSSION AND CONLUSION

This chapter will provide a comprehensive analysis of the research questions, including both quantitative and qualitative data. An in-depth analysis will be conducted on the data, focusing on important trends and significant findings. After a thorough examination of the data, the findings and how they link to the current body of research will be discussed. Finally, the chapter will be concluded with limitations and recommendations for future research in the field.

5.1. Discussion of Findings

This research aimed to examine the effect of a metacognitive, process-based instruction on the metacognitive awareness and listening comprehension skills of L2 learners. Furthermore, the study sought to investigate the students' attitude to process-based instruction in listening lessons. The study followed a similar procedure to Vandergrift and Tafaghodtari's (2010) study. Quantitative data was acquired using MALQ and a listening test, while the qualitative data via a focus group interview and the researcher's field notes. A discussion of the data collected from the research will be conducted in accordance with the respective research questions.

5.1.1. Research Question 1

The aim of the first research question was to unveil the impact of a metacognitive process-based instruction on students' listening comprehension skills. The study followed Vandergrift's (2004) pedagogical cycle, thus the researcher aimed to improve students' metacognitive strategy use in listening and assist them in regulating their own listening processes. The experimental group students demonstrated a statistically significant improvement in their listening performance as evidenced by the findings from the pre- and post-listening comprehension tests. In accordance with the research published by Moradian and Baharvand (2017), Mahdavi and Miri (2019), Maftoon and Alamdari (2020), Echalico-Bermillo and Aradilla (2022), Robillos and Bustos (2022),

following a process-based instructional model in listening classes succeeded in improving listening comprehension skills of the participants.

The improvement detected in the performance of experimental group students might be the outcome of the verification stages followed during the study which enabled students to prepare themselves for the listening process by stimulating their existing knowledge about the topic while incorporating the target language in discussions and activities as stated in the study of Maftoon and Alamdari (2020). Chen (2019) asserts that discussing new vocabulary prior to listening facilitates students' understanding of the listening content which corresponds to this finding.

One reason contributing to the enhancement of students' listening performance might be monitoring and taking control of their own listening process during the verification stages. Students may feel more confident in their listening skills by regulating their listening process as Goh and Taib (2006) revealed in their study. Through monitoring and deciding what to direct their attention to while listening, students may enhance self-assurance and lower their anxiety levels. As a result, they may maintain their concentration longer even when they encounter challenging content in accordance with the findings of Rezai et al. (2023). The findings from the qualitative data of this study also demonstrated that students started to feel more self-assured about their listening skills as they are familiar with the verification stages. Data also indicate that students became more confident in their skills through self-reflection which enabled them to have a more positive outlook on their skills.

Another underlying reason could be the continuous process of notetaking, peer-checking notes, making corrections and additions during listening activities until they reach a satisfying level of understanding about the content. This finding aligns with the study of Chen (2019) indicating that students were able to recognize their problems and shortcomings in their strategies during the listening tasks and they became more motivated to use more advanced strategies to overcome the challenges they encountered while they completed listening activities.

On the contrary, the findings of the current research contradict the previous research by Wang (2016) and Liu (2020). In the mentioned studies, the researchers found no statistically significant disparity in listening scores of the experimental groups and control groups. The findings in the studies of Wang (2016) and Liu (2020) revealed

that even though there was a substantial enhancement between pre- and post-tests of all participants, the listening performances of the students in both groups indicated no statistically meaningful disparity.

To conclude, several studies recognized the benefits of metacognitive PBI on students' listening comprehension performance. Nevertheless, more research is essential to explore its benefits on different types of learners, long-term treatments.

5.1.2. Research Question 2

The purpose of the second research question was to find out the effect of metacognitive process-based instruction on improving students' metacognitive awareness in listening classes. In order to assess students' awareness pre-and post-MALQ was implemented. The findings demonstrated that there was an improvement in the metacognitive awareness of both experimental and control group students. Nevertheless, the experimental group received better results compared to the control group with a statistically significant disparity in the post-MALQ scores. The research findings are consistent with the studies of Vandergrift and Tafaghodtari (2010), Goh and Hu (2014), Rahimirad and Shams (2014), Moradian and Baharvand (2017), Chen (2019), Maftoon and Alamdari (2020), Robillos and Bustos (2022) which demonstrated a positive trend in improving students' metacognitive awareness. On the other hand, in the studies conducted by Bozorgian (2014) and Liu (2020), the participants did not demonstrate a significant improvement in their metacognitive awareness statistically.

The subscales of MALQ were also investigated to find out whether there was a statistically significant difference between groups in terms of each scale. As the first subscale that was investigated, directed attention aimed to explore the strategies students use to focus and remain engaged in listening activities (Vandergrift et al., (2006). The results of the current research demonstrated that directed attention was one of the scales that showed a statistically significant improvement. Similarly, Vandergrift and Tafaghodtari (2010), Goh and Hu (2014), Maftoon and Alamdari (2020) observed an improvement in directed attention in the studies they carried out. The reason why students showed improvement in directed attention subscale could be the elevated self-awareness and deliberate changes they made in their listening habits, such as concentrating on specific details and self-assessing their performance. Additionally, increased self-confidence and contentment with their individual

accomplishments may have strengthened their drive and capacity to sustain focus during listening activities. Improvement in note-taking skills could also have been helpful in maintaining their focus and attentiveness during the exercises. On the other hand, the participants of the study conducted by Robillos and Bustos (2022) demonstrated no improvement in the same subscale.

The other subscale that indicated a statistically significant difference was person knowledge which refers to the characteristics of the listeners and their awareness of their own skill sets about listening (Vandergrift et al., 2006). This finding aligns with the study of Goh and Hu (2014). As instructional practice promotes self-discovery and reflection on one's own skills, the awareness and confidence of the students also increase, which might be one of the reasons leading to this result. However, Rahimirad and Shams (2014) reported that person knowledge was the least developed subscale and the participants specified that they did not employ related strategies due to insufficient instruction or because they found them irrelevant.

In conclusion, the findings of most studies above indicate that students improved their metacognitive awareness significantly, whereas in subscale level only directed attention and person knowledge indicated a significant improvement. However, the lack of progress and the inconsistencies observed in the findings remain to be questioned and it highlights the literature is still in need of further research.

5.1.3. Research Question 3

The final research question investigated the attitude of experimental group students to process-based listening lessons. To assess students' perceptions, the researcher conducted a focus group interview with the students and the reactions of students were recorded through the researcher's reflective field notes. The findings of the focus group interview unveiled that experimental group students considered process-based listening instruction as relatively successful.

First of all, the majority of the students stated that recognizing and retaining vocabulary became easier for them thanks to the activities in the prediction/planning stage of the instruction. In line with the finding of Chen (2019) students could successfully infer the meaning of keywords and draw logical conclusions compared to their past performance during listening activities.

Secondly, most students expressed their contentment in gaining more confidence in their skills, realizing their strengths, and feeling less nervous during the listening process. This was attributed to their increased level of preparedness as they engaged in pre-listening activities, comparing and discussing notes with their peers in between verification stages. This sense of relief was further reinforced as they realized that others also encountered similar difficulties. As Maftoon and Alamdari (2020) also reported learners exhibited increased self-confidence and less anxiety.

Lastly, collaborative activities with their peers or instructor-led discussions and activities were some of the more beneficial parts of the process-based instruction according to the reports of the students. Mahdavi and Miri (2019) affirmed that engaging in group work and discussions may have provided the students with insights into the listening processes of others to which they might relate. Furthermore, the findings from Moradian and Baharvand (2017) indicated that EFL learners may have gained benefits from the collaborative activities they participated in throughout the study.

Finally, when the students were inquired about their willingness to continue or recommend the adoption of process-based instruction in future listening lessons, they expressed a positive response. They proclaimed that process-based lessons helped them improve greatly in comparison to traditional lessons and expressed their desire to continue to implement the stages of the instruction even with different instructors. Nevertheless, some students mentioned that the repetitiveness of the stages and activities might become tiresome and monotonous over time if not diversified.

5.2. Limitations and Recommendations

In this study, the researcher encountered several limitations. The primary limitations were the sample size and the setting of the research. In total 44 foundation university students participated in this research assigned into an experimental group and a control group. The relatively small number of participants restricts the depth of data collected for the research. Utilizing a larger number of participants in the research from different institutions may allow researchers to collect more comprehensive and reliable data. Moreover, increasing and diversifying the sample size would increase the generalizability of the results to a wider number of learners. Future researchers may

benefit from enlisting a larger and more varied group of participants to strengthen the validity and reliability of the research.

The secondary limitation was the duration of the treatment process. The treatment of the experimental group consisted of 5 total weeks with 10 different sessions on process-based instruction due to the restrictions imposed by the curriculum. A lengthier period of treatment may have produced more significant and intricate results, enabling a more comprehensive examination of the impact of the treatment. With the extension of the treatment process, the students would have the opportunity to benefit more from the process-based instruction, which could lead to more meaningful observations about its effectiveness. Future researchers may explore the impact of metacognitive PBI by extending the duration of treatment to get a more thorough examination.

One limitation of the study would be the demanding process of the verification stages in the metacognitive cycle. Experimental group students expressed their frustration with the detailed steps they followed in each session and added that it sometimes negatively affected their performance during the classes. To overcome this limitation, researchers may focus on a specific part of the verification stages or particular metacognitive strategies in different sessions to make it more applicable in mainstream classes.

Another limitation was the language competence of the sample group. The students in both experimental and control groups were in upper-intermediate level. According to Vandergrift and Tafaghodtari (2010), less skilled learners tend to benefit the greatest from metacognitive PBI. Although the current study indicated that the metacognitive awareness and listening comprehension skills of students in the experimental group were positively affected, with a lower-level group of students, it may present more significant results. Future researchers may benefit from conducting the study with less proficient students to receive more reliable and significant results.

The final limitation of the research is the existence of several independent variables, which complicates connecting the improvement observed in students' scores entirely to the metacognitive strategy training and PBI. As there are only two study groups with numerous varying facets, the changes in the students' performance might also be attributed to different variables, such as motivation, existing knowledge, or practice

outside the classroom. Future researchers might consider increasing the number of groups taking part in the study as well as concentrating on a limited number of variables to dissociate the various factors that might influence students' performance to enhance the accuracy of findings.

5.3. Conclusion

This study aimed to unveil the effect of process-based listening instruction on students' metacognitive awareness and listening comprehension skills. Following Vandergrift's (2004) pedagogical cycle, students actively participated in meticulously structured procedures to improve their comprehension of listening content and regulate their cognitive processes. The development observed in the findings highlights the effectiveness of metacognitive PBI in boosting students' awareness and confidence in their skills. The stages of instruction also empowered students to overcome the challenges and anxiety they experience during the listening process. Improving students' metacognitive awareness in planning, evaluation, and problem-solving stages emphasizes the benefits of process-based listening instruction providing students with fundamental instruments to successfully acquire and implement relevant strategies to their learning process.

The findings of this study indicates that instructors may enhance their teaching practice through the use of a metacognitive, process-based instruction. With the implementation of metacognitive strategies into their listening classes, they may deviate from the product-based approaches in teaching and shape their classes to be more effective. The adaptation of this approach may have the potential to facilitate students' learning and improve their listening skills and promote self-regulated learning.

To summarize, the use of a metacognitive, process-based listening training not only enhances students' ability to comprehend oral texts but also equips them with important metacognitive skills. These findings may be used by ELT teachers to develop more immersive and efficient listening lessons.

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APPENDICES

APPENDIX A

Metacognitive Awareness Listening Questionnaire

Type scale	Strategy or belief/perception	Strongly	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
Planning-evaluation	1. Before I start to listen, I have a plan in my head for how I am going to listen.	1	2	3	4	5	6
Directed attention	2. I focus harder on the text when I have trouble understanding.	1	2	3	4	5	6
Person knowledge	3. I find that listening in English is more difficult than reading, speaking, or writing in English.	1	2	3	4	5	6
Mental translation	4. I translate in my head as I listen.	1	2	3	4	5	6
Problem-solving	5. I use the words I understand to guess the meaning of the words I don't understand.	1	2	3	4	5	6
Directed attention	6. When my mind wanders, I recover my concentration right away.	1	2	3	4	5	6
Problem-solving	7. As I listen, I compare what I understand with what I know about the topic.	1	2	3	4	5	6
Person knowledge	8. I feel that listening comprehension in English is a challenge for me.	1	2	3	4	5	6
Problem-solving	9. I use my experience and knowledge to help me understand.	1	2	3	4	5	6
Planning/evaluation	10. Before listening, I think of similar texts that I may have listened to.	1	2	3	4	5	6
Mental translation	11. I translate key words as I listen.	1	2	3	4	5	6
Directed attention	12. I try to get back on track when I lose concentration.	1	2	3	4	5	6
Problem-solving	13. As I listen, I quickly adjust my interpretation if I realize that it is not correct.	1	2	3	4	5	6
Planning/evaluation	14. After listening, I think back to how I listened, and about what I might do differently next time.	1	2	3	4	5	6
Person knowledge	15. I don't feel nervous when I listen to English.	1	2	3	4	5	6
Directed attention	16. When I have difficulty understanding what I hear, I give up and stop listening.	1	2	3	4	5	6
Problem-solving	17. I use the general idea of the text to help me guess the meaning of the words that I don't understand	1	2	3	4	5	6
Mental translation	18. I translate word by word, as I listen.	1	2	3	4	5	6
Problem-solving	19. When I guess the meaning of a word, I think back to everything else that I have heard, to see if my guess makes sense.	1	2	3	4	5	6
Planning/evaluation	20. As I listen, I periodically ask myself if I am satisfied with my level of comprehension.	1	2	3	4	5	6
Planning/evaluation	21. I have a goal in mind as I listen.	1	2	3	4	5	6

APPENDIX B

Listening Test

PART A) Retirement Party

Listen to the audio about a *Retirement party* and answer the questions.

1. Why does the man go to see the professor?

A. To hand in a late assignment
B. To find out about jobs in the department
C. To discuss Dean Adams' current research
D. To volunteer to help organize an event

2. How did the man learn about Dean Adams' retirement?

A. He read about it in an e-mail message.
B. It was posted on a bulletin board.
C. He heard other students discussing it.
D. Dean Adams announced it in her class.

3. Why does the professor refuse the man's offer to help with a party? Choose 2 answers.

A. Two people are already working on it.
B. She prefers that he spend his time on another project.
C. The party does not require much preparation.
D. Dean Adams is not permanently leaving the department.

4. Why does the professor talk about speciation?

A. To describe the main focus of the work she needs help with
B. To tell the man about a new research area in ethnology
C. To explain what Dean Adams chose to work on in Indonesia
D. To demonstrate how varied Dean Adams' research has been

5. Part of the conversation is repeated below. Read it and answer the question.

Professor: There's not much glory in it, but we're looking for someone with some knowledge of anthropology who can enter the articles…I hesitate to mention it, but I don't suppose this is something you would...

Why does the professor say this:

Professor: I hesitate to mention it, but I don't suppose this is something you would...

A. To express doubt about the man's qualifications for the project
B. To ask the man if he would be willing to work on the project
C. To ask the man to recommend someone for the project
D. To apologize for not being able to offer the project to the man

PART B) Library Tour

Listen to the audio about a *Library Tour* and answer the questions.

1. Why does the student come to the library?

A. To learn about the library's resources
B. To ask about interlibrary loans
C. To attend the new student orientation
D. To start work on a research project

2. Why does the librarian point out the history section to the student?

A. She wants to point out the closest area containing copy machines.
B. She assumes that he will need to do research there.
C. The student is looking for a book he used at his last school.
D. Students sometimes mistakenly assume that the section contains literature books.

3. What does the student imply about the interlibrary loan service at his last school?

A. He never used it.
B. He came to appreciate it.
C. It was inconvenient.
D. It was expensive.

4. What does the student need to do before he can use any rare books? Choose 2 answers.

A. Purchase a card
B. Obtain permission
C. Put on gloves
D. Try interlibrary loan first

5. Part of the conversation is repeated below. Read it and answer the question.

Student: I'll have all the resources, all the books and information I need right here in one place!

Librarian: Yup, that's the idea!

Which sentence best expresses what the librarian means when she says this:

Librarian: Yup, that's the idea!

A. I wish this were true.
B. That is not a very good idea.
C. Thanks for your suggestion.
D. That is what we intended.

PART C) Women Artists of Old Paris

Listen to the audio about the *Woman Artists of Old Paris* and answer the questions.

1. What is the lecture mainly about?

A. Why the Salon exhibitions became popular among women artists in Paris
B. Why French society did not approve of art schools for women
C. How opportunities for women artists in Paris improved
D. How women artists in Paris cooperated with one another

2. What point does the professor make about Julian when he mentions that Julian's art school offered some classes only for women?

A. Julian's school was the first art school in Paris to offer women-only classes.
B. Julian wanted to encourage the distinctive style of women in Paris.
C. Julian viewed himself as a social reformer.
D. Julian possessed outstanding business skills.

3. What does the professor emphasize as one benefit of competition in women's classes?

A. Women gained more confidence in their artistic abilities.
B. Women became instructors in private art studios.
C. Women were able to sell their paintings for large amounts of money.
D. Women created new styles of painting.

4. According to the professor, what were two ways that the situation of women artists had changed by the end of the nineteenth century in Paris? Choose 2 answers.

A. Women and men took art classes together.
B. Women artists played a greater role in the Salon exhibitions.
C. More schools were established by women artists.
D. Fewer women artists were traveling to Paris.

5. What does the professor imply about Bashkirtseff's painting In the Studio?

A. It was one of many paintings that depicted a women's studio.
B. It did not bring Bashkirtseff recognition for her artistic ability.
C. It was criticized for an unrealistic depiction of women artists.
D. It was beneficial for both Bashkirtseff and the school where she studied.

6. Part of the lecture is repeated below. Read it and answer the question.

Student: It had a lot of art schools and artists who taught painting. There were … our book mentions classes for women artists. And, uh, it was a good place to go to study art.

Professor: If you wanted to become an artist, Paris was not a good place to go—Paris was the place to go.

What does the professor mean when he says this:

Professor: If you wanted to become an artist, Paris was not a good place to go—Paris was the place to go.

A. Paris was a popular place to visit but not the best place to study art.
B. Paris was the most important place for an artist to study and work.
C. Living in Paris was difficult for women artists from other countries.
D. Studying in Paris was beneficial for some artists, but not for others.

PART D) Well-made Play

Listen to the audio about a *Well-Made Play* and answer the questions.

1. What is the lecture mainly about?

A. The importance of creating believable characters in plays
B. The influence of the literature of "realism" on French theater
C. A successful standard formula for writing plays
D. A famous example of a well-made play

2. According to the professor, why did some playwrights write the end of a play before the beginning?

A. To produce multiple scripts as quickly as possible
B. To prevent the audience from using logic to guess the ending
C. To avoid writing endings similar to those of other plays
D. To ensure that the plot would develop in a logical manner

3. Why does the professor mention a conversation between two servants?

A. To give examples of typical characters in a well-made play
B. To show how background information might be revealed in a well-made play
C. To explain why Romeo and Juliet can be considered a well-made play
D. To explain how playwrights develop the obligatory scene of a well-made play

4. According to the professor, what dramatic elements are typically included in a well-made play to help move the plot forward? Choose 2 answers.

A. A series of major changes in the hero's apparent chances of success
B. The introduction of new characters midway through the play
C. Information known to the audience but not to the main characters
D. The movement of major characters from one setting to another

5. What does the professor imply about the obligatory scene and the denouement?

A. The difference between them might be unclear to some people.
B. Both are useful techniques for developing realistic characters.
C. The denouement usually occurs within the obligatory scene.
D. The obligatory scene is usually less exciting than the denouement.

6. Part of the lecture is repeated below. Read it and answer the question.

Professor: This is the inciting incident. It sets off the plot of the play.

Why does the professor say this:

Professor: It sets off the plot of the play.

A. To help students understand the meaning of a new term
B. To indicate that his point is not related to the main topic of the lecture
C. To emphasize one element of a play over all others
D. To begin to summarize the main points of the lecture

PART E) Moonstone

Listen to the audio about a *Moonstone* and answer the questions.

1. What is the lecture mainly about?

A. A comparison of two types of detective novels
B. Ways in which detective novels have changed over time
C. The Moonstone as a model for later detective novels
D. Flaws that can be found in the plot of The Moonstone

2. In what way is The Moonstone different from earlier works featuring a detective?

A. In its unusual ending
B. In its unique characters
C. In its focus on a serious crime
D. In its greater length

3. According to the professor, what do roses in *The Moonstone* represent?

A. A key clue that leads to the solving of the mystery
B. A relief and comfort to the detective
C. Romance between the main characters
D. Brilliant ideas that occur to the detective

4. Why does the professor mention a smeared bit of paint in a doorway in *The Moonstone*?

A. To describe a mistake that Sergeant Cuff has made
B. To show how realistically the author describes the crime scene
C. To exemplify a pattern repeated in many other detective stories
D. To illustrate the superior techniques used by the police

5. What can be inferred about the professor when he says this:

Professor: Uh, it's hard at this juncture to read this novel and realize that no one had ever that before, because it all seems so strikingly familiar.

A. He is impressed by the novel's originality.
B. He is concerned that students may find the novel difficult to read.
C. He is bored by the novel's descriptions of ordinary events.
D. He is eager to write a book about a less familiar subject.

PART F) Glaciers

Listen to the audio about *Glaciers* and answer the questions.

1. What is the lecture mainly about?

A. Explanations of how glaciers move
B. Landscape changes caused by glacial movement
C. Climate changes that influence glacial movement
D. Causes of glacial formation

2. The professor discusses the process of basal slip. What is the first step?

A. Friction between the glacier and bedrock is reduced.
B. A liquid layer forms at the base of the glacier.
C. The glacier begins to slide.
D. Pressure is increased on the ice.

3. What factors are involved in the amount of deformation a glacier undergoes? Choose 2 answers.

A. Thickness of glacial ice
B. The hardness of glacial ice
C. The amount of water beneath the glacial ice
D. The temperature of the glacial ice

4. What does the professor say about the speed of glaciers?

A. It affects the amount of glacial ice that forms.
B. It can be fast enough for movement to be noticeable.
C. It is reduced by cracks in the ice.
D. It is unusually high in colder regions.

5. What is the professor explaining when he says this:

Professor: But ice is also plastic—it can change shape without breaking. If you leave, for example, a bar of ice supported only at one end, the end—the unsupported end—will deform under its own weight…

A. A characteristic of ice that is related to glacial movement
B. How scientists first discovered that glaciers could move
C. That factors like temperature can affect the strength of ice
D. Why deformation is the most common type of glacial movement

6. Part of the lecture is repeated below. Read it and answer the question.

Professor: Now I'd like to touch briefly on extension and compression. Your textbook includes these as types—as a particular type—of glacial movement, but you'll see that there are as many textbooks that omit it as a type of movement as include it. And I might not include it right now if it weren't in your textbook.

What does the professor imply about compression and extension?

A. He believes it accounts for a great deal of glacial movement.
B. He thinks it is a slower type of glacial movement than basal slip.
C. He is not convinced that it is a type of glacial movement.
D. He does not agree that it causes fissure in glaciers.

APPENDIX C

Sample Lesson Plan

<table>
<tr><td colspan="2">Students:</td><td colspan="3">23</td></tr>
<tr><td colspan="2" rowspan="2">Main Aim(s) & Objective(s):</td><td colspan="3">By the end of the lesson, the students will be able to … / will have …:</td></tr>
<tr><td colspan="3">1. Students will be able to understand key vocabulary for endangered species.
2. Students will be able to outline a presentation.
3. Students will be able to recognize the signposting language.</td></tr>
<tr><td colspan="2">Materials Needed:</td><td colspan="3">1. Coursebook
2. Note-taking handouts</td></tr>
<tr><td colspan="5">LESSON PROCEDURE</td></tr>
<tr><td colspan="2">Duration for Learning Activities</td><td>Process-based Instruction Stages</td><td>Procedure</td><td>Interaction</td></tr>
<tr><td rowspan="2">Lesson 1</td><td>20 mins</td><td>Planning/Predicting</td><td>T shares the topic and starts the brainstorming session.
Sts discuss visuals and create a word cloud in pairs.
Sts makes predictions about the listening audio they will listen.
Sts complete the first part of a performance checklist for listening before the first listen.</td><td>T-Ss
Ss-Ss
Individual</td></tr>
<tr><td>25 mins</td><td>First verification</td><td>Sts listen to the audio and take notes while checking their predictions.</td><td>Individual
Ss-Ss</td></tr>
</table>

			Sts check and compare notes with their partner. T guides students to decide on a new strategy for the second listen. T revises and reminds sts of signposting language.	T-Ss
Lesson 2	20 mins	Second verification	Sts listen for the second time checking notes and making additions/corrections. Sts complete the exercises in their books using their notes. T asks concept-checking questions to ensure understanding	T-Ss Ss-Ss
	15 mins	Final verification	Sts evaluate their listening performance. Sts identify the problems they have faced during listening.	Individual T-Ss
	10 mins	Reflection	Sts complete the second part of a performance checklist for listening to think deeper on their experience. Sts set goals for the next listening lesson to improve their performance.	Individual T-Ss

APPENDIX D:

Focus Group Interview Questions

This interview aims to explore students' attitudes toward process-based instruction.

1. What are your thoughts on learning through process-based instruction?
2. Which part of the listening strategy activities did you find beneficial? Why?
3. What are your thoughts on your listening performance? Have you observed any changes since the commencement of the term?
4. Would you advise implementing this instructional method in the lessons next term? Explain the reason if yes or not.

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BA: Marmara University,

Translation & Interpreting (English), 2011, İstanbul

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