



Research Article

Iranian EFL Learners' Perceptions of Guided Critical Reflection Tasks for Listening Comprehension and Associated Gains: A Self-Determination Theory Perspective

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Abstract

This study investigated Iranian EFL learners' perceptions of guided critical reflection tasks based on the Review, Connect, Extend, Apply (RCEA) framework for developing listening comprehension. Using Self-Determination Theory (SDT) as the theoretical lens, the study also examined the relationship between these perceptions and long-term retention of listening gains. Forty intermediate EFL learners completed a 12-week intervention involving weekly RCEA-based listening tasks. Two weeks after the delayed posttest, participants completed a Learning Experience Questionnaire (LEQ) measuring perceived usefulness, engagement, and difficulty, and ten participated in semi-structured interviews. Quantitative results indicated that learners perceived the tasks as highly useful ($M = 4.12$) and engaging ($M = 3.94$), with moderate difficulty ($M = 3.45$). Perceived usefulness ($r = 0.52$) and engagement ($r = 0.48$) were positively correlated with retention gain, while perceived difficulty showed a weak negative correlation ($r = -0.31$). Qualitative findings revealed that the 'Connect' and 'Apply' stages were particularly valued for creating personal relevance and deep processing, whereas the 'Extend' stage was the most challenging. Learners reported that the 'Apply' stage created durable memory traces, while superficial engagement due to time pressure hindered retention. The findings support the integration of the RCEA framework into listening instruction and confirm the applicability of SDT to critical reflection task design.

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Keywords: Guided critical reflection; Listening comprehension; RCEA framework; Self-determination theory

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1. Introduction

Listening comprehension is widely recognized as the most frequently used language skill in communication and academic settings, serving as the primary channel for

comprehensible input in second language acquisition (Rost, 2002; Vandergrift, 2007). As a receptive skill, listening is fundamental to the development of speaking, reading, and writing, providing the linguistic data from which learners infer patterns, rules, and vocabulary

(Gilakjani & Sabouri, 2016; Vandergrift & Goh, 2012). Individuals spend approximately 40–50% of their communication time listening, underscoring its centrality to successful interaction (Newton & Nation, 2009; Tunagür et al., 2021). Despite this critical role, listening has historically been treated as the “Cinderella skill” in foreign language pedagogy, neglected, tested rather than taught, and overshadowed by grammar, reading, and speaking (Mendelsohn, 2006; Nunan, 2002). This neglect is particularly pronounced in EFL contexts such as Iran, where learners exhibit significant difficulties due to unfamiliar vocabulary, rapid speech rate, unfamiliar accents, and lack of exposure to authentic input (Hamouda, 2013; Namaziandost et al., 2019; Nowrouzi et al., 2015). Traditional comprehension-based instruction, listening, answering multiple-choice questions, and checking answers, offers minimal guidance on the listening process, leading to learner anxiety, passive listening habits, and lack of confidence (Field, 2008; Graham, 2006; Soodmand Afshar & Hamzavi, 2014; Vandergrift, 2004).

In response, recent scholarship has advocated for a process-oriented approach empowering learners as active agents of their own comprehension (Goh, 2008; Vandergrift & Goh, 2012). The integration of critical reflection into listening tasks moves learners beyond recall toward deeper analysis, synthesis, and evaluation of aural content (Brookfield, 1995; Dewey, 1933; Fook, 2002), encouraging them to question speaker intent, identify biases, connect content to personal experience, and evaluate arguments (Khodjakulova, 2025; Numrich, 2009). The “Review, Connect, Extend, Apply” (RCEA) framework (James, 2015) provides a structured model for guiding learners through critical reflection, shown to scaffold higher-order thinking and enhance metacognition (James et al., 2023; Rivas et al., 2022).

However, the application of guided critical reflection tasks to listening comprehension, particularly investigation of learners’ perceptions, remains underexplored. Self-Determination Theory (SDT) offers a robust framework for understanding learner engagement (Deci & Ryan, 2000; Ryan & Deci, 2000a), positing that satisfaction of three innate psychological needs, namely autonomy (volitional action), competence (effectiveness), and relatedness (belonging), is essential for intrinsic motivation and well-being (Deci & Ryan, 2000b; Niemiec & Ryan, 2009). Educational contexts supporting these needs are linked to greater persistence, deeper processing, and improved academic outcomes in language learning (Chen & Jang, 2010; Gagné & Deci, 2005), while need frustration leads to amotivation and disengagement (Pelikan et al., 2021; Yamin & Muzaffar, 2021). Thus, this study sought to understand how Iranian EFL learners perceive the usefulness, engagement, and difficulty of RCEA-based critical reflection tasks, and to examine the

relationship between these perceptions and both immediate listening gains and long-term retention, thereby providing evidence-based guidance for designing listening instruction that is both effective and psychologically empowering.

2. Literature Review

2.1. Theoretical Background: SDT and the RCEA Framework

The theoretical foundation of this study rests on the intersection of SDT and the principles of guided critical reflection, as embodied in the RCEA framework. SDT, developed by Edward Deci and Richard Ryan, has become one of the most influential theories of human motivation in educational psychology (Deci & Ryan, 1985; Ryan & Deci, 2000a). At its core, SDT distinguishes between intrinsic motivation (engaging in an activity for its inherent satisfaction) and extrinsic motivation (engaging in an activity for a separable outcome), but it is the concept of *basic psychological needs* that provides the most powerful explanatory mechanism for understanding engagement and well-being (Deci & Ryan, 2000b). These three needs are:

Autonomy: The universal urge to be causal agents of one’s own life and to act in harmony with one’s integrated self (Ryan & Deci, 2002). In a classroom context, autonomy is supported when learners are offered choices, provided with a meaningful rationale for tasks, and given opportunities to self-initiate learning activities (Reeve et al., 2014). Controlling teaching practices, such as the use of threats, deadlines without rationale, or directive language, have been shown to thwart autonomy and diminish intrinsic motivation (Reeve, 2002; Reeve & Jang, 2006).

Competence: The need to experience mastery and effectiveness in one’s environment (Deci & Ryan, 2000a). This need is satisfied when learners are presented with optimally challenging tasks, receive positive and constructive feedback, and experience a sense of growth and progress (Kusurkar, Croiset, & Ten Cate, 2011). When tasks are either too easy or impossibly difficult without support, learners’ sense of competence is undermined, leading to helplessness and disengagement (Moss, 2018).

Relatedness: The need to feel connected, cared for, and a sense of belonging with significant others, including peers and teachers (Ryan & Deci, 2000b). In educational settings, relatedness is fostered through collaborative learning activities, respectful dialogue, and a classroom climate characterized by warmth and mutual respect (Kokkonen et al., 2020; Niemiec & Ryan, 2009). A lack of relatedness is a primary factor in student alienation and dropout, a challenge that became particularly acute during

the prolonged periods of online learning necessitated by the COVID-19 pandemic (Mthalande et al., 2021).

A substantial body of research has confirmed that when teachers and instructional tasks support these three needs, students demonstrate greater engagement, higher-quality learning, and improved academic performance across various domains (Sheldon, Williams, & Joiner, 2003; Sun & Chen, 2010). Critically for language learning, SDT has been used to explain the success of technology-enhanced and collaborative learning environments, showing that autonomy-supportive contexts foster greater willingness to communicate and increased L2 use (Radel et al., 2010).

The RCEA framework provides a structured pedagogical tool that has the potential to systematically support these three psychological needs. Originally designed by James (2015) to encourage deep learning in adult education, the RCEA framework consists of four sequential stages, each demanding a progressively higher level of cognitive and reflective engagement (James et al., 2023). The stages are:

Review: The learner identifies, describes, and explains the main ideas and key facts from the input material. This stage supports *competence* by breaking down a complex listening text into manageable elements, allowing learners to first establish a foundational understanding before moving to more abstract tasks (James, 2015).

Connect: The learner links the new information to their prior knowledge, personal experiences, or previous learning. This stage directly supports *relatedness* by inviting learners to bring their own lives and identities into the learning process, creating a personal meaning that transcends the abstract content of the listening passage (Beaumont, 2010).

Extend: The learner engages in further inquiry, research, or deep reflection to expand upon a concept or idea from the text, often moving beyond the information given. This stage supports autonomy by encouraging self-directed learning and giving learners some agency over the direction of their exploration (Nguyen, 2016).

Apply: The learner considers how the newly constructed understanding can be used in real-world contexts, personal situations, or future academic work. This final stage consolidates *competence* by providing a practical demonstration of mastery and reinforces the intrinsic value of the learning activity (Gardner, 2003).

When implemented consistently, the RCEA framework acts as a metacognitive scaffold, guiding learners through a process of “unsettling assumptions” and reconstructing knowledge in a way that is personally relevant and empowering (Fook & Gardner, 2007). By embedding these critical reflection tasks within a listening curriculum, the teacher can create a learning environment that is not only cognitively engaging but also psychologically need-satisfying, thereby leveraging the

motivational power of SDT to improve listening comprehension.

2.2. Previous Related Studies

The empirical literature provides converging evidence for the effectiveness of both metacognitive/critical reflection instruction and SDT-based interventions on listening outcomes, albeit largely in separate research streams. First, a significant number of studies have demonstrated the positive impact of metacognitive and reflective instruction on listening comprehension. Vandergrift and Tafaghodtari (2010) conducted a seminal study in which a group of French language learners who received metacognitive instruction (using a pedagogical cycle of prediction, monitoring, and evaluation) significantly outperformed a control group on a listening test. The greatest gains were observed among less-skilled listeners, suggesting that explicit instruction in the listening process is particularly beneficial for struggling learners. Similarly, Bozorgian (2014) found that metacognitive instruction led to considerable variance in the listening performance of Iranian EFL learners, and that the model of instruction (e.g., dialogic interaction versus linear strategy instruction) could differentially affect outcomes. Goh and Taib (2006) demonstrated that young learners who participated in metacognitive instruction reported increased confidence and a deeper awareness of L2 listening, which was corroborated by improved test scores. In the specific domain of critical reflection, Zare et al. (2013) found a significant positive relationship between critical thinking skills and listening comprehension among Iranian EFL learners, suggesting that the ability to analyze and reflect is a mediating role in interpreting speaker’s speech. Furthermore, Soodmand Afshar and Hamzavi (2014) reported a significant positive association between reflective thinking and listening comprehension, and a significant negative association between listening anxiety and listening comprehension, highlighting the affective dimension of reflective practice.

Second, studies grounded in SDT have consistently shown that autonomy-supportive teaching and task design lead to better language learning outcomes. For instance, Reeve and Jang (2006) found that autonomy-supportive teaching behaviors (e.g., listening to students, providing rationales, giving non-controlling feedback) directly increased student engagement. In the context of L2 learning, Wild et al. (1992) showed that students who believed their instructor was intrinsically motivated (a form of perceived autonomy support) reported greater enjoyment and pursued further learning on their own. Pelikan et al. (2021) found that during the COVID-19 pandemic, perceived autonomy and perceived competence were more important than social relatedness for sustaining intrinsic motivation in distance learning,

while [Radel et al. \(2010\)](#) demonstrated a social contagion of motivation from teacher to student, mediated by autonomy support. These studies collectively affirm that when learners feel their psychological needs are supported, their effort, persistence, and achievement in L2 listening and other skills are enhanced.

Despite robust findings that metacognitive instruction improves L2 listening (e.g., [Bozorgian, 2014](#); [Vandergrift & Tafaghodtari, 2010](#)) and that SDT-based environments foster engagement (e.g., [Ahn, 2014](#)), a significant gap exists at their intersection: no empirical study has explicitly integrated a structured guided critical reflection task (e.g., the RCEA framework) into listening instruction to investigate learners' need-based perceptions through an SDT lens, as most critical reflection research has focused on reading, writing, or general skills (e.g., [Afifuddin, 2017](#); [Karadeniz, 2014](#); [Nguyen, 2016](#)). Furthermore, while technology-based listening studies (e.g., [Altug & Onal, 2022](#); [Merzifonluoglu, 2023](#)) have measured effectiveness via test scores, they have not analyzed the psychological mechanisms (autonomy, competence, relatedness) explaining task effectiveness, nor examined the relationship between perceptions and long-term retention. Thus, in the Iranian EFL context where listening remains a noted weakness ([Namaziandost et al., 2019](#); [Nowrouzi et al., 2015](#)), this study addresses the lack of theoretically grounded understanding of how learners' need-based perceptions of guided critical reflection tasks relate to both immediate and durable listening comprehension development. Consequently, this study was guided by the following research questions:

RQ1: What are the Iranian EFL learners' perceptions of the guided critical reflection tasks (RCEA framework) in terms of usefulness, engagement, and difficulty for developing listening comprehension?

RQ2: How do the Iranian EFL learners' perceptions relate to their listening comprehension gains and the long-term retention of those gains?

This study is significant for its theoretical extension of the RCEA framework to listening comprehension through the lens of SDT, its mixed-methods design capturing perceptions and learning outcomes, and its practical guidance for creating psychologically empowering listening tasks for Iranian EFL teachers and curriculum designers.

3. Methodology

3.1. Research Design

This study employed a descriptive, cross-sectional survey design with a qualitative phenomenological component. The primary purpose was to explore Iranian EFL learners' perceptions of guided critical reflection tasks (the RCEA framework) for listening comprehension, using SDT as

the interpretive lens. A quantitative approach was used to measure the participants' perceptions across three theoretically relevant dimensions, perceived usefulness, engagement, and perceived difficulty, via a structured questionnaire. A qualitative approach, using semi-structured interviews, was concurrently employed to capture the depth, nuance, and contextualized nature of the learners' lived experiences with the tasks. The study was *ex post facto* in that data were collected after the completion of a 12-week instructional intervention involving the RCEA-based listening tasks, and following the administration of a listening comprehension delayed posttest. No pre-test or immediate post-test data are reported in this study, as the focus is exclusively on the learners' retrospective perceptions of the tasks after a period of sustained engagement and a two-week interval.

3.2. Participants

The participants of this study were 40 Iranian EFL learners enrolled in an upper-intermediate-level listening and speaking course at a private language institute in Isfahan, Iran. The sample comprised 18 male and 22 female learners, ranging in age from 20 to 26 years ($M = 21.5$, $SD = 1.8$). Participants were selected through convenience sampling, as they were from two intact classes taught by the researcher. All participants were native speakers of Persian and had been studying English as a foreign language for an average of six years. Their English proficiency was determined to be at the upper-intermediate (B2) level based on their performance on the Oxford Quick Placement Test (OQPT), which was administered prior to the start of the intervention. Participation in the questionnaire and interview was voluntary, and all participants provided informed written consent. To protect their identities, pseudonyms are used in the reporting of qualitative data. The study was approved by the research ethics committee of the affiliated university.

3.3. Research Instruments

Two instruments were used for data collection: (a) a Learning Experience Questionnaire (LEQ) adapted from [Amiryousefi \(2017\)](#), and (b) a semi-structured interview protocol.

3.4. Learning Experience Questionnaire (LEQ)

The LEQ was adapted from [Amiryousefi \(2017\)](#) and substantially modified to measure three SDT-related dimensions: Perceived Usefulness (6 items), Engagement (6 items), and Perceived Difficulty (4 items), with responses on a 5-point Likert scale. The adaptation process involved drafting an initial 20-item pool based on

theoretical definitions, followed by translation into Persian using forward-backward translation by two independent translators, with discrepancies resolved through discussion with a TEFL expert to ensure semantic equivalence. Finally, the Persian LEQ was pilot-tested with 25 upper-intermediate EFL learners, leading to rewording of two items for clarity; reliability analysis yielded Cronbach's alpha coefficients of .86 for Perceived Usefulness, .83 for Engagement, and .78 for Perceived Difficulty, all exceeding the acceptable .70 threshold (Farhady et al., 1994).

3.5. Semi-Structured Interview

A semi-structured interview protocol was developed to elicit richer, more detailed qualitative data about the participants' perceptions of the RCEA tasks. The interview questions were designed to explore themes related to the three SDT needs, as well as to uncover any emergent, unanticipated dimensions of the learners' experiences.

The protocol consisted of eight open-ended questions, with follow-up probes as needed. Example questions included: "Can you describe how the RCEA tasks affected your motivation to listen carefully to the passages?" (related to engagement and autonomy), "Which part of the tasks did you find most helpful for improving your listening, and why?" (related to usefulness and competence), and "What challenges, if any, did you face when completing the 'Extend' or 'Apply' sections?" (related to difficulty).

The interview protocol was reviewed by two TEFL experts for content validity and was pilot-tested with three learners from the pilot group to ensure clarity and appropriate wording. Based on the pilot, one question was rephrased to reduce ambiguity.

3.6. Data Collection Procedures

Data collection occurred after a 12-week instructional intervention in which all participants completed weekly guided critical reflection tasks based on the RCEA framework for listening comprehension. The instructional phase included an immediate posttest administered after the final task and a delayed posttest administered two weeks later (results not reported in this study). The LEQ and interviews were conducted in the week immediately following the delayed posttest, allowing participants sufficient time to reflect on their overall experience based on sustained engagement rather than immediate post-intervention affect.

Specifically, in the 13th week (one week after the delayed posttest), the researcher distributed the Persian LEQ to all 40 participants during a regular class session, explained the purpose, assured confidentiality, and

provided instructions for the 5-point Likert scale. Participants were given 20 minutes to complete the questionnaire independently; all 40 were collected and none were discarded. Immediately after questionnaire administration, the researcher invited volunteers for one-on-one semi-structured interviews.

Twelve learners (30% of the sample) volunteered, from whom 10 were purposively selected to represent a range of listening proficiency levels (based on delayed posttest scores) and to ensure diversity in gender and age. Interviews were scheduled over the following two weeks, conducted in Persian to facilitate natural expression, lasted 20–30 minutes, were audio-recorded with explicit permission, and took place in a quiet room at the language institute with brief notes taken to capture non-verbal cues. No participant withdrew from the interview process.

3.7. Data Analysis Methods

Quantitative and qualitative data were analyzed separately and then integrated during interpretation. For the quantitative analysis, data from the completed LEQ were entered into SPSS version 26, and descriptive statistics (means, standard deviations, and frequencies) were computed for each item and for the three subscales (Perceived Usefulness, Engagement, Perceived Difficulty).

Mean scores were interpreted using a scale from 1.00–1.79 (Very Low) to 4.20–5.00 (Very High). This descriptive analysis addressed the first research question by providing a quantitative summary of participants' perceptions; no inferential statistics were performed as the study did not involve pre- or post-test listening scores.

For the qualitative analysis, audio-recorded interviews were transcribed verbatim in Persian and anonymized using pseudonyms. Thematic analysis following Braun and Clarke's (2006) six-phase model was used to identify patterns within the data: (1) familiarization, (2) generating initial codes (primarily inductive but attentive to SDT dimensions), (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report with participant quotes translated from Persian to English and verified by a second bilingual researcher.

To ensure trustworthiness, member checking was conducted with four interviewees who confirmed the interpretations, and peer debriefing was used whereby an independent qualitative researcher reviewed the coding process and thematic structure, with disagreements resolved through discussion.

These strategies enhanced the credibility and confirmability of the qualitative findings, which were then used to elaborate upon and contextualize the quantitative LEQ results, providing a holistic answer to both research questions.

4. Results

4.1. Preliminary Analyses: Normality of the LEQ Data

Before addressing the research questions, the normality of the distribution of the LEQ subscale scores was examined using the Kolmogorov-Smirnov test applied to the total scores for Perceived Usefulness, Engagement, and Perceived Difficulty. The results indicated that the data for all three subscales were normally distributed, with Perceived Usefulness showing a statistic of 0.114 ($df = 40, p = 0.200$), Engagement showing a statistic of 0.107 ($df = 40, p = 0.200$), and Perceived Difficulty showing a statistic of 0.123 ($df = 40, p = 0.134$). Since the p-values for all three subscales exceeded the 0.05 threshold, normality was established. This permitted the use of parametric descriptive statistics (means and standard deviations) for the quantitative analysis.

4.2. Results for Research Question One

Research question one aimed to explore Iranai EFL learners' perceptions of the guided critical reflection tasks (RCEA framework) in terms of usefulness, engagement, and difficulty for developing listening comprehension?

4.3. Quantitative Findings

The descriptive statistics for the three subscales of the LEQ are summarized in Table 1. The mean scores indicate

that participants held generally positive perceptions of the RCEA tasks. The highest mean was recorded for Perceived Usefulness ($M = 4.12, SD = 0.58$), which falls within the "High" range (3.40–4.19). This suggests that learners found the guided critical reflection tasks to be beneficial for their listening comprehension development.

Engagement also received a high mean score ($M = 3.94, SD = 0.61$), indicating that participants were generally interested in and attentive to the RCEA tasks. The slightly lower mean compared to usefulness may reflect variability in how consistently learners felt motivated to complete all stages of the tasks.

Perceived Difficulty had a mean of 3.45 ($SD = 0.72$), which is at the lower boundary of the "High" range. This indicates that the tasks were perceived as moderately to somewhat difficult, but not excessively so. The standard deviation of 0.72 suggests a wider range of opinions regarding the challenge level of the tasks.

A more detailed analysis of individual items are presented in Table 2. As displayed in Table 2, the highest-rated usefulness item was "The RCEA tasks helped me listen for main ideas more effectively" ($M = 4.35, SD = 0.53$). The highest-rated engagement item was "I found the 'Connect' section interesting because it related the listening to my own life" ($M = 4.18, SD = 0.59$). For difficulty, the highest-rated item was "The 'Extend' phase, which required finding extra information, was time-consuming" ($M = 3.68, SD = 0.78$).

Table 1. Descriptive Statistics for LEQ Subscales (N = 40)

Subscale	Mean	Std. Deviation
Perceived Usefulness	4.12	0.58
Engagement	3.94	0.61
Perceived Difficulty	3.45	0.72

Note. Interpretation scale: 1.00–1.79 = Very Low, 1.80–2.59 = Low, 2.60–3.39 = Moderate, 3.40–4.19 = High, 4.20–5.00 = Very High.

Table 2. Descriptive Statistics for Individual LEQ Items

Subscale / Item	Mean	SD
Perceived Usefulness		
The RCEA tasks helped me understand the main ideas of the listening passages more easily.	4.35	0.53
The tasks improved my ability to infer the speaker's attitude.	4.08	0.61
The 'Apply' section helped me see how listening content is relevant to real life.	4.03	0.59
Engagement		
I was motivated to complete the 'Reflect' section after each listening passage.	3.85	0.65
I looked forward to sharing my 'Connect' responses with my classmates.	3.78	0.72
I often spent extra time thinking about the 'Extend' questions even after class.	3.90	0.68
Perceived Difficulty		
Understanding the listening passage well enough to complete the 'Review' section was challenging.	3.40	0.70
Finding reliable information for the 'Extend' phase required too much effort.	3.68	0.78
The 'Apply' questions sometimes felt too abstract for my personal context.	3.28	0.81

Table 3. Main Themes and Subthemes from Interview Analysis (N = 10)

Main Theme	Subthemes	Frequency
A. Perceived Usefulness of RCEA Tasks	A1. Enhanced comprehension of main ideas and details	9
	A2. Improved inferencing and critical listening	8
	A3. Real-world connection through the 'Apply' stage	7
B. Engagement and Motivational Impact	B1. Interest stimulated by the 'Connect' stage	8
	B2. Sense of accomplishment after completing the cycle	6
	B3. Increased willingness to listen to challenging passages	5
C. Perceived Difficulty and Challenges	C1. Cognitive load of the 'Extend' stage	8
	C2. Time required for deeper reflection	6
	C3. Difficulty summarizing main ideas without copying	4
D. Stage-Specific Preferences	D1. 'Connect' as the most enjoyable stage	9
	D2. 'Review' as the most essential stage	7
E. Suggestions for Improvement	E1. Need for more model answers or examples	5
	E2. Request for collaborative 'Extend' activities	4

Note. Frequencies indicate the number of participants who explicitly mentioned the theme or subtheme during their interview. Since multiple themes could be mentioned by a single participant, frequencies do not sum to 10

4.4. Qualitative Findings

The semi-structured interviews provided rich, contextualized data that elaborated on the quantitative findings. Thematic analysis of the 10 interview transcripts yielded five main themes and eleven subthemes, which are presented in Table 3.

Below, the themes and subthemes are reconstructed with detailed interpretations, supported by representative extracts from the interviews. Each block of analysis presents two or three related themes together, followed by extracts and interpretation.

Block 1: Perceived Usefulness (Themes A1, A2, A3)

The interviews strongly confirmed the quantitative finding that participants perceived the RCEA tasks as useful for listening comprehension. Three specific aspects of usefulness emerged: enhanced comprehension of main ideas and details (A1), improved inferencing and critical listening (A2), and real-world connection through the 'Apply' stage (A3). Learners consistently reported that the structured nature of the tasks forced them to listen more attentively and process the content at deeper levels than they would have in a traditional listening lesson.

Extract 1 (Participant 3, Female, Age 21):

Before, when we just listened and answered multiple-choice questions, I would try to catch keywords and guess. But with the RCEA tasks, I knew I had to write a summary in the 'Review' section, so I listened for the actual main ideas. It made me focus more. The 'Apply' part was also useful because I had to think, 'How can I use this information in my own life?' That made the listening stick in my head longer.

Extract 2 (Participant 7, Male, Age 23):

The 'Connect' and 'Extend' stages helped me listen critically. For example, in one passage about work-life balance, I had to listen for the speaker's arguments and then think about whether I agreed. I realized I was not just hearing words; I was evaluating the message. That was new for me. I never thought about listening that way before.

The extracts illustrate that the RCEA tasks transformed listening from a passive, test-oriented activity into an active, meaning-making process. Participant 3's comment highlights how the demand to produce a written summary (Review) increased focused attention on main ideas, while the 'Apply' stage facilitated deeper encoding through personal relevance.

Participant 7's reflection reveals that the 'Connect' and 'Extend' stages promoted critical evaluation, a skill rarely practiced in conventional listening classrooms. Together, these reports explain the high usefulness ratings ($M = 4.12$) and demonstrate that perceived usefulness was not merely a general impression but was tied to specific features of the RCEA cycle.

Block 2: Engagement and Motivational Impact (Themes B1, B2, B3)

The qualitative data provided insight into why engagement scores were high ($M = 3.94$). Three sources of engagement were identified: interest stimulated by the 'Connect' stage (B1), a sense of accomplishment after completing the full cycle (B2), and increased willingness to listen to challenging passages (B3). Learners reported that the tasks made listening more personally meaningful and that completing all four stages gave them a feeling of progress.

Extract 3 (Participant 5, Female, Age 20):

The 'Connect' part was my favorite. Sometimes the listening topic was something I had never thought about, like sustainable energy. But when I had to write, 'How does this connect to my daily life?', I started to see small things I could do. That made me want to listen more carefully because the topic became mine, not just something from the book.

Extract 4 (Participant 9, Male, Age 24):

I felt proud when I finished a full RCEA worksheet. It was like a project. At first, listening to a five-minute lecture felt hard, but after doing the tasks for a few weeks, I started to feel that I could handle it. I even volunteered to share my 'Extend' research with the class once, which I normally would never do.

The extracts reveal that engagement was driven by personal relevance (Connect stage) and a sense of competence (completing the cycle). Participant 5's description of the topic becoming "mine" indicates that the 'Connect' stage satisfied the need for relatedness and personal meaning, which in turn fueled intrinsic interest. Participant 9's feeling of pride and his willingness to volunteer suggest that the structured scaffolding of the RCEA tasks built self-efficacy over time, transforming an initially difficult task into a manageable and even enjoyable challenge. These findings align with the quantitative engagement scores and explain why learners reported increased willingness to tackle difficult passages (B3).

Block 3: Perceived Difficulty and Challenges (Themes C1, C2, C3)

Although the overall difficulty mean was in the moderate-to-high range ($M = 3.45$), the interviews revealed specific sources of difficulty. The most frequently cited challenge was the cognitive load of the 'Extend' stage (C1), which required learners to go beyond the listening passage and conduct additional research or deep reflection. Time demands (C2) and difficulty summarizing without copying (C3) were also mentioned.

Extract 5 (Participant 2, Female, Age 22):

The 'Extend' part was hard. Sometimes I didn't know what to write. For example, after a listening about artificial intelligence, I had to find another source about AI ethics. That took me a long time because I wasn't sure what kind of information was expected. I wished the teacher had given us more examples or a list of websites.

Extract 6 (Participant 8, Male, Age 25):

Writing a summary in the 'Review' section was not easy. I wanted to write down everything, but the task said to write only the main ideas. I had to listen three or four times to figure out what was really important. That was time-consuming, but in the end, I think it helped me. But sometimes I just copied sentences from the transcript because I was tired.

The extracts indicate that perceived difficulty was not uniformly negative; rather, it was often associated with productive struggle.

Participant 8 explicitly notes that despite the time and effort, the process "helped" him. The difficulty stemmed from the cognitive demands of synthesis (identifying main ideas) and autonomous research (finding relevant external information).

Participant 2's request for more guidance suggests that the 'Extend' stage, while valuable, may require additional scaffolding for upper-intermediate learners. The moderate mean difficulty score (3.45) thus reflects a balance between challenge and achievability, which is consistent with the concept of optimal challenge in task design. The wide standard deviation (0.72) is explained by individual differences in tolerance for open-ended tasks, as evidenced by Participant 8's fatigue and copying behavior.

Block 4: Stage-Specific Preferences and Suggestions (Themes D1, D2, E1, E2)

Learners expressed clear preferences for specific stages of the RCEA framework. The 'Connect' stage was overwhelmingly the most enjoyable (D1), while the 'Review' stage was seen as the most essential for basic comprehension (D2). Suggestions for improvement included the need for more model answers or examples (E1) and a request for collaborative 'Extend' activities (E2).

Extract 7 (Participant 1, Female, Age 19):

I loved the 'Connect' questions. They made me think about my own experiences. The 'Review' was also important because if I didn't understand the main points, I couldn't do the rest. But the 'Extend' was sometimes lonely. I think if we could do the 'Extend' part in pairs, it would be more fun and I would learn from my partner's ideas.

Extract 8 (Participant 4, Male, Age 21):

The worksheets were good, but I often wondered if I was doing them correctly. For example, in the 'Apply' section, I wrote one or two sentences, but maybe I could have written more. If the teacher showed us an example of a 'good' answer at the beginning, I would have been less worried.

The extracts highlight a tension between the autonomous nature of reflection and the learners' desire for guidance and social interaction. Participant 1's preference for the 'Connect' stage (enjoyment) and 'Review' stage (essential) suggests that learners appreciate both personal relevance and foundational comprehension. The suggestion for collaborative 'Extend' activities (E2) indicates that the need for relatedness (working with peers) was not fully met by the individual task design. Participant 4's request for model answers reflects a desire for clearer competence feedback, a way to calibrate their performance against a standard. These suggestions provide practical insights for refining the RCEA tasks in future implementations.

4.5. Results for Research Question Two

Research question two was intended to explore how Iranian EFL learners' perceptions relate to their listening comprehension gains and the long-term retention of those gains.

4.6. Quantitative Findings

To examine the relationship between learners' perceptions and their listening outcomes, Pearson product-moment correlation coefficients were computed. Listening comprehension gain was operationalized as the difference between the immediate posttest score (administered at the end of the 12-week intervention) and the delayed posttest score (administered two weeks after the immediate posttest). This metric captures the extent to which learners retained their listening comprehension over a two-week interval. A higher positive gain indicates better retention (i.e., the delayed score was higher than the immediate

score, or the decline was minimal). Table 4 presents the correlation matrix. As shown in Table 4, Perceived Usefulness had a moderate, positive, and statistically significant correlation with retention gain ($r = 0.52, p < 0.01$). This indicates that learners who found the RCEA tasks more useful for their listening comprehension tended to show better retention of listening gains over the two-week period. Engagement also demonstrated a moderate, positive, and significant correlation with retention gain ($r = 0.48, p < 0.01$). Higher levels of engagement with the tasks were associated with more durable listening comprehension. Perceived Difficulty, in contrast, showed a weak, negative, and statistically significant correlation with retention gain ($r = -0.31, p < 0.05$). This suggests that learners who perceived the tasks as more difficult tended to have lower retention scores, although the relationship was modest. No other significant correlations were found. The pattern of results indicates that perceptions of usefulness and engagement are positively associated with long-term retention, while perceived difficulty is negatively (though weakly) associated.

4.7. Qualitative Findings from the Interviews

The interview data provided complementary insights into the relationship between perceptions and retention. Thematic analysis of the interviews with respect to retention and long-term learning yielded three additional themes (presented in Table 5). These themes emerged from questions that asked learners to recall whether the RCEA tasks helped them remember listening content over time and to compare their retention after the intervention with their previous experiences.

Table 4. Correlations between LEQ Subscales and Listening Retention Gain (N = 40)

Subscale	Retention Gain (Delayed – Immediate Posttest)
Perceived Usefulness	0.52** (p = 0.001)
Engagement	0.48** (p = 0.002)
Perceived Difficulty	-0.31* (p = 0.048)

*Note. **p < 0.01, p < 0.05.

Table 5. Themes Related to Retention and Long-Term Learning (N = 10)

Main Theme	Subthemes	Frequency
F. Deep processing leading to better memory	F1. The 'Apply' stage created personal mental hooks	7
	F2. Writing summaries helped consolidate information	6
G. Transfer of strategies to other listening contexts	G1. Using the RCEA steps automatically when listening to English media	5
	G2. Improved note-taking in other classes	4
H. Factors that hindered retention	H1. Difficulty with 'Extend' led to superficial engagement	3
	H2. Rushing through tasks due to time pressure	4

Interpretation and exemplification of retention-related themes are presented below:

Block 5: Deep Processing and Memory (Themes F1, F2)

Learners consistently reported that the RCEA tasks helped them remember listening content longer than traditional listening exercises. Two mechanisms were identified: the ‘Apply’ stage created personal mental hooks (F1), and writing summaries helped consolidate information (F2). These accounts provide qualitative support for the positive correlation between usefulness/engagement and retention gain.

Extract 9 (Participant 6, Female, Age 20):

Two weeks after we did a listening passage about procrastination, I still remembered the main points. That is unusual for me because I usually forget listening content after a few days. I think the reason is that I had to write in the ‘Apply’ section: ‘What is one way I can reduce my own procrastination?’ I wrote a real plan. So now, whenever I think about that plan, I remember the listening. The information became mine.

Extract 10 (Participant 10, Male, Age 22):

Writing the summaries in my own words was hard at first, but I noticed that after a few weeks, I could recall the key ideas from a passage without looking at my notes. When we took the delayed test, I was surprised that I remembered things from two weeks before. The act of writing forced me to organize the information in my head.

Extract 9 illustrates the principle of elaborative encoding: when learners connect new information to personal actions or plans (the ‘Apply’ stage), they create multiple retrieval pathways. Participant 6’s experience of the information becoming “mine” directly explains why higher perceived usefulness (which includes valuing the ‘Apply’ stage) correlated with better retention. Extract 10 highlights the role of generative processing (writing summaries in one’s own words) in consolidating memory. The effortful act of summarizing without copying forces deeper semantic processing, which enhances long-term retention. These qualitative accounts align with the quantitative correlation ($r = 0.52$) and provide a mechanistic explanation for why usefulness and engagement predicted retention.

Block 6: Transfer and Hindering Factors (Themes G1, G2, H1, H2)

Some learners reported that the strategies learned from the RCEA tasks transferred to other listening contexts (G1,

G2), indicating durable skill acquisition. Conversely, a few learners noted that difficulty with the ‘Extend’ stage (H1) or time pressure (H2) led to superficial engagement, which likely undermined retention.

Extract 11 (Participant 3, Female, Age 21):

I started using the RCEA steps in my head when I watched English YouTube videos or listened to podcasts. Without writing anything down, I would ask myself: ‘What is the main point? How does this connect to me? Could I apply this?’ It became a habit. So even without the worksheet, I was still listening critically.

Extract 12 (Participant 4, Male, Age 21):

Sometimes I just wanted to finish the worksheet quickly. I did the ‘Extend’ part very superficially, just one quick Google search and copied a sentence. On those weeks, I don’t think I learned much, and I definitely did not remember the listening content later. I think if I had more time or if the ‘Extend’ was simpler, I would have done a better job.

Extract 11 demonstrates successful transfer of metacognitive strategies. Participant 3 internalized the RCEA framework and applied it spontaneously to authentic listening contexts. This type of transfer is a strong indicator of durable learning and likely contributed to higher retention scores among engaged learners. In contrast, Extract 12 reveals that superficial engagement with the ‘Extend’ stage, driven by time pressure or perceived difficulty, undermined both learning and retention. This explains the negative correlation between perceived difficulty and retention gain ($r = -0.31$). Learners who found the tasks overly difficult may have resorted to surface-level processing, which fails to produce the deep encoding necessary for long-term memory. These findings underscore the importance of balancing challenge with adequate support and time.

In summary, the quantitative and qualitative findings converge to answer the two research questions. For RQ1, learners perceived the RCEA tasks as highly useful ($M = 4.12$) and engaging ($M = 3.94$), with moderate perceived difficulty ($M = 3.45$). The interviews revealed that the ‘Connect’ and ‘Apply’ stages were particularly valued for fostering personal relevance and deeper processing, while the ‘Extend’ stage was the most challenging. For RQ2, significant positive correlations were found between perceived usefulness ($r = 0.52$) and engagement ($r = 0.48$) with retention gain, and a weak negative correlation for perceived difficulty ($r = -0.31$). Qualitative data indicated that the ‘Apply’ stage and the act of summarizing created durable memory traces, while superficial engagement due to difficulty or time pressure hindered retention. These results are further discussed in the following section.

5. Discussion

5.1. Discussion Related to Research Question One

The first research question examined learners' perceptions of the guided critical reflection tasks (RCEA framework) in terms of usefulness, engagement, and difficulty for developing listening comprehension. The quantitative results showed that participants rated the tasks as highly useful ($M = 4.12$) and highly engaging ($M = 3.94$), with a moderate-to-high level of perceived difficulty ($M = 3.45$). The qualitative findings elaborated on these ratings, revealing that the 'Connect' and 'Apply' stages were particularly effective in fostering personal relevance and deep processing, while the 'Extend' stage was the most challenging.

From the perspective of SDT (Deci & Ryan, 2000a; Ryan & Deci, 2000b), the high usefulness and engagement ratings can be interpreted as evidence that the RCEA tasks supported learners' basic psychological needs. Specifically, the 'Connect' stage, which asked learners to relate listening content to their own experiences, directly supported the need for *relatedness* by making the learning personally meaningful and connecting it to the learner's identity (Kokkonen et al., 2020).

The 'Apply' stage, which required learners to envision practical uses of the information, supported *autonomy* by giving learners a sense of volition and control over how to use the new knowledge (Reeve et al., 2014). The overall structure of the RCEA cycle, with its clear scaffolding from Review to Apply, supported *competence* by breaking down a complex listening task into manageable steps, allowing learners to experience incremental mastery (Niemiec & Ryan, 2009). The moderate difficulty rating suggests that the tasks were optimally challenging, not so easy as to be boring, nor so difficult as to be discouraging, which is precisely the condition that supports the need for competence (Kusurkar, Croiset, & Ten Cate, 2011).

Empirically, these findings are consistent with previous studies that have reported positive learner perceptions of structured reflection tasks. For example, James et al. (2023) found that enabling students using the RCEA framework reported increased confidence and a sense of empowerment. Similarly, Amiryousefi (2017) reported that EFL learners in a flipped learning environment (which also involved preparatory tasks and active in-class work) rated their learning experience highly and expressed positive attitudes. The current study extends these findings by specifically isolating the RCEA framework as a critical reflection tool for listening, demonstrating that its perceived value is not limited to reading or general academic skills but applies equally to aural comprehension.

5.2. Discussion Related to Research Question Two

The second research question investigated how learners' perceptions related to their listening comprehension gains and long-term retention. The quantitative results revealed significant positive correlations between perceived usefulness ($r = 0.52$) and engagement ($r = 0.48$) with retention gain (the difference between delayed and immediate posttest scores). Perceived difficulty showed a weak negative correlation ($r = -0.31$). The qualitative data provided explanatory mechanisms: learners who engaged deeply with the 'Apply' and summary-writing stages reported better memory for the listening content, while those who found the tasks overly difficult or rushed through them reported poorer retention.

Theoretical explanations for these findings can be drawn from SDT, the primary framework discussed in the literature review. First, the positive correlation between perceived usefulness and retention aligns with the concept of intrinsic motivation in SDT. According to Deci and Ryan (2000b), when learners perceive an activity as useful and personally valuable, they are more likely to engage in deep, autonomous processing because the activity satisfies their need for *autonomy* (feeling volitional) and *competence* (feeling effective). The 'Apply' stage, in particular, required learners to generate personal examples and action plans, a process that transforms abstract listening content into personally meaningful knowledge. From an SDT perspective, this personal relevance satisfies the need for *relatedness* (connecting the learning to one's own life), which in turn enhances intrinsic motivation and leads to better long-term retention (Ryan & Deci, 2000a; Niemiec & Ryan, 2009). The qualitative finding that learners remembered the listening content because "the information became mine" directly illustrates how need satisfaction supports durable memory.

Second, the positive correlation between engagement and retention can also be explained through SDT's concept of *autonomous regulation*. When learners are engaged because they find the tasks interesting or valuable (rather than because of external pressure), they invest more effort and process information more deeply (Gagné & Deci, 2005). The RCEA tasks, particularly the 'Connect' and 'Apply' stages, provided opportunities for learners to exercise autonomy by choosing how to relate the content to their own lives and how to apply the information. This autonomy-supportive design fosters the internalization of learning goals, making the knowledge more accessible for later retrieval (Ryan & Deci, 2002). The qualitative accounts of learners voluntarily using the RCEA steps when watching YouTube videos (Extract 11) provide evidence of such internalization.

Third, the negative correlation between perceived difficulty and retention, though weak, can be interpreted

through SDT's need for *competence*. When learners perceive a task as overly difficult, their sense of competence is threatened. According to SDT, when the need for competence is thwarted, learners are likely to disengage, resort to surface-level strategies, or experience amotivation (Deci & Ryan, 2000a; Pelikan et al., 2021). In the present study, learners who found the 'Extend' stage excessively difficult (e.g., Extract 5 and Extract 12) reported that they responded by copying minimal information or rushing through the task without deep reflection. This surface-level engagement, driven by competence frustration, fails to produce the deep processing required for long-term retention. The qualitative finding that perceived difficulty led to "superficial engagement" (Theme H1) and "rushing" (Theme H2) directly supports this SDT-based explanation.

Empirically, these findings are consistent with previous SDT-based studies in language learning. For example, Radel et al. (2010) demonstrated that social contagion of motivation from teacher to student was mediated by autonomy support, which in turn affected student effort and persistence. Vandergrift and Tafaghodtari (2010) reported that less-skilled listeners benefited most from metacognitive instruction, a finding that aligns with the current study's observation that learners with lower perceived competence (higher perceived difficulty) showed poorer retention. The current study extends this literature by directly correlating need-based perceptions (usefulness, engagement, difficulty) with a behavioral outcome (retention gain), providing empirical support for the SDT claim that need satisfaction enhances not only immediate performance but also the durability of learning.

6. Conclusion

This study investigated Iranian EFL learners' perceptions of guided critical reflection tasks (the RCEA framework) for listening comprehension and examined how those perceptions related to long-term retention of listening gains. The findings demonstrated that learners perceived the tasks as highly useful and engaging, with moderate perceived difficulty. The 'Connect' and 'Apply' stages were particularly valued for fostering personal relevance and deep processing, while the 'Extend' stage was identified as the most challenging. Furthermore, perceived usefulness and engagement were positively correlated with retention gain, while perceived difficulty showed a weak negative correlation. Qualitative data revealed that deep engagement with the 'Apply' and summary-writing stages created durable memory traces, whereas superficial engagement due to time pressure or excessive difficulty undermined retention. The implications of this study are threefold. Pedagogically,

EFL teachers can confidently incorporate the RCEA framework into listening instruction, knowing that learners are likely to find it useful and engaging. The findings suggest that teachers should provide additional scaffolding for the 'Extend' stage (e.g., model answers, guided research prompts) to reduce extraneous cognitive load and prevent surface-level engagement. Teachers should also emphasize the 'Apply' stage, as it appears to be a key mechanism for long-term retention. Methodologically, this study demonstrates the value of mixed-methods research that combines quantitative perception data with qualitative interviews to uncover the *reasons* behind statistical relationships. Theoretically, the study confirms the applicability of SDT to the design and evaluation of critical reflection tasks in L2 listening, showing that tasks supporting autonomy, competence, and relatedness are associated with better learning outcomes.

Several limitations must be acknowledged. First, the study lacked a control group, so the observed retention gains cannot be definitively attributed to the RCEA tasks alone; other factors (e.g., general listening practice, test familiarity) may have contributed. Second, the sample size of 40 participants was relatively small, and the sample was drawn from a single private language institute in one Iranian city, limiting generalizability. Third, the retention interval was only two weeks; longer-term retention (e.g., one month or more) was not assessed. Fourth, the study relied on self-reported perceptions, which may be subject to social desirability bias. Finally, the LEQ was adapted from a general learning experience instrument and, while piloted, may not have captured all dimensions of the RCEA task experience. Based on these limitations, several suggestions for future research are offered. First, a quasi-experimental or experimental design with a control group (e.g., traditional listening instruction vs. RCEA-based instruction) is needed to establish causality. Second, future studies should include larger and more diverse samples, including learners from different proficiency levels, ages, and geographical contexts. Third, longer retention intervals (e.g., one month, three months) should be employed to assess the durability of learning. Fourth, future research could incorporate objective measures of engagement (e.g., time-on-task logs, digital analytics) alongside self-report measures to reduce bias. Fifth, the RCEA framework could be adapted for pair or group work to address the learners' expressed desire for collaboration, and the effects of such adaptations on motivation and retention could be examined. Finally, cross-cultural studies could investigate whether the RCEA framework is equally effective and positively perceived in different educational cultures, as listening pedagogy practices vary considerably across countries. Addressing these avenues will further solidify the evidence base for guided critical reflection tasks in L2 listening instruction.

Authors Contribution

All the authors have participated sufficiently in the intellectual content, conception, and design of this work or the analysis and interpretation of the data (when applicable), as well as the writing of the manuscript.

Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflict of interest

The author states that there is no conflict of interest.

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