

## Task-based Metacognitive Instruction Approach to Self-regulation in Listening Comprehension

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IJEAP-1807-1248

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### Abstract

Improving listening comprehension skill is one of the urgent contemporary educational needs in the field of second language acquisition and metacognitive strategies are proved to help learners manage and self-regulate their listening and overcome deficiencies. Although metacognitive instruction is underscored by previous research, task-based metacognitive instruction is seriously under-researched. Given this, the present paper compared the efficacy of two task-based metacognitive instruction models on learners' self-regulation in listening comprehension. Participants, 63 Iranian EFL learners, were selected by random sampling and were randomly divided into 2 experimental and 2 control groups. Over an 14 session term, experimental group 1 was taught using Integrated Experiential Learning Task (IELT), a strategy-nonintegrated task-based model (Goh, 2010), while experimental group 2 was taught using Metacognitive Pedagogical Cycle (MPC), a strategy-embedded task-based model (Vandergrift, 2004). Development of self-regulation in listening comprehension was tracked using Motivated Strategies for Learning Questionnaire (MSLQ), and development of L.C. was measured using listening section of the Preliminary English Test (PET) administered at the beginning and end of the course. The listening section of the First Certificate in English (FCE) served as the listening transfer test. The statistical tests results revealed both experimental groups significantly outperformed the control groups in listening comprehension and self-regulation in listening comprehension attainment with experimental group 1 having a high effect size and showing significant gain on transfer test.

**Keywords:** Metacognitive strategies, metacognitive instruction, TBLT, self-regulation in listening comprehension, transfer

### 1. Introduction

The role of English as one of the world's international languages results in efforts to find more effective ways of teaching it as a second language. The role of listening comprehension (L.C.) in second language learning was taken for granted for a long time, little research was done and it was given little pedagogical attention. L.C. was not seen as a specific methodological issue (Goh, 2010; Graham, Santos and Vanderplank, 2011). Teaching L.C. to second language learners has changed considerably over the last few decades, yet learners still struggle with it. L2 learners continue to face challenges inside and outside the classroom as they try to improve their L.C. abilities (Vandergrift & Goh, 2012).

Listening is a highly complex skill, involving both linguistic and non-linguistic knowledge. Linguistic knowledge includes phonology, vocabulary, syntax, semantics, discourse and pragmatics (Buck, 2001). Further complexity with regard to listening arises from the way in which the type of

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knowledge outlined above is applied to the incoming aural input. Indeed, the processing of different types of knowledge does not occur in a fixed linear way. Instead, various types of processing can occur simultaneously, or at any convenient sequence. Thus, for instance, syntactic knowledge might be applied to recognize words, or knowledge of the context might be used to interpret the meaning (Vandergrift & Goh, 2012).

In the past 50 years, L.C. methodologies have gone through extensive change, moving away from text-based orientation toward a more learner-oriented outlook (Flowerdew & Miller, 2005; Vandergrift & Goh, 2012). This has helped L.C. instruction to move past repetitive drills to more communicative approaches an example of which is task-based language teaching (TBLT). As opposed to bit by bit teaching the concept in product-based approaches, TBLT pedagogy is defined in a three-phase pedagogical sequence consisting of pre-task phase, that presents the nature and purpose of the activity, on-task phase, when learners engage in the task and the instructor checks the activity and supports the effort and clarifies the process, and post-task phase, when the on-task phase can be evaluated and reflected upon (Bygate, 2016). After all, a key rationale for TBLT is the premise that acquisition happens when learner encounters a novel situation or comes up with a need and thrives to be strategic at the precise moment (Long, 1981) and this makes TBLT an ideal approach for mediating learners through stages of becoming more and more strategic.

Listening comprehension strategy research has proved the role of strategies in second language learning (O'Malley & Chamot, 1990; Oxford, 2017; Vandergrift, 2003) and the strategy instruction research has been mainly concerned with raising learners' awareness to the value of knowing what strategy to apply in a specific context (Chou, 2017). The body of research on strategy instruction indicates that studies have either used explicit instruction approach (e.g. Graham & Macaro, 2008) or embedded instruction approach (e.g. Vandergrift, 2003), while very few have investigated the role of TBLT in strategy instruction and to the best of researchers' knowledge, none have compared the efficacy of two strategy instruction models. Moreover, reports on long-term benefits of strategy instruction are inconclusive (Cross, 2010). So, more studies need to be conducted to ascertain the role of TBLT in developing L.C. strategies and the durability of such gain.

Metacognitive awareness of listening strategies has been rigorously defined and measured recently by considering five factors including problem solving, planning-evaluation, mental translation, person knowledge, and directed attention (Vandergrift, Goh, Mareschal & Tafaghodtari, 2006). Metacognitive strategies have been defined as "higher order executive skills that may entail of planning for, monitoring, or evaluating the success of activity" (O'Malley & Chamot, 1990, p. 44) by the help of which learners manage, direct, regulate, and guide their learning (Wenden, 1998). Yet, metacognitive instructional models building appropriate metacognitive knowledge and yielding effective use of metacognitive strategies need to be emphasized. Thus, the purposes of this study were to 1) ascertain the effect of TBLT on developing metacognitive strategies for L.C., 2) to compare the efficacy of strategy-nonintegrated and strategy embedded task-based models of metacognitive strategy instruction in inducing self-regulation in L.C., and 3) to investigate the models' efficacy in inducing metacognitive strategy transfer to a more difficult test.

## **2. Review of Literature**

### *2.1. Task-based teaching and listening comprehension*

TBLT constitutes an innovative way of language teaching which promises flourishing opportunities for second and foreign language acquisition and enjoys promising growth of interest, because as Ellis (2003) puts it, the primary focus of a task is on meaning, tasks engage learners in drawing on their cognitive and linguistics resources, and its accomplishment requires learners to use language to perform a real life activity. It is the inherent life-like qualities of task that make TBLT an ideal medium for teaching, assessing and researching into learning processes (Ahmadian, 2016).

It seems that the definition of task and its difference with activity and exercise depends on who defines it. As Richards (2015) suggests, task is need-relevant and meaning-focused performance on the part of the learner that urges them to interact with others in a strategic fashion while providing them opportunities to reflect on their language use. He defines exercise as a teaching procedure that

involves controlled, guided and open-ended practice on some aspects of language, like a drill, while activity is the more general term referring to any kind of purposeful classroom procedure that relates to the goals of the course, like having a group discussion. Widdowson (1998) also attributes the difference between task and exercise in the necessity of pragmatic communicative meaning and propositional content for an activity to be a task while exercise has its focus on linguistic form and semantic meaning. What Ellis (2009, p. 223) provides is a conclusive set of criteria to define a task:

1. The primary focus should be on 'meaning' (by which is meant that learners should be mainly concerned with processing the semantic and pragmatic meaning of utterances).
2. There should be some kind of 'gap' (i.e. a need to convey information, to express an opinion or to infer meaning).
3. Learners should largely have to rely in their own resources (linguistic and non-linguistic) in order to complete the activity.
4. There is a clearly defined outcome other than the use of language (i.e. the language serves as the means for achieving the outcome, not as an end in its own right).

As Bygate (2016) elaborate on the four aforementioned criteria, semantic and pragmatic meaning should be in focus when learners are hold responsible for conveying and inferring meaning and they need to be self-regulated in using their own resources to do so and in the process learners would come up with an outcome that can be considered by peers or the instructor and maintains that such approach requires a change in educational traditions so to form the "hub" (Bygate, 2016, p. 386) for the full range of learning processes.

Task-based instruction has come a long way from earlier work mostly focusing on how aspects of performance like accuracy, fluency or complexity affect learners' performance during task performance (e.g. Foster & Skehan, 1996), to how types of tasks, whether input-based, output-based, focused or unfocused affects learners' processing capacity and language learning (e.g. Ellis, 2009; Skehan & Foster, 1999) to this point where TBLT is inclined into shifting the prevailing focus from ESL context to EFL and from teacher-centered and directed instruction to more learner-centered instruction where the learner is the center to all aspects of language teaching, including planning teaching and evaluation (Shehadeh, 2018). As Chou (2017) also approves, the changing approach in TBLT has witnessed numerous studies on acquisition of vocabulary, and grammar and speaking and writing skills, but endeavors regarding the link between model of instruction and EFL learners' L.C. has been bleak.

A task-based instruction is created in terms of a sequence of tasks while all the learning and teaching processes are derived from the tasks themselves (Bygate, 2016). As he further explains, doing so is guaranteed through incorporating all needed elements of task-based approach in devising the procedure. The main elements of TBLT are needs analysis, the three-phase procedure of pre-task, on-task and post-task, the discovery-based element, and the project-based nature of TBLT. Although the three-phase procedure is the typical array of a task-based lesson, Norris (2011) suggests that a task-based L.C. instruction procedure typically involves four phases: *task-input*, *pedagogical task work*, *target task performance* and *task follow-up*.

Norris (2011) elaborates on the four phases as *task-input* introduces the task, and through presentation with no manipulation, motivates learners to engage in a real world communication, activates content schemata and encourages linkage to the context. Norris sees this phase essential for learners to notice gaps in their L2 repertoires. What ensues after task-input is *pedagogic task work* where through manipulation of the task through segmentation and elaboration, learners' awareness is raised of new content, their form and their particular function. This form-function elaboration is mainly done through input enhancement or through learners' analysis of the task discourse. Here is when pair and group work draws the major benefit while the teacher monitors the task process and learners' language use and provides feedback. As maintained by Norris (2011), *target task performance* is when meaningful communication happens and learners integrate their sources of content and linguistic knowledge, and cognitive and metacognitive strategic knowledge, along other

sources to perform the task. As the last phase, *task follow-up* engages learners with reflection on the performed task where they are reinforced to reflect on their gaps in knowledge and their being strategic in overcoming the located deficiencies is called upon.

Both task-based metacognitive instruction models introduced by Goh (2010) and Vandergrift (2004) that this research implemented incorporate the four phase array Norris (2011) elaborated on, with the major distinction in the emphasis each put on each phase and the their distinct view of strategy-nonintegrated and strategy-embedded outlook they each have into target task performance phase.

## 2.2. Metacognitive strategies and listening comprehension

Listening strategies are activities or techniques which directly contribute to the comprehension of listening input and its recall (National Capital Language Resource Center, 2004). In line with general learning strategies categorized by O'Malley and Chamot (1990), listening strategies can be classified into three types: cognitive, metacognitive, and socio-affective (Vandergrift, 2003). Bacon (1992) further classified metacognitive strategies into three types that are used before, during, and after listening. Before listening, the learners prepare for listening through manipulating the environment, focusing attention, applying an advance organizer, selective attention, and deciding to think in English. In a basically similar way but in different terms, Goh (2008) generally classifies these strategies into planning, monitoring, and evaluating one's listening in general. However, Vandergrift et al. (2006) consider metacognitive strategies as a part of metacognitive awareness that also includes person knowledge.

In line with that, educational psychology posits that self-regulated learning (SRL) involves action, is goal driven and involves strategies. Zimmerman and Schunk (2011, P. 1) strongly emphasize that "learners personally activate and sustain cognition, affects, and behaviors that are systematically oriented toward the attainment of personal goals." And as Oxford (2017, p. 69) maintains, "Action is the very heart of self-regulation" at the heart of which lies strategies. She argues a range of strategies to be incorporated from setting a goal, to managing the environment and tactfully incorporating the resources in reaching the goal and going through monitoring the performance as well as emotions and beliefs and asking for assistance in the process so that self-regulation is attained.

What has to be spotlighted is the fact that learners' capacity to regulate affects and strategies play a pivotal role in language learning and according to Zimmerman and Schunk (2011), this capacity grows in a learning environment where we scaffold students to have a better understanding of their thinking processes so they can better regulate them by being metacognitive. Vandergrift and Tafaghodtari (2010) considered skilled L2 listeners in a range of studies and reported them as not only using more metacognitive strategies than the less skilled listeners, but also being able to orchestrate the strategies in continuous metacognitive cycles. Oxford (2017), also, points out metacognitive strategies as a substantial component of self-regulation in L.C.

In the field of metacognitive instruction of L.C., apart from the majority of literature which is on explicit instruction of the strategies, where some have reported substantial success (e.g. Graham & Macaro, 2008; Graham, et al.,2011) propose the need for having an optimal structured support to make the implicit processes explicit and to define the necessary sub-skills needed for a successful listening and Vandergrift (2004) and Goh (2010) are among those who proposed models of metacognitive listening instruction in a holistic manner by focusing on learner's ability to facilitate their own listening when exposed to aural data so that systematic support is provided for the learners.

Although there is a 30-year foundation of research on learning strategies (Oxford, 2017), and many studies have confirmed the importance of strategy training (e.g. Hassan, Macaro, Mason, Nye, Smith & Vanderplank, 2005; Oxford, 2017) and L.C. strategy instruction research has been revolutionized through recent endeavors on metacognitive strategy instruction (Goh, 2008, 2010; Vandergrift, 2004, Vandergrift & Goh, 2012; Vandergrift & Tafaghodtari, 2010), very little has been done to compare the efficacy of metacognitive instructional models. To this end, the present paper aimed to fill the gap by experimentally comparing the efficacy of two models of metacognitive strategy instruction in inducing self-regulation in L.C. among Iranian EFL learners.

### 3. The Study

In so doing the following research questions were proposed:

1. Is there a significant difference between strategy-nonintegrated and strategy-embedded task-based metacognitive strategy instruction in inducing self-regulation in L.C. in Iranian EFL learners?
2. Is there a significant difference between strategy-nonintegrated and strategy-embedded task-based metacognitive strategy instruction in improving L.C. performance of Iranian EFL learners?
3. The instruction of which metacognitive strategy instruction model, strategy-nonintegrated and strategy-embedded task-based metacognitive strategy instruction, better helps Iranian EFL learners in transferring their metacognitive knowledge when taking a L.C. transfer test?

Sixty three EFL learners (29 females and 34 males), studying general English at different institutes in Isfahan participated in this study. They were all Iranian native Persian speakers and ranged in age from 22 to 38, with two 49 and 50 year old outliers. They were chosen and grouped using true sampling method out of a pool of one hundred seventy two volunteers who registered to take part in the study and took Oxford Placement Test (OPT). one hundred eighteen participants whose OPT scores were 1 standard deviation (S.D. = 8.6) below and above the mean ( $M = 128.47$ ) and were lower intermediate (B1) (Scoring 120-134) English learners, were contacted through email and their cell phones and the 103 legible volunteers who responded back were randomly divided into 4 groups. The class time and the available branch of Academic Center of Education Culture and Research in Isfahan was announced to each group and based on the participants' voting for the best possible time in each group, the researchers formed Experimental Group 1 (EG1) ( $N = 17$ ), Experimental Group 2 (EG2) ( $N = 16$ ), Active Control Group (ACG) ( $N = 14$ ), and Passive Control Group (PCG) ( $N = 16$ ). None of the participants knew which group they were in; they just knew that they were taking part in an experimental study on L.C.

#### 3.1. Instruments

Data for this study was obtained using the following scales:

##### *Oxford Placement Test (OPT)*

Developed and standardized in 2004, OPT was used to select the participants who display similar levels of listening proficiency to start the research with. OPT is calibrated against IELTS and TOEFL it can provide a reliable source of information based on language performance of the test takers. OPT comes in two parts: Use of English and Listening. Each part consists of 100 questions and the test takers are leveled in each of 0-9 OPT bands based on what they score out of 200. The researchers found Cronbach's alpha of .94 for internal consistency of the scores and reliability index of .95 was obtained using Intraclass Correlation Coefficient.

##### *Preliminary English Test (PET), listening section*

The listening section of Preliminary English Test (PET) was used as L.C. pre- and post test of this study. It consists of 25 L.C. questions arranged in 4 parts. Cronbach's alpha reported on the internal consistency of PET scores was .86 and thus they were highly reliable.

##### *First Certificate in English (FCE), listening section*

Vandergrift and Goh, (2012) reports L.C. performance as subject to multivariate fluctuations and thus calls for caution when reporting test result. Thus the results on listening section of FCE pretest were used to check for possible placement errors and the information on the post test was used to

assess participants' performance on transfer test. Listening section of FCE, which suits OPT band 5, has 30 questions that come in 4 parts.

#### *Motivated Strategies for Learning Questionnaire (MSLQ)*

MSLQ is an 81-item questionnaire that evaluates learners' motivational beliefs and their learning strategies (Pintrich, Smith, Garcia & McKeachie, 1991). They reported an internal consistency of .62 for learning strategies scales and .68 for the motivation scale. As Pintrich and De Groot (1990) declare self-efficacy, intrinsic value, and test anxiety, self-regulation, and cognitive strategy use subscales sum up as a good scale for self-regulated learning, so the subscales were used to measure the participants' self-regulation in L.C.

#### *Exhaustive list of metacognitive strategies*

Reviewing the literature (Chamot, Barnhardt, El-Dinary & Robbins, 1999; Goh, 2010; O'Malley & Chamot, 1990; Oxford, 2017; Vandergrift, 2003) on metacognitive strategy classification and instances of strategies, the following list was prepared to be taught/ integrated in the process of teaching in EG1, EG2, and ACG. Each session 3 strategies were either integrated in the class procedure or explicitly taught and focused on, depending on the nature of the implemented model.

- *Planning*: organizing concepts or principles, directed attention, self-management, setting goals, activating background knowledge, predicting
- *Monitoring*: selective attention, contextualizing, asking of it make sense, deduction/induction, note taking, using imagery, self-talk, cooperation
- *Problem solving*: inference, substitution, manipulation, using resources, asking for clarification
- *Evaluating*: summarizing, verification of goals, verification of predictions, evaluating strategy use, self-evaluation

#### *Goh's (2010) Integrated Experiential Learning Tasks (IELT)*

IELT is of five parts, namely, 1) metacognitive listening sequence, 2) self-directed listening, 3) listening buddies, 4) post-listening perception activities and 5) guided reflections on L.C. which consists of (a) listening diaries, (b) anxiety and motivation charts, (c) process-based discussions and (d) self-report checklists. Figure 1 elaborates on how metacognitive listening sequence proceeds and how all parts of the model relate to it.

#### *Vandergrift's Metacognitive Pedagogical Cycle (MPC)*

Vandergrift's (2004) MPC is designed in 5 stages of 1) pre-listening: planning and predicting stage, 2) first listening: first verification stage, 3) second listening: second verification stage, 4) third listening: final verification stage, and 5) reflection stage. Each of the stages has one or two steps and includes metacognitive processes that are demonstrated in Figure 2.

### *3.2. Procedure*

PET and FCE Listening tests and MSLQ were administered during 3 successive sessions before and after the intervention to prevent the boredom and fatigue. Participants were briefed on what they were going to do during the study on the 3<sup>rd</sup> session and 5 participants in each group were interviewed on the 14<sup>th</sup> session of study. All groups were instructed by the same researcher. EG1, EG2 went through 8 sessions of task-based metacognitive instruction of L.C. based on their respective model, while ACG and PCG were subject to 8 sessions of traditional product-based L.C. instruction of the same material and ACG received an additional explicit indication of the strategies. The treatment of each group is presented here:

#### *EG1 Treatment*

EG1 was instructed based on IELT. Figure 1 describes the procedure of class treatment. Participants were handed self-directed listening worksheets at the beginning of every session and metacognitive listening sequence was the basis of every session instruction and consisted of the following steps:

1. *Planning*: Learners were handed the self-directed listening worksheets and they would discuss the goals of listening, their knowledge about the topic, and their predictions in pairs. They were encouraged to predict their problems with the listening task and think of appropriate strategies to face it.
2. *Listening 1*: Planning phase notes were checked and revised and new information was noted as they were listening.
3. *Pair process-based discussion*: In pairs, the learners discussed what they had understood and explained the strategies they used. They made notes on the problematic parts and the teacher modeled how she would listen selectively to problematic parts.
4. *Listening 2*: The learners listened for the second time, focusing on the problematic parts and noted new information.
5. *Whole-class process-based discussion*: This was the teacher-led part of the class when she confirmed the comprehension and discussed with the students the strategies that they reported using. The 3 strategies of the session were also introduced and elaborated on.
6. *Listening 3*: Students put their used strategies of paired and whole-class process-based discussion together with what the teacher had taught them and combined them to comprehend the same input.
7. *Script-sound recognition*: learners were provided with the scrip of the audio file so they could match the sound to the print and vice versa. It was where post listening perception activities were introduced.
8. *Personal reflection*: Learners were invited to reflect on their listening procedure. They were, as well, asked to make some notes in their anxiety and motivation chart and also to make short entries into their listening diaries. They noted down their understanding of the listening task and they reflected on the guided listening process, and evaluated the effectiveness of strategies they knew, used and learned.

Participants were finally assigned home works every session. EG1 could perform listening buddies twice, once halfway the intervention and once in the end. EG1 participants found it difficult to team up outside the class.

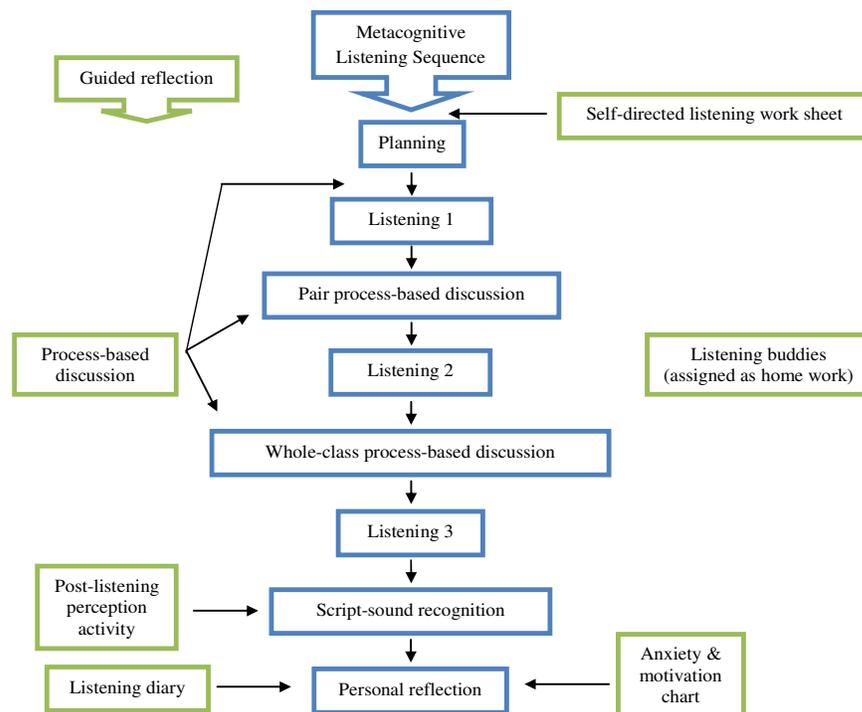


Figure 1: Integrated Experiential Learning Task (IELT)

*EG2 Treatment*

EG2 was instructed based on MPC the procedure of which is as follows:

1. Participants were given the topic of the listening and worksheets with 3 columns for prediction, first listening, and second listening and a box under the table for their reflection. They would brainstorm and predict what they would hear and note in prediction column.
2. Participants listened to the audio for the first time and checked their predictions and revised them, noted the complicated parts, the parts which needed more attention and also verified their predictions with peers. They would add points to first listening column.
3. Participants listened to the audio for the second time and were invited to resolve the difficulties they faced during first listening and add notes to second listening column. In this phase there was a group discussion to check for comprehension and participants would share how they succeeded in comprehending.
4. Third listening was when participants would verify their perception and comprehension what they had missed earlier.
5. Finally, participants reflected on their activity in the box on their worksheet. They would include the strategies they used and the ones they would use the following time. After the reflection stage, the participants were assigned homework and the class was called off.

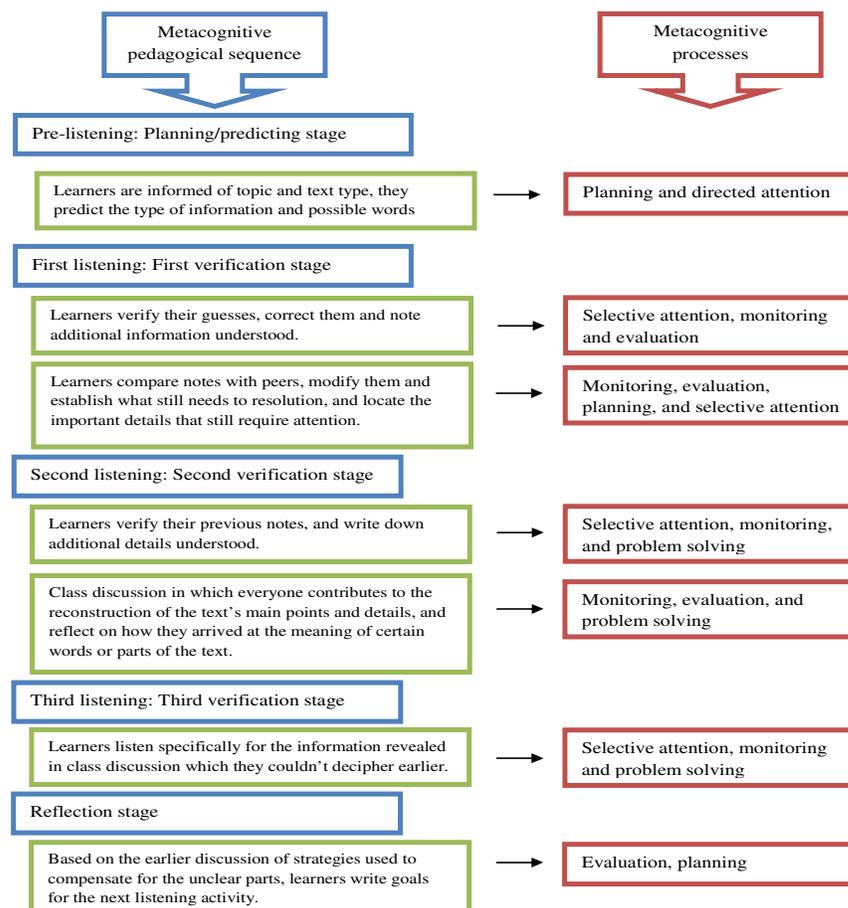


Figure 2: Metacognitive Pedagogical Cycle (MPC)

*Control Groups Treatments*

Both control groups shared the material with experimental groups and listened to the same audio files 3-4 times but they were instructed using a product-based L.C. instruction. ACG had an additional introduction of the metacognitive strategies every session as well. This equaled the whole-

class process-based discussion of EG1 where 3 strategies were explicitly introduced every session minus discussion and reflection. Participants in both control groups listened to the audios and work on the same comprehension activities. There were no formal prediction activities and neither of the groups was engaged in discussion and evaluation of their comprehension in a strategic way and classes would sum up with a discussion on the ideas involved in the listening text. Both groups were assigned product-based homework at the end of the class.

#### 4. Results

To answer the research questions, the collected data was subject to ANCOVA, where the level of significance was set at  $p < .05$ . Before running the test the general assumptions of normality of distribution were checked for PET listening section, FCE listening section and Self-regulation in L.C. pre and post test scores. The values of skewness and kurtosis of the total scores of all tests were limited to  $\pm 1.814$  so normal univariate distribution on all of them was proved. Also, homogeneity of regression slopes was not violated on any of the aforementioned scores, so normal distribution of all pre- and posttest scores was confirmed. Table 1 presents descriptive statistics on all scores of the 4 groups.

Table 1: Descriptive statistics on PET, FCE and self-regulation in L.C. scores of the 4 groups

		Mean (S.D.)	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
EG1	SR pretest	175.41(23.61)	.254	.550	-1.814	1.063
	SR posttest	229.47(9.70)	-.818	.550	.024	1.063
	PET pretest	131.65(14.23)	-.268	.550	-1.254	1.063
	PET posttest	147.41(15.12)	-.178	.550	-1.146	1.063
	FCE pretest	137.65(16.54)	.297	.550	-1.806	1.063
	FCE posttest	151.18(18.06)	-.156	.550	-1.323	1.063
EG2	SR pretest	216.43(22.75)	.886	.564	-1.248	1.091
	SR posttest	230.12(28.71)	.855	.564	-1.325	1.091
	PET pretest	130.25(3.17)	-1.521	.564	1.061	1.091
	PET posttest	148.13(3.59)	-1.731	.564	1.699	1.091
	FCE pretest	124.31(9.54)	-1.706	.564	1.486	1.091
	FCE posttest	136.88(5.50)	-.132	.564	-1.660	1.091
ACG	SR pretest	198.07(36.08)	-.018	.597	-1.035	1.154
	SR posttest	197.35(44.07)	.807	.597	-1.190	1.154
	PET pretest	119.71(7.01)	.426	.597	-1.542	1.154
	PET posttest	127.50(10.47)	-.097	.597	-1.547	1.154
	FCE pretest	109.93(7.37)	.729	.597	-.548	1.154
	FCE posttest	118.93(10.76)	-.04	.597	-1.603	1.154

PCG	SR pretest	205.31(27.79)	-.986	.564	.007	1.091
	SR posttest	191.50(31.25)	1.540	.564	1.658	1.091
	PET pretest	123.19(14.47)	.830	.564	-1.389	1.091
	PET posttest	129.06(14.87)	.477	.564	-1.511	1.091
	FCE pretest	111.63(7.65)	.495	.564	-1.107	1.091
	FCE posttest	121.44(13.76)	.372	.564	-1.186	1.091

Note: SR = Self-regulation in L.C.

The results of Levene's test also indicated assumptions of homogeneity of variance as met for all tests as it was insignificant for six pre- and posttests of self-regulation in L.C., PET and FCE tests (SR pretest's Levene's  $F(1,61) = .711$ ,  $\rho > .05$  and posttest's  $F(1,61) = 1.97$ ,  $\rho > .05$ ; PET listening section's pretest's Levene's  $F(1,61) = .345$ ,  $\rho > .05$  and posttest's  $F(1,61) = .361$ ,  $\rho > .05$ ; FCE listening section's pretest's Levene's  $F(1,61) = .010$ ,  $\rho > .05$  and posttest's  $F(1,61) = .658$ ,  $\rho > .05$ ).

Based on acquired homogeneity assumptions, ANCOVA was run to see if group (the intervention each group received) as independent variable has a role in self-regulation in L.C. attainment (self-regulation posttest scores) as dependent variable. Participants' scores on self-regulation in L.C. pretest were used as a covariate. As table 2 indicates, self-regulation in L.C. attainment of the participants was significantly predicted by the group and covariate.  $F(3, 58) = 17.69$ ,  $\rho < .001$ ,  $\eta_p^2 = .47$ .

Table 2: ANOVA Test on self-regulation in L.C. by covariate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
group	29267.848	3	9755.949	17.690	.000	.478

a. R Squared = .567 (Adjusted R Squared = .537)

When the significance of the effect of group was confirmed ( $\rho > .001$ ), the performance of groups was compared against the performance of PCG through parameters estimates to separately investigate the significance of each. As Table 3 presents, self-regulation in L.C. scores of participants in EG1 ( $\rho < .001$ ,  $\eta_p^2 = .43$ ) and EG2 ( $\rho = .001$ ,  $\eta_p^2 = .19$ ) significantly improved compared to the passive control group, with a very large effect size being reported for the intervention EG1 received, while this was only medium for EG2's intervention. Self-regulation in L.C. attainment was not significant in ACG when compared to PCG ( $\rho = .212$ ).

Table 3: Parameters estimates on the effect of intervention on self-regulation in L.C.

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval		Partial Eta Squared
					Lower Bound	Upper Bound	
EG1	58.732	8.821	6.658	.000	41.075	76.390	.433
EG2	30.900	8.393	3.682	.001	14.099	47.701	.189
ACG	10.885	8.631	1.261	.212	-6.392	28.163	.027
PCG	0 <sup>a</sup>						

Checking the ad hoc test results also proved significant improvement in self-regulation in L.C. attainment of participants in EG1 ( $\rho < .001$ ) and EG2 ( $\rho = .004$ ) compared to ACG's. (Table 4)

Table 4: Pairwise comparison of four groups on the effect of intervention on self-regulation in L.C

(I) group		Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
EG1	EG2	27.832*	9.351	.004	9.114	46.550
	ACG	47.847*	8.837	.000	30.158	65.537
	PCG	58.732*	8.821	.000	41.075	76.390
EG2	ACG	20.015*	8.830	.027	2.339	37.691
	PCG	30.900*	8.393	.001	14.099	47.701
ACG	PCG	10.885	8.631	.212	-6.392	28.163

Furthermore, L.C. performance of the participants on PET posttest, when considering the PET pretest scores as covariate proved significant. As demonstrated in Table 5, there was a significant effect of type of intervention on levels of L.C. performance after controlling for the effect of scores on PET pretest,  $F(3, 58) = 12.48$ ,  $\rho < .001$ ,  $\eta_p^2 = .392$ .

Table 5: ANOVA Test on PET listening section by covariate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
group	1598.983	3	532.994	12.480	.000	.392

Considering parameters estimates (Table 6), the performance of EG1 ( $\rho < .001$ ,  $\eta_p^2 = .325$ ) and EG2 ( $\rho < .001$ ,  $\eta_p^2 = .254$ ) in improving L.C. performance was reported as significant when compared to PCG. A large effect size was observed in both EG1 and EG2, though the partial eta squared reported on EG2 was on borderline ( $\eta_p^2 \geq .25$ ). Performance of ACG was not significant ( $\rho = .497$ ).

Table 6: Parameters estimates on the effect of intervention on listening comprehension attainment

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval		Partial Eta Squared
					Lower Bound	Upper Bound	
EG1	10.536	2.368	4.449	.000	5.796	15.276	.325
EG2	12.540	2.374	5.282	.000	7.788	17.292	.254
ACG	1.645	2.407	.684	.497	-3.172	6.463	.008
PCG	0 <sup>a</sup>						

With regard to post hoc pairwise comparisons results (Table 7), EG1's ( $\rho = .001$ ) and EG2's ( $\rho < .001$ ) interventions also proved significantly better than ACG's in inducing improvement in L.C. performance.

Table 7

Pairwise comparison of four groups on the effect of intervention on listening comprehension attainment

(I) group		Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
EG1	EG2	-2.004	2.279	.383	-6.565	2.558
	ACG	8.891*	2.532	.001	3.823	13.959
	PCG	10.536*	2.368	.000	5.796	15.276
EG2	ACG	10.894*	2.526	.000	5.838	15.951
	PCG	12.540*	2.374	.000	7.788	17.292
ACG	PCG	1.645	2.407	.497	-3.172	6.463

Running ANCOVA on FCE listening section results as the transfer test was interesting as well. Although, as seen in Table 1, all groups experienced an increased mean score on transfer test, no significant effect of group was observed on L.C. performance of participants on FCE transfer test after controlling for the effect of FCE pretest score as covariate  $F(3, 58) = 1.8, \rho = .161, \eta_p^2 = .084$ . Though group proved to have an insignificant effect on L.C. performance on a transfer test, based on information obtained from parameters estimates and post hoc test, L.C. performance of participants in EG1 significantly improved on transfer test compared to participants of ACG ( $\rho = .038$ ) and those of PCG ( $\rho = .045, \eta_p^2 = .063$ ). Such significant improvement was not observed in case of other groups.

## 5. Discussion

This study aimed to investigate the significant contribution of two task-based models of metacognitive instruction (IELT and MPC) on self-regulation in L.C. and L.C. performance of B1 level Iranian EFL learners. The results of ANCOVA, run to answer the research questions, indicated that compared to both control groups, both models significantly improved Iranian EFL learners' self-regulation in L.C. while IELT had a larger effect size compared to MPC. The metacognitive instruction models also caused EG1 and EG2 to outperform both control groups on L.C. posttest and again IELT led into larger effect size. Besides, it was only IELT that could help learners transfer their metacognitive knowledge when taking the more difficult transfer test.

The outcomes of this study on self-regulation in L.C. attainment confirmed Boer, Donker-Bergstra and Kostons's (2012) results who, through meta-analysis, proved that among 14 investigated strategies, instructing metacognitive strategies produces significantly higher effects on self-regulation in L.C. attainment. They reported a .3 higher average effect size on instructions that included metacognitive strategies compared to instructions which did not. Elsewhere, Vandergrift and Tafaghodtari (2010) indicated an elevated self-regulation of L.C. based on the analysis of transcribed interviews for the group of participants who were instructed implementing MPC. Nasrollahi-Muziraji and Birjandi (2017) also reported a very strong link between metacognitive strategies and self-regulation in L.C. through running pathway analysis and posited effective listening to rely on the type of strategies used, the learner's being self-regulated, and the type of instruction through which those strategies are presented.

The task-based models' success in inducing self-regulation in L.C. might be attributed to the reflection on evaluation of strategies these strategies instruction models entail. In both EG1 and EG2, learners went through a phase to reconsider their performance and to reflect on gain, while these were phases learners in ACG and PGC were deprived of. Vandergrift (2004) confirms this by maintain that reflection on listening activities in the form of planning, predicting, monitoring and evaluating strategies can build motivation for L2 listening and increase constructive attributed beliefs about efficacy of implemented strategies.

Besides the necessity of an engaging instruction, the obtained large effect size of IELTS on self-regulation in L.C. attainment compared to small effect size of MPC forges yet another link between the former model and self-regulation in L.C. As Bandura's (1989) social cognitive theory posits, a learner's being metacognitively, motivationally and behaviorally active in their learning process sets the degree of their being self-regulated and this paper's finding confirms that. This finding of the study seems to nullify Vandergrift and Tafaghodtari's (2010) and Cross's (2009) attributing learners' becoming more metacognitively aware to the fact that metacognitive strategies were being embedded in the task cycles. Cross (2009) who specifically defined a control group in his experiment that received mere explicit metacognitive strategy instruction, as did ACG in this study, reported that role of explicit instruction as mute and justified it on the real-life features that strategy-embedded metacognitive instruction bears. On the other hand, though, IELTS's larger effect size can be attributed to the elaborate reflection and evaluation tasks that metacognitively and motivationally engaged learners in top down process which is also confirmed by prestigious researchers. Goh (2008) renders top-down processes as necessary and the explicit strategy instruction included in the model satisfies Lai and Lin's (2015) call for integrating metacognitive awareness raising into TBLT. It can be argued that MPC's more enquiry-based approach to metacognitive strategies was too demanding on lower intermediate cognition of the participants and thus MPC could not be as effective in inducing meaningful learning.

Schmidt's (1995) model of consciousness also supports this discussion. As he posits, among its four elements, namely, awareness, attention, intention and cognitive effort, attention is the key element of consciousness. While learners in EG2 received strategy-embedded instruction, learners in EG1 were explicitly taught metacognitive strategies and it can be argued that the actively engaged attention was indeed reflected in larger effect size this research witnessed with EG1 results. As Schmidt (1995) further discusses, attention has its own subparts i.e. detection, alertness and orientation. In EG1, learners experienced all three subparts in phases three, five and six of the instruction model respectively, while in EG2, they went through detection, had no alertness and as a result of missing alertness the orientation phase seemed to get fuzzy. It may support the point that although attention in Schmidt's model is an important factor in self-regulation in L.C. attainment, it may not work as well if alertness and orientation are not part of the process. The fact that EG2 outperformed ACG in self-regulation in L.C. attainment might be attributed to the point that reflection has a greater role than attention after all and ACG's performance not being significantly different from that of PCG also supports the idea that reflection is a key factor.

In line with findings of Chou (2017), who reported the mastery of task-based strategy instruction over explicit strategy instruction in elevating L.C. performance, and Lye & Goh's (2016) and Vandergrift and Tafaghodtari's (2010), who both witnessed improvement in L.C. performance of the groups that were instructed using MPC compared to a group receiving no strategy instruction at all, the value of strategy training in improving L.C. performance was proved by this study as well. The findings seem to nullify a big proportion of researches on teaching L.C. strategies (e.g. Guan, 2014; Thompson & Rubin, 1996) which advocate the usefulness of making learners aware of specific strategies, demonstration of their helpfulness and provision of their conscious practice and emphasize elaborations on a specifically designed structured support in the form of step by step instructional model to scaffold learners' progress through L.C. process.

The fact that ACG showed no significant improvement in L.C. performance, despite following the same steps, can be attributed to the fact that learners in ACG received the explicit knowledge but had no meaningful engagement in a complex task so that the received explicit information, as confirmed by Chou (2017), would not change into implicit knowledge, while the presence of this factor in experimental groups can be contributed to their improved L.C. performance due to target task performance and task follow up phases (Norris, 2011) that made elaboration, reflection and evaluation possible. The smaller effect size reported on the significance of MPC in inducing L.C. is supportable with Liem and Martin's (2013) assertion that enquiry-based instruction directed to less proficient learners would lead to smaller effect size as opposed to explicit instruction. It can be argued that the success IELTS acquired both against each of the control groups and its mastery over MPC in inducing L.C. improvement reported in the larger reported effect size, might be attributed to its uniting Schmidt's (1995) consciousness model through the explicit instruction it entailed and the cognitive fluency development it created through access fluidity and attention control. Segalowitz (2007) believes that access fluidity and attention control takes place when one is in a process-based engagement with meaning. The same discussion sounds in place when explaining the mastery of IELTS (EG1) in standing high above MPC (EG2) and explicit strategy instruction (ACG) models in inducing significant changes in L.C. transfer test results.

## 6. Conclusion and Implications

This study explored the efficacy of task-based strategy-nonintegrated (IELT) and strategy-embedded (MPC) metacognitive instruction models of L.C. in inducing self-regulation of L.C. and development of L.C. performance in an experiment against two control groups receiving traditional product-based L.C. instruction. The finding suggest that IELT and MPC as superior to sole explicit metacognitive strategy instruction in inducing self-regulation in L.C. attainment and L.C. performance of B1 level Iranian EFL learners, while strategy-nonintegrated metacognitive instruction outperformed strategy-embedded one in both areas and it was the only model to help learners transfer the strategies to a more difficult test.

This study prioritized integrating explicit instruction and reflection (EG1) over just explicitness in instruction (ACG) or sole engagement that reflection offers (EG2) in task-based metacognitive instruction of listening. This research went beyond the studies that have proved instruction as important and valuable and compared the effectiveness of different paradigms of instruction. So, the results, although partially concurred with many studies, had whole new implications on their own. The outcomes of the study further draw attention to the way L.C. is taught in class. Although moving away from a comprehension approach to L.C., in which only the learner's comprehension of a text is tested, and moving toward equipping learners with strategies they need to be more self-regulated is a success, how strategies are instructed counts much. Daftarifard and Birjandi (2017) posited that metacognitive strategies are hard to develop and need enriched programs to pertain. This study, as well, proved that using TBLT to attract learners' attention and engage them in predicting and evaluating their learning process and instruct them to reflect on their own performance in the mold of listening tasks they engage in, accompanied by explicit strategy instruction can induce learners' self-regulation in L.C. attainment, improve L.C. performance and lead to their transferring the acquired metacognitive strategies to a more difficult test.

Based on our findings, this study calls for moving past confirming the necessity of L.C. strategy instruction and delving in an attempt to reach a 'structured support' (Vandergrift & Goh, 2012) through defining specific models of L.C. strategy instruction in TBLT. On the part of L.C. instructors, familiarity with TBLT guidelines, metacognitive strategies, the way they should be taught and how they help learners would be helpful. In line with this, in-service training courses for language teachers in which existing strategy instruction models are presented might be beneficial. In a higher order of decision making, material developers are suggested to move away from a comprehension-based approach in developing listening comprehension materials and incorporate task-based metacognitive strategy instruction models in lesson designs.

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