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The Interface Between Metacognitive Strategy Training and Locus of Control in Developing EFL Learners' Listening Comprehension Skill

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This study investigated the effects of metacognitive listening strategy instruction (MLSI) and learners' locus of control orientation on the listening comprehension of EFL learners. 100 EFL students at the University of Zanjan and Imam Khomeini International University of Qazvin were randomly chosen. The participants were randomly assigned to an experimental group (N = 50) and a control group (N = 50). The experimental group received 10 weeks of treatment including 10 sessions of metacognitive listening strategy training. Both groups took the Metacognitive Awareness Listening Questionnaire and Rotter's Internal-External Locus of Control Scale before the treatment sessions. Then, they took the listening pre-test and after the treatment, the listening post-test was administered and the required data was obtained. The findings revealed that MLSI had a significant impact on the learners' listening comprehension for the learners with internal LoC; However, external LoC did not have any significant moderating effect on listening comprehension ability. Pedagogical implications are suggested for an EFL teaching/learning context.

Keywords: locus of control, metacognitive strategy instruction, listening comprehension, cognitive academic language learning approach, EFL learning

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INTRODUCTION

Numerous studies have reported the benefits of metacognitive strategy instruction and internal locus of control concerning L2 language learning (Goh, 2002a; Mokhtari and Sheorey, 2002; Bolitho et al., 2003; Chamot, 2005a; Bozorgi, 2009; Bulus, 2011). However, few studies have been carried out to explore the impact of metacognitive strategy training concomitantly with the moderating the effect of locus of control orientation on Iranian EFL learners' listening comprehension.

The listening skill plays a crucial role in communication in general and language learning in particular (Rubin, 1994; Anderson and Lynch, 1998; Amir et al., 2020) and can be said to be the most fundamental language skill (Oxford, 1993). The demanding task of teaching and learning this skill can be said to cause frustration, poor performance, and negligence of listening instruction (Bozorgian, 2014). This happens due to the complex nature of listening, owing to both external factors (e.g., speech rate, unaccustomed cultural reference, or accent) and internal factors (e.g., motivation, self-esteem, or locus of control) (Lynch, 2011; Mustofa and Sari, 2020).

Metacognitive strategy training is a way to reduce the complexity of listening tasks by controlling and monitoring the processes. Research has shown that metacognitive strategy instruction is profitable in this respect (O'Malley and Chamot, 1990; Vandergrift, 2003, 2006, 2007; Vandergrift and Tafaghodtari, 2010; Cross, 2011; Maftoon and Fakhri Alamdari, 2020). As Davidson and Sternberg (1998) pointed out, metacognitive knowledge allows problem solvers to perform better in encoding or investigating the problem in its context.

Kennelly and Mount (1985) propose that closely related to metacognition is locus of control orientation. Studies on these two concepts have revealed a positive relationship between strategy instruction and internal locus of control as predictors of successful language learning and acquisition (Arslan and Akin, 2014; Mesgar et al., 2014). LoC has been studied since the 1960s in connection with motivation (Kader, 2014; Schipor and Schipor, 2014), happiness (Marrero Quevedo and Carballeira Abella, 2014), hopelessness (Bagge et al., 2014), and academic achievement (Chalak et al., 2014; Sagone and Caroli, 2014). Although there has been some research related to LoC, metacognition and listening comprehension, the findings are not conclusive and require more studies. Thus, this study is one such attempt at further exploring the issue.

REVIEW OF RELATED LITERATURE

Listening Comprehension

Among the main language skills, the listening skill had been overlooked for years; but in the 1970s, it gradually became important (Holden, 2004). According to Chastain (1988), listening had been overlooked due to the failure of the students and teachers in understanding the "need for developing functional listening comprehension skills" (p. 192). Vandergrift (2007) also believes that this failure may be connected to the implicit nature of listening, the ephemerality of acoustic input, and the inaccessibility of listening processes. Today, however, the role of listening in EFL/ESL programs is already well recognized (Goh, 2000; Lotfi, 2012).

In the late 19th century, the importance of oral skills was emphasized by reformists, which led to the emergence of new teaching methods such as the audio-lingual method which was later completed by Communicative Language Teaching (CLT) (Goh, 2008). Later, the mechanical process of language acquisition was challenged by a new method that addressed the mental and cognitive processes (Rahimi and Katal, 2013). Some studies (e.g., Rubin, 1994; Lynch, 1998; Vandergrift, 2004; Macaro et al., 2007) shifted to new approaches influenced by developments in linguistic and cognitive psychology. Cognitive psychology emphasizes listening over speaking by highlighting the comprehensible input in listening (e.g., Krashen and Terrell, 1983).

Recently, the role of social context in listening comprehension instruction has been highlighted. According to these models, the focus should chiefly be on interactive listening in which listeners have an active role as they interact with the interlocutor. This has caused an increasing interest in investigating the role of strategy use in listening comprehension development and consequently established the theoretical foundation for strategy-based classroom instruction (Rahimi and Katal, 2013).

The second half of the twentieth century heralded a new era of focus on individual learner differences (cognitive and metacognitive differences) and their role in language learning and teaching (Kök, 2013; Whitehead, 2020). Early research was mostly based on Krashen's idea that mere exposure to comprehensible input would increase listening skills and promote language acquisition. However, this focus has been replaced by an emphasis on how input is processed by the learners (Vandergrift, 1999). Consequently, knowing what strategies learners use and what predicaments they encounter has become a fundamental part of listening research. Listening experts argue that learners will perform better if they learn more about cognitive and metacognitive processes in listening comprehension (Flowerdew and Miller, 2005; Coşkun, 2010). In addition, some researchers believe that equipping learners with proper and effective listening strategies, such as planning, monitoring and evaluating will help them to become more efficient listeners (Vandergrift, 2002, 2004; Panggabean and Triassanti, 2020).

Metacognitive Listening Strategies

In the 1960s, research into Language Learning Strategies (LLS) began. This was due to the development in cognitive psychology (Williams and Burden, 1997). The primary focus was on the reports of efficient language learners on how they learn a language. These successful learners were put under observation (Wenden and Rubin, 1987). The first article published about learner strategies was in 1966 by Aaron Carton, entitled "The Method of Inference in Foreign Language Study." Afterwards, numerous studies on learning strategies followed (e.g., O'Malley et al., 1985, 1989; O'Malley and Chamot, 1988, 1990, 2001; Goh, 1997, 2002b; Annevirta and Vauras, 2003; Chamot, 2004, 2005a,b; Habte-Gabr, 2006; Macaro, 2006; Cross, 2011; Abdul Malik et al., 2013).

The term metacognition was first introduced by Flavell (1979). He identified three types of metacognitive knowledge: person, task, and strategy knowledge. According to Wenden (1991), *person knowledge* is the general knowledge learners have about how learning happens and how various elements such as age and learning styles can influence language learning. In addition, it is the knowledge learners have about themselves and their beliefs about success or failure. *Task knowledge* refers to what learners know about the aims, demands, the nature of the tasks, and the knowledge of the procedures to complete these tasks. *Strategic knowledge* is about learners' knowledge of the strategy used in order to be successful in achieving learning goals. Thus, it can be said it is the knowledge of knowing how best to approach language learning.

Metacognitive strategies are generally divided into three types: planning, monitoring, and evaluating; therefore, they help learners to understand both what they can learn (knowledge of cognition) and how they can learn it (regulation of cognition) (Eftekhary and Gharib, 2013). These strategies can be parallel to the pre-task, on-task, and post-task activities featured in

many texts (Holden, 2004). Anderson (2002) emphasizes the importance of metacognitive strategies among cognitive and socio-affective strategies in developing learners' skills. Various researchers have pointed out the importance of metacognitive strategies and their direct influence on the learning process and outcome (Pressley et al., 1987; Paris and Winograd, 1990; Victori and Lockhart, 1995; Winne, 1995; Schoonen et al., 1998; Boekaerts et al., 2000; Zimmerman and Schunk, 2001; Mokhtari and Reichard, 2002; Pintrich, 2002; Bolitho et al., 2003; Eilam and Aharon, 2003).

According to Goh (2008), listening strategy instruction can help enhance learner motivation, decrease anxiety, and benefit weak listeners. Yet studies show that what and when and how much to use strategies are related to learners' learning styles (Hsueh-Jui, 2008) and to listening task types (Chang, 2008), as well as to learners' level of English language proficiency (Fewell, 2010), listening ability (Bidabadi and Yamat, 2011), attitudes toward the effectiveness of strategies (Zhang and Goh, 2006), and listening anxiety (Golchi, 2012).

A lot of empirical evidence in the literature implies that employing metacognitive strategies leads to more productive listening in various contexts (O'Malley and Chamot, 1990; Thompson and Rubin, 1996; Vandergrift, 2003; Wilson, 2003; Zhao, 2013; Hariri, 2014). Related research findings also suggest that listening strategy awareness is related to learners' level of education (Rahimi and Katal, 2012a), motivation (Vandergrift, 2005; Kassaian and Ghadiri, 2011), listening test performance (Zhang and Liu, 2008), technology use (Rahimi and Katal, 2012b), and listening self-efficacy (Rahimi and Abedi, 2014). Vandergrift (2003), for example, taught some metacognitive strategies to some beginner elementary school and university students in France. Students in both groups gained the benefits of training and they improved their listening performance.

Some related studies have resulted in contradictory and mixed findings A number of studies have shown that metacognitive instruction enhances students' metacognitive knowledge about listening (Vandergrift, 2004; Liu and Goh, 2006); furthermore, it has a positive effect on students' listening performance and accomplishments (Vandergrift, 2007; Vandergrift and Tafaghodtari, 2010). It also raises learners' awareness of the nature and requirements of listening tasks along with an increase in their self-confidence while working on listening tasks (Goh and Taib, 2006). Meanwhile, other studies have indicated no significant change in listening performance (Thompson and Rubin, 1996; Seo, 2002), and in strategy employment and awareness (Chen and Huang, 2011). Vandergrift and Tafaghodtari (2010) propose that by considering the newness of the experiments in this area, more studies should be conducted in different languages, ages, genders, and learning contexts in order to settle the extant contentions.

As an attempt to suggest a model for strategy-based training, the Cognitive Academic Language Learning Approach (CALLA) was developed by Chamot and O'Malley (1986). This metacognitive strategy training model helps instructors to amalgamate language, content, and strategies in a meticulously planned lesson. In the CALLA model, the main principles are learners' prior knowledge and their constant evaluation of their learning process. Their model consists of five phases: *preparation, presentation, practice, evaluation,* and *expansion* (Chamot and O'Malley, 1994). The first phase is about preparing learners about their own prior strategy knowledge and the benefits of the use of particular strategies (e.g., setting goals and objectives, identifying the purpose of a language task, overviewing and linking with already known materials). The second phase is the instructor's presenting and explaining new strategies as well as their implementation (e.g., explaining the importance of the strategy, asking students when they use the strategy, etc.). The third phase is to practice the strategies in the classroom context (e.g., asking questions, cooperating with others, seeking practice opportunities). The fourth phase includes learners' self-evaluation of their strategy use and the results of their works (e.g., self-monitoring, self-evaluating, and evaluating their learning). The last phase is *expansion*, in which learners expand their strategy knowledge into new learning situations (e.g., arranging and planning their learning).

Holden (2004) explained this matter from a different perspective. He introduced a cyclical approach including three stages for a listening task: *pre-listening, task-listening,* and *post-listening.* Such an orientation, which has been used for at least two decades, is pedagogically well-founded and reliable and leads students to make consistent use of special strategies at proper times in the listening process.

Locus of Control

Rotter (1954) introduced *the social learning theory* suggesting that a person's behavior is influenced by environmental factors and social context. Rotter also emphasized that the expected results of a behavior influence the person's motivation to engage in that behavior. The concept of *locus of control* or LoC was derived from Rotter's social learning theory underlying the idea of the control over life events (Williams and Burden, 1997), and was first used by Phares (1976), then organized by Rotter (1966) (Mutlu et al., 2010).

A fundamental supposition of Rotter's theory is that people's behavior is determined both by nature and by the prominence of their aims or reinforcements as well as by their expectation of these aims to happen (Siri et al., 2007). According to this theory, a learner's expectancy of a result anticipates future behavior in a given situation. Developing a locus of control idea is a good way to describe these anticipations (Siri et al., 2007). Rotter (1975) explains that LoC is a bridge to intermingle the behaviorist approach to cognitive psychology.

Based on the earlier theories introduced, people are categorized across the two ends of a continuum: *internalizers* and *externalizers*. The first group tend to attribute their outcomes and results to internal factors, to themselves, and feel personally in charge of their lives. The second group believe events happen out of their control by external factors such as fate and luck (Williams and Burden, 1997; Slavin, 2003). A great deal of study has been done on LoC as well as its connection with perceived success/failure in life and educational achievement.

According to recent studies, locus of control can be effective in a vast area of social and psychological sciences. Pavalache-Ilie and Unianu (2012) examined the relationship between LoC and the pro-environmental attitudes of undergraduate students. Results showed that internalizers have higher biocentric

concerns for interventionist conservation policies. In another study carried out in Romania, Mihaela et al. (2013) concluded that LoC, teachers' personality structure, and creative attitudes were interconnected and they could be regarded as predictors of didactic competencies.

Various researches have been conducted to explore the advantages/disadvantages of being at each end of the I-E scale. Internalizers display significant progress in areas like academic achievement, social maturity, and motivation (Lefcourt, 1992). They also are achievement-oriented, better information processors, and establish a productive relationship with the environment (Phares, 1976). In addition to the above, internal LoC leads to greater success in reading, math, and self-esteem (Nowicki and Strickland, 1973; Bulus, 2011). Externalizers, on the other hand, prefer extreme risks, are low persistent, and have unconventional changes in their attitude regarding educational, occupational, and cognitive circumstances (DuCette and Wolk, 1972). They usually are more anxious and depressed and have fewer adaptability skills (Benassi et al., 1988; Parkes, 1991). Another area to mention is the connection between LoC and perceiving others or themselves. Research shows that internalizers enjoy high self-esteem and competing spirit, while externalizers face poorer self-concept and lower self-evaluation; they also believe that they are insecure, unlucky, and inadequate (Bellack, 1975; Chandler, 1976; Burns, 1979). Furthermore, students with internal LoC are proud of their accomplishments yet shameful of their failure, and learners with external LoC show little emotional altercation in either success or failure (Mearns, 2006).

Concerning the role of LoC in second/foreign language learning, some studies have investigated it in relation to L2 learners' reading (Ghonsooly and Elahi Shirvan, 2011; Naser and Ghabanchi, 2014; Mesgar and Tafazoli, 2018), writing (Ghonsooly and Elahi Shirvan, 2011) and listening skills (Sotoudenama and Hosseini Otaghsaraee, 2012) and academic achievement (Yazdanpanah et al., 2010). In these studies, the findings were in favor of the internal LoC regarding its role in L2 learning.

As understood from the literature reviewed above, almost no research was conducted on the role of LoC in second/foreign language learning. More specifically, its interplay with metacognitive strategies in developing the L2 listening skill is a concrete gap in the literature. Thus, this study can be considered an attempt to partially fill this gap. To this end, the following research questions were posed: (1) Does metacognitive listening strategy instruction (MLSI) make any significant difference in listening comprehension for Iranian EFL learners with internal LoC? (2) Does MLSI make any significant difference in listening comprehension for Iranian EFL learners with external LoC?

MATERIALS AND METHODS

Participants

The participants of the study consisted of intermediate Iranian EFL learners (both male and female) at the University of Zanjan and Imam Khomeini International University of Qazvin, Iran. Out of 151 subjects who initially took part in the study, based on the proficiency test results, 100 intermediate learners were selected as the final participants of the study.

Materials

Two sources were used in the present study. One was *language learning strategies: what every teacher should know* by Oxford (1990), and *strategies for success: a practical guide to learning English* by Brown (2002). Oxford explains how these strategies can be directly and indirectly applied to the four language skills. Brown also provides full descriptions of specific strategies and introduces some questionnaires, which are quite useful in learning about individual characteristics of learners.

In this study, a mixture of O'Malley et al.'s (1986) CALLA (the CALLA) and Holden's (2004) cyclical approach was used. The CALLA consists of five stages: *preparation, presentation, practice, evaluation,* and *expansion*. Holden's cyclical approach on the other hand includes three stages: *pre-listening, task-listening,* and *post-listening*. The researchers extracted materials from Brown and Oxford's strategy training books and then altered them in terms of students' needs and interests. Teacher-prepared materials were taught to the experimental group in a ten-week period based on the CALLA and the cyclical approach.

Instruments

Metacognitive Awareness Listening Questionnaire

Vandergrift et al. (2006) developed this questionnaire as a valid and reliable instrument to explore their awareness of metacognitive listening comprehension strategies. MALQ contains 21 items and each item is rated on a five-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). MALQ includes five factors: *problem-solving* (six items), *planning and evaluation* (five items), *mental translation* (three items), *person knowledge* (three items), and *directed attention* (four items).

Numerous studies have used MALQ to measure listeners' metacognitive listening awareness (Zhang and Goh, 2006; O'Bryan and Hegelheimer, 2009; Baleghizadeh and Rahimi, 2011; Rahimi and Katal, 2012a; Eftekhary and Gharib, 2013; Rahimi and Abedi, 2014). Vandergrift et al. (2006) provided thorough explanations and evidence for the validity of this questionnaire, reporting a Cronbach alpha of 0.87.

Rotter's Internal-External Locus of Control Scale

This scale contains 29 self-reported statements with two alternatives in each statement. Learners have to choose one alternative developed by Rotter (1966), which they believe is true, not what they like to be true. A high score indicates external loci and a low score indicates internal loci. It is considered the most standard scale that is used worldwide (Bozorgi, 2009). Many researchers have continued to use it as a measure of LoC (Bozorgi, 2009; Deniz et al., 2009; Basak and Ghosh, 2011; Devin et al., 2012). The Cronbach's alpha in this study was calculated at 0.93.

Oxford Quick Placement Test

Oxford's Quick Placement Test was used as a proficiency test. It contains 60 multiple-choice questions covering both vocabulary and grammar. All the test items in this test have been through

Cambridge ESOL (English for Speakers of Other Languages) quality control procedures and so far, the test has been validated in 20 countries (Geranpayeh, 2003). KR-21 was used to estimate the reliability of the test (r = 0.86) which showed a satisfactory reliability level; scores 0–29 represent the elementary level, 30–47 show the intermediate level, and 48–60 indicate the advanced level.

Listening Comprehension Pre-test

This test was chosen from TOEFL. The test had 16 multiple-choice questions divided into five tracks and the participants were required to listen to tracks only once. Some parts of the test also had pictures to facilitate comprehension.

Listening Comprehension Post-test

Similar to the pre-test, the post-test was chosen from TOEFL with the same format and same level of difficulty. The test had 16 multiple-choice questions divided into five tracks and the test-takers listened to the tracks only once. This test also incorporated pictures.

Pilot Test

A pilot test was conducted to estimate the validity and reliability of the instruments. The test was given to 20 students with characteristics identical to those of the target sample. The Cronbach alphas for the pre-test and post-test were calculated at 0.83 and 0.70, respectively. The validity of the tests was also confirmed by expert judgment.

DATA COLLECTION PROCEDURE

As the first step, Rotter's LoC scale was used to determine all the participants' LoC orientation in both groups. In the next step, the MALQ questionnaire was distributed to decide which factors of listening strategy awareness were applied to the participants before the treatment. The results revealed that the participants were mostly aware of and used the suitable strategy of *preparation* and the less promising strategy of *mental translation*.

Having gone through all the steps above, the researchers applied the treatment. In a period of 10 weeks, ten sessions of listening strategy instruction were held. Each session, which lasted 30 minutes, incorporated teaching different listening strategies. During the first session, the concepts of metacognition and metacognitive strategy use were introduced. Then from sessions 2–9 the following strategies were taught by using CALLA and Holden's cyclical approach: *Overviewing and linking with already known material, Paying attention, Organizing, Setting goals and objectives, Identifying the purpose of a listening task, Planning for a language task, Seeking practice opportunities, Self-monitoring,* and *Self-evaluation.*

The last session was dedicated to a review of the strategies and after the treatment sessions, the participants took the listening comprehension post-test. This test contained similar content and instruction as the pre-test and the purpose was to see the impact of strategy training on the internal and external LoC participants' listening comprehension scores after treatment.

DATA ANALYSIS

In order to analyze the data, the researchers conducted two separate ANCOVA analyses. In doing so, the researchers intended to remove the prior effect of pre-test as the covariate variable on the post-test as the dependent variable.

RESULTS

Testifying the Assumptions of ANOVA

To make sure that the main assumptions hold for conducting the ANCOVA analyses, the researchers ran three tests to testify the normality of the data distributions for the dependent variable, the homogeneity of variances and the homogeneity of regression.

TABLE 1 | Results for the tests of normality and homogeneity of variances.

		One-Sample Kolmogorov-Smirnov test				Test of homogeneity of variances			
		Control group		Experiment group					
Variables	**Period**	**Test statistic**	**Asymp. Sig. (two-tailed)**	**Test statistic**	**Asymp. Sig. (two-tailed)**	**Levene statistic**	**df1**	**df2**	**Sig.**
Internalize	Pre-test	0.108	0.200	0.115	0.200	0.169	1	75	0.682
	Post-test	0.137	0.054	0.112	0.200	1.157	1	75	0.286
Externalizer	Pre-test	0.193	0.200	0.085	200	0.369	1	21	0.550
	Post-test	0.254	0.067	0.155	0.200	0.068	1	21	0.798

TABLE 2 | Results for the homogeneity of regressions.

Reception of homogeneous regression slope				Correlation pre-test and post-test		
	Variable	**F**	**Sig.**	**Variable**	**F**	**Sig.**
1	Internalizer *group	2.83	0.10	Internalizer	329.45	0.00
2	Externalizer *group	1.65	0.22	Externalizer	181.11	0.00

The results confirmed these assumptions holding for the data before the ANCOVA tests were run. The results appear in **Tables 1**, **2**, **3**, **4** below.

As indicated in **Table 1**, the data in the pre-test and post-test scores was normally distributed for both control and experimental internal LoC and external LoC groups (p-values > 0.05). Also, based on the results obtained from Levene's tests of homogeneity of variances, this assumption held for all the data in the pre-test and post-test scores of the control and experimental internal LoC and external LoC groups (p-values > 0.05) (**Table 2**). Finally, as shown in **Table 4**, no interaction was found between the dependent variables and the covariates, indicating no violation of the regression homogeneity assumption.

Investigating the First Research Question

The first research question was meant to investigate the effect of MLSI on the listening comprehension ability of the internal LoC intermediate EFL learners. To answer this question and compare the control and experimental group's mean scores on the pre-test and post-test through eliminating the effect of the pre-test, a univariate ANCOVA analysis was conducted. As shown in **Table 3** below, the results indicated that MLSI had a significant effect on the participants' listening comprehension ability ($F = 40.20$, $p < 0.05$). Moreover, based on the general benchmarks suggested by Plonsky (2015) as the ratings for interpreting different effect sizes in L2 research, the effect of MLSI on this group's listening comprehension performance turned out to be small (eta squared = $0.35 < 0.40$).

Investigating the Second Research Question

The second research question was posed to study the effect of MLSI on the listening comprehension ability of the external LoC intermediate EFL learners. To answer this question and compare the control and experimental group's mean scores on the pre-test and post-test through eliminating the effect of the pre-test, another univariate ANCOVA analysis was conducted. According to **Table 4**, the results indicated no significant effect for MLSI on the participants' listening comprehension ability ($F = 0.59$, $p = 0.45$).

DISCUSSION AND CONCLUSION

An implicit finding of this study has to do with the effectiveness of listening metacognitive strategy instruction in improving EFL learners' listening comprehension ability. While some researchers have declared no significant effect for listening metacognitive strategies training on improving listening comprehension (Thompson and Rubin, 1996; Seo, 2002; Chen and Huang, 2011; Abdul Malik et al., 2013), others have emphasized the positive impact of strategy training on listening comprehension. This finding of the study is in line with the findings of some other related studies (Goh, 2002a; Pintrich, 2002; Bolitho et al., 2003; Chamot, 2005b; Annevirta et al., 2007; Vandergrift, 2007; Field, 2008; Coşkun, 2010; Ghapanchi and Taheryan, 2012; Maftoon and Fakhri Alamdari, 2020; Panggabean and Triassanti, 2020).

The first research question was meant to investigate the effect of metacognitive strategy instruction on the listening comprehension skill of the EFL learners with internal locus of control orientation. The results obtained revealed that metacognitive strategy instruction had a significant effect on the internalizers' listening comprehension performance. This finding further consolidates similar findings reported earlier that supported the positive role of the internal LoC in learning diverse skills and components of the target language (Yazdanpanah et al., 2010; Ghonsooly and Elahi Shirvan, 2011; Sotoudenama and Hosseini Otaghsaraee, 2012; Naser and Ghabanchi, 2014; Mesgar and Tafazoli, 2018).

The second research question was posed to investigate the role of metacognitive strategy training in the performance of externalizers on listening comprehension. Based on the finding, the externalizers in the experimental group did not outperform their counterparts in the control group on the post-test, which means the external LoC may not have a moderating effect in this research context. Although this finding is in line with those related study findings reported above, it should be treated with

TABLE 3 | ANCOVA results for the internalizer group's performance on the listening comprehension post-test.

		Mean		Analysis covariance					
Variable	**Period**	**Control**	**Experiment 1**	**Type III sum of squares**	**df**	**Mean square**	**F**	**Sig.**	**Partial Eta squared**
Group	Pre test	42.62	43.10	2042.30	1	2042.30	40.20	0.000	0.35
	Post-test	48.87	59.59						

TABLE 4 | ANCOVA results for the externalizer group's performance on the listening comprehension post-test.

		Mean		Analysis covariance					
Variable	**Period**	**Control**	**Experiment 1**	**Type III sum of squares**	**df**	**Mean square**	**F**	**Sig.**	**Partial Eta squared**
Group	Pre test	33.50	36.92	2042.30	1	17.17	0.59	0.45	0.02
	Post-test	38.50	34.07						

caution due to the small group sizes. Further studies with greater sample sizes may reveal a different finding.

Based on the findings of the study, it can be concluded that instructing metacognitive listening strategies may enhance both listening comprehension performance and listening skills. Providing direct strategy training based on the CALLA and cyclical approach can be advantageous for internalizers although we have to consider the fact that other strategy training methods could be useful for externalizers. It can be argued that having an internal locus of control orientation is an advantage for learners. Furthermore, it would be better to devise programs to help externalizers to alter their views and attitudes toward failure and success.

The results of the present study provide some implications for instructors to promote students' metacognitive listening strategies of planning, monitoring, and evaluation. Teachers in the EFL classrooms can use a strategy-based instruction in order to teach L2 listening more effectively. Teachers may need to introduce the concept of LLS to learners and make them acquainted with these strategies. In addition, teachers can provide instruction and practice utilizing metacognitive strategies directly or indirectly (i.e., embedded in tasks). Metacognitive listening awareness as well as an ability to regulate learning may assist students to learn skills of self-directed learning and become autonomous language learners. Consequently, examining listeners' use of metacognitive strategies, may help instructors to reach a greater understanding of listeners' metacognitive awareness. This may also help learners to find a more effective approach to performing different listening tasks successfully. Likewise, material and curriculum developers should allocate some parts of the listening materials to introducing the concept of strategies, with a special emphasis on metacognitive listening strategies to help listeners to understand and manage listening processes more effectively and become competent listeners. By practicing metacognitive listening strategies, students change into self-regulated listeners and develop the ability to handle various listening tasks more successfully.

DATA AVAILABILITY STATEMENT

The original contributions presented in this study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work, and approved it for publication.

SUPPLEMENTARY MATERIAL

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