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The impact of metacognitive strategy instruction on second year algerian efl students' listening performance

L'effet de l'enseignement de la stratégie métacognitive sur les performances d'écoute des étudiants algériens en deuxième année langue anglaise, comme langue étrangère

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Abstract: This research aims at investigating the impact of metacognitive strategy instruction on the listening performance of second-year Algerian EFL students at Abu el Kacem Saad Allah University, in Algiers. It also attempts to examine whether or not students' metacognitive awareness and their perceived use of the listening strategies, are affected by metacognitive strategy instruction, within the framework of process-based approach. The participants of this quasi-experimental research are 60 second-year Algerian EFL students, randomly assigned into experimental (N=30) and control (N=30) groups. Data were collected through administering a listening IELTS test and a Metacognitive Awareness Listening Questionnaire (MALQ), which are both used before and after the intervention. The results indicate that metacognitive instruction has significantly improved students' listening performance and has raised their metacognitive awareness.

Keywords: strategy instruction, metacognitive awareness, listening performance, listening strategies, process-based approach.

Résumé : Cette recherche vise à étudier l'impact de l'enseignement de la stratégie métacognitive sur les performances d'écoute des étudiants Algériens en deuxième année langue Anglaise, comme langue étrangère, à l'Université d'Alger "Abu El Kacem Saad Allah". Elle tente également d'examiner si la conscience métacognitive des étudiants et leurs utilisation perçue des stratégies d'écoute sont affectées par l'enseignement des stratégies métacognitives ou pas dans le cadre de l'approche basée sur les processus. Les participants à cette étude quasi-expérimentale sont 60 étudiants, répartis au hasard en groupes expérimental (N = 30) et témoin (N = 30). Les données ont été recueillies en administrant un test d'écoute IELTS et un questionnaire d'écoute de sensibilisation métacognitive (MALQ), qui sont tous les deux utilisés avant et après l'intervention. Les résultats indiquent que l'enseignement métacognitif a considérablement amélioré les performances d'écoute des étudiants et a augmenté leur conscience métacognitive.

Mots-clés : l'enseignement de stratégie, conscience métacognitive, performance d'écoute, stratégies d'écoute, approche basée sur les processus.



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Listening comprehension is considered as one of the most crucial skills in ESL/EFL learning contexts. Hence, learners need to develop this skill, first, so that they can proceed to other skills and can maintain an effective communication with others. On this basis, researchers attempted to enhance students listening comprehension through conducting different studies, with the aim to explore the listening strategies frequently used by skilled L2 listeners, to be taught for less skilled ones.

The findings yielded informed researchers about how to possibly deal with listening difficulties and challenges that most ESL/EFL listeners face while listening. “Metacognitive strategy instruction” (Goh, 2008) is found to be one of the most beneficial methods to develop listening performance, in particular, and language learning as well as teaching, in general. It is advocated to be implemented within the framework of process-based approach, which seems to provide both teachers and learners with the opportunity to gain more insights into how the listening comprehension process should be addressed for better understanding as well skill development (Mendelsohn, 1998).

Metacognitive strategy instruction is widely recognized, lately, and acknowledged by various researchers to be an effective instructional way that promotes listening comprehension and metacognitive awareness, through emphasizing learners’ involvement in the listening process, encouraging them to take part of enhancing their listening performance (Vandergrift, 2004). Accordingly, this pedagogy offers teachers opportunities to help their learners control their own learning and take responsibility of it, via interaction attempting to equip them with the metacognitive listening strategies they need to be aware of in order to become more skillful ESL/ EFL learners.

As listeners in any ESL/EFL educational context, the Algerian EFL students encounter similar listening problems that need to be targeted. Hence, the current study’s major objective is to explore the effect of metacognitive strategy instruction, following a process-based approach, on enhancing EFL students’ listening performance at Abu el Kacem Saadallah University, in Algiers. The second objective that the researcher seeks to meet is the extent to which metacognitive strategy instruction affects EFL students’ metacognitive awareness of the listening strategies and their perceived use. Hence, this experiment addresses the following research question:

1. Is there any impact of metacognitive strategy instruction on the students’ listening performance?

2. Is there any effect of metacognitive strategy instruction on the students’ metacognitive awareness?

Based on the research questions, two hypotheses are formulated:

1. There is a positive impact of metacognitive strategy instruction on the students’ listening performance.

2. There is a positive effect of metacognitive strategy instruction on the students’ metacognitive awareness.

In other words, the researcher attempts to find out whether (or not) metacognitive strategy instruction affects second year Algerian students’ listening comprehension, through a quasi- experimental research.

1. Listening Comprehension and Listening

Research has shown that people spend up to 40-50 per cent of their communication listening, the fact that demonstrates the crucial role of listening in both real life communication and instructional settings where instructors are advocated to prioritize this skill in language learning (Dunkel, 1991). As listening is considered as a process that entails deciphering and constructing meaning from both verbal and non-verbal messages, learners are required to develop the listening skills necessary for grasping the input meant for learning (Nunan, 1998). Listening comprehension is viewed also as an active process in which listeners undergo some mental processes in parallel, like to “discriminate between sounds, understand vocabulary and grammatical structures, interpret stress intonation, retain...[all of it] and interpret it with the immediate as well as the larger context’ (Vandergrift, 1999: 168). Therefore, meaning is constructed from these dynamic cognitive processes, referred to as ‘bottom-up’ and ‘top-down’ (Nunan, 1998).

The bottom- up process involves building up the meaning of the spoken language starting from decoding the smallest unit (sounds, words, and phrases) to the largest unit (sentences) focusing on grammatical rules (syntax) as well as stress and intonation (phonetics) while the top-down process is related to meaning interpretation of the aural input as delivered by the speakers relying on schemata or prior knowledge that the listener has stored from previous input (ibid). Differently put, the process of listening comprehension requires two major procedures: input analysis and input comprehension, which seems challenging in nature. This has been shown in research done in this field, highlighting the fact that ESL/EFL listeners face a great difficulty in the process of listening comprehension (Chang and Read, 2006), mainly because of inadequate exposure to the target language and strategy use (Graham, 2006). Hence, it demands that they use a variety of mental mechanism, usually known as listening comprehension strategies (Coskun, 2010), including metacognitive strategies (O'Malley et al. 1985), which are regarded as the most fundamental in developing students’ skills.

2. Metacognitive Strategy Instruction in L2 Listening:

The concept of metacognition is described as “knowledge and cognition about cognitive phenomena”, clarifying that it is a process that requires “one’s knowledge concerning one’s own cognitive processes...and active monitoring and consequent regulation and orchestration of these processes (Flavell, 1979: 906). In simple words, it is thinking about one’s own thinking. Although different terminology, definitions, and explanations were provided by several researchers, they all share a common point which is the two main components of metacognition: knowledge (thought) and regulation (action).

Moving to metacognitive strategy instruction, it is defined as “pedagogical procedures that enable learners to increase awareness of listening process by developing richer metacognitive knowledge about themselves as learners, the nature and demands of listening, and strategies for listening”, drawing their attention to learn how to plan, monitor, and evaluate their comprehension efforts and the progress of their overall listening development” (Vandergrift and Goh, 2012: 97). Otherwise put, it helps learners be more aware of both the process of how to listen and the use of suitable strategies for managing their listening comprehension. Hence, the key stone of metacognitive strategy instruction is the concept of metacognition, which should be integrated in L2 listening

development, within a framework that includes metacognitive knowledge and metacognitive strategies: self-appraisal and self-regulation (Goh, 2008). This implies the key role of learners' engagement in the listening comprehension process.

3. Metacognitive Awareness in L2 Listening

Metacognitive awareness is referred to as "planning and consciously executing appropriate actions to achieve a particular goal" (Sheorey and Mokhtari, 2001: 432), which means that learners should be aware of the learning process and be able to make use of the appropriate strategies consciously. As far as listening is concerned, it is about listeners' being aware of the five forms of the strategies used in the listening process: planning and evaluation, problem-solving, directed-attention, mental translation, and person knowledge (Vandergrift et al. 2006). These factors are all grouped in a questionnaire form, called the metacognitive awareness of listening questionnaire (MALQ) that is "designed for researchers and instructors to assess the extent to which language learners are aware of and can regulate the process of L2 listening comprehension" (ibid: 432). It can, therefore, be used as both an instructional and research tool to measure and raise students' metacognitive awareness.

In line with this, research on metacognitive awareness in listening offered empirical evidence for the belief that metacognitive knowledge/awareness can be raised in class through metacognitive strategy instruction, accorded with the process-based approach (Goh and Hu, 2013). Recent studies, using the MALQ as a research tool to measure metacognitive awareness, showed that metacognitive strategy instruction helped developing learners' listening comprehension and increased their level of metacognitive awareness (ibid; Vandergrift and Tafaghdtari, 2010). Other ones, however, got mixed findings which demonstrated that the listening performance of intermediate or high-intermediate learners was developed, but no significant transformation in their metacognitive awareness in listening was found (Bozorgian, 2012; 2014; Rahimi and Katal, 2013). Like the previous experiments done in this area, the current study used the MALQ as a research instrument to discover listeners' knowledge of and ability to use listening strategies along the process of listening, exploring the effect of metacognitive strategy instruction on learners' listening performance and their metacognitive awareness.

4. Method

This study is quasi-experimental. It attempts to investigate the effect of metacognitive strategy instruction on Algerian second year EFL students' listening performance, based on the process approach. It was carried out in the Department of English, at Abu El Kacem Saadallah University, in Algiers. The experiment dependent variables are students' listening performance and their level of metacognitive awareness as well as their perceived use of the listening strategies while the independent variable is metacognitive strategy instruction. It is, hence, seeking to answer these research questions:

1. Is there any impact of metacognitive strategy instruction on the students' listening performance?
2. Is there any effect of metacognitive strategy instruction on the students' metacognitive awareness?

4.1. Sample and Setting

The population of the present study includes 60 second year Algerian EFL students who are randomly assigned to an experimental group (N=30) and a control group (N=30). The experiment is carried out at “Abu El Kacem Saad Allah” University, in Algiers, Algeria.

4.2. Research Instruments

This investigation involved the use of two research instruments: a listening test (IELTS) and a questionnaire (MALQ). A crucial point to mention is that the research tools of this study were first piloted before their final administration to the subjects targeted.

In order to measure the students’ listening ability before and after the intervention, a standardized Listening IELTS test was administered to both experimental and control groups as both a pretest and posttest. It consists of four sections, each with ten questions (40 items in total), based on form and sentence completion as well as multiple choice questions. As far as the scores are concerned, the test was marked out of forty points as it includes forty items, then it was converted to a scaled score of twenty points, and analyzed using descriptive and inferential statistics.

Moving to the second research instrument, this study adopted the metacognitive awareness listening questionnaire (MALQ). It was used as both a pre and post- questionnaire administered to both groups with the aim of assessing students’ awareness and perceived use of listening strategies before and after the intervention.

The MALQ questionnaire has 21 items that measure five factors of metacognitive knowledge: “Planning and evaluation”, “Problem Solving”, “Direct Attention”, “Mental Translation”, and “Person Knowledge”, each of which has a six-point Likert format from (1) strongly disagree to (6) strongly agree, without a “neutral” point, on purpose, to avoid leaving a space for the participants to hedge. Hence, students were asked to respond to the questionnaire by circling the number which illustrates their level of agreement with the statements.

4.3. Data Collection Procedure

The current experiment was conducted following an intervention program which was designed within the suggested framework of metacognitive strategy instruction (mentioned earlier in the theoretical background), with its emphasis on planning, monitoring, and evaluation. The participants of both groups had a listening instruction session once a week, with each lasting about 90 minutes.

In the pre-intervention phase, both the experimental and control subjects undertook a pre-test (the Listening IELTS test) and a pre-questionnaire (the MALQ) for the purposes that were already explained earlier. Then, in the treatment phase, only the experimental group received the intervention program for a time span of 12 weeks. It included 10 metacognitive strategies: 1)advanced organizers, 2)directed attention, 3)selective attention, 4)self-management (related to planning); 5)comprehension, 6)auditory, and 7)double-check monitoring (related to monitoring); 8)performance evaluation, 9)strategy evaluation, and 10)problem identification (related to evaluation).

They were both instructed and implemented in the classroom, using a process-based approach in order to develop students' listening performance and raise their metacognitive strategy listening awareness.

Each week, the researcher dealt with a given metacognitive strategy with respect to the sequencing of the cycle: planning, monitoring, and evaluation that were explained before the delivery of the chosen metacognitive strategy. The instructional program comprised three phases for every session: presenting, practicing, and reviewing. The researcher, also, pursued the common cycle of teaching listening: the pre-listening phase, the listening phase, and the post-listening phase while incorporating the metacognitive strategy instruction stages during the listening phase.

In the pre-listening phase, students were given the topic-related content in order to activate their schemata as well as to predict what the spoken text would provide as information and ideas. During the listening phase, the participants were exposed to the aural input, focusing on metacognitive strategy instruction that highlighted the suitable metacognitive strategies in relation to the given listening task. At this level, the researcher proceeded by presenting the metacognitive strategies and explaining them through practical examples. Then, the targeted metacognitive strategy was connected to the listening tasks in the classroom, encouraging students to implement it. At the end, the researcher offered plenty of time to put it into practice, and review it, drawing their attention to its crucial value in enhancing listening performance. In the post listening phase, students were provided with a task through which they had a chance to check their comprehension of not only the topic-related content but also the instructed metacognitive strategies, opening a room for class discussion.

As far as the control group is concerned, the participants went through a conventional listening instruction program which didn't include any guided attention or reflection to the process of listening comprehension, nor discussion of strategy use. Yet, they received the same listening materials, number of listening times, and cycle of listening, as the experimental subjects. Then, in the post intervention phase, a post-test (the IELTS listening test) and a post-questionnaire (MALQ) were administered to both experimental and control subjects to examine the impact of the intervention

5. Results

The IELTS listening pretest and posttest were analyzed both descriptively and inferentially. And the MALQ questionnaire was analyzed using frequency analysis.

5.1. Results of the IELTS Listening Pretest

The IELTS listening pretest and posttest as well as the MALQ questionnaire were analyzed both descriptively and inferentially. Table 1 below shows the results of the listening pretest administered to both experimental and control participants.

Table 1: Descriptive statistics and independent samples t-test of both groups in the listening pre-test

Group	N	Mean	SD	T-value	DF	Critical value	Decision
Experimental	30	12,98	3,31	0.27	58 (approx 60)	2 at alpha level = 0.05	Not significant
Control	30	13,21	3,24				

N= Number of participants SD= Standard deviation DF= degree of freedom

Table 1 above shows that the mean of the experimental group is 12.98 while it is 13.21 for the control group with standard deviations of 3.31 and 3.24, respectively. Also, the calculated t-value is 0.27; it is lower than the critical value 2 at an alpha level of 0.05. Hence, the p-value is higher than the alpha level $p > .05$.

5.2. Results of the IELTS Listening Post Test

Table 2 below presents the results of the post-test of listening administered to both experimental and control participants.

Table 2: Descriptive statistics and Independent samples t-test of both groups in the listening post-test

Group	N	Mean	SD	T-value	DF	Critical value	Decision
Experimental	30	15,55	2,03	2.56	58 (approx 60)	2 at alpha level = 0.05	Significant
Control	30	13,83	3,05				

N= Number of participants SD= Standard deviation DF= degree of freedom

Table 2 shows the results of descriptive statistics and independent samples t-test of both the experimental and control groups' mean scores in the listening post-test. It can be noticed, from table 2, that the mean of post-test scores is higher for the experimental group 15.55 compared to the control group 13.83. Besides, the findings here reveal that the calculated t-value 2.56 is higher than the critical value 2 at an alpha level 0.05. Table 3 and 4 below demonstrate the results of the paired samples t-test applied with the experimental and control groups.

Table 3: Paired t-test statistic of listening comprehension test for experimental group

Group	N	Mean	SD	T-value	DF	Critical value	Decision
pretest	30	12,98	1,90	(-) 7,37	30-1= 29	2,04 at alpha level = 0.05	Significant
posttest	30	15,55	3,05				

N= number of participants SD= standard deviation DF= Degree of freedom

In table 3, the results indicate that the t-value is 7.37 with the significance test p-value sig. (2-tailed) = 2.04. Therefore, p-value is less than the alpha level 0.05.

Table 4: Paired t-test statistic of listening comprehension test for control group

Group	N	Mean	SD	T-value	DF	Critical value	Decision
pretest	30	13,21	1,03	(-) 3,27	30-1= 29	2,04 at alpha level = 0.05	Significant
posttest	30	13,83	3,05				

N= number of participants SD= standard deviation DF= Degree of freedom

The findings in table 4 display that the t-value is 3.27 with the significance test p-value sig. (2-tailed) = 2.04. Thus, p-value is lower than the alpha level 0.05 ($p < 0.05$).

4.2. Results of the MALQ Questionnaire

The findings of the overall MALQ questionnaire are displayed in the tables below.

Table 5: Descriptive statistics and Independent samples t-test of both groups for the overall MALQ questionnaire in the pre-test

Group	N	Mean	SD	T-value	DF	Critical value	Decision
Experimental	30	3.12	1.10	0.70	58 (approx 60)	2 at alpha level = 0.05	Not Significant
Control	30	3.11	1.37				

N= number of participants SD= standard deviation DF= Degree of freedom

Table 5 demonstrates that the mean of the experimental group is 3.12 with a standard deviation of 1.10 while it is 1.37 for the control group with the mean score of 3.11. This difference in the mean scores turned to be statistically insignificant as the calculated t-value 0.70 is lower than the critical value 2 at an alpha level of 0.05. Hence, the p-value is higher than the alpha level $p > .05$.

Table 6: Descriptive statistics and Independent samples t-test of both groups for the overall MALQ questionnaire in the post-test

Group	N	Mean	SD	T-value	DF	Critical value	Decision
Experimental	30	4.37	0.93	4.39	58 (approx 60)	2 at alpha level = 0.05	Significant
Control	30	3.47	1.24				

N= number of participants SD= standard deviation DF= Degree of freedom

It can be deduced, from table 6, that the difference in the mean scores for the experimental group 4.37 compared to the control group 3.47 is statistically significant as the calculated t-value 4.39 is higher than the critical value 2 at an alpha level 0.05, which

suggests that metacognitive instruction had an impact on the listeners' metacognitive awareness (in the experimental group), to some extent.

6. Discussion

The findings are discussed below after analyzing the results yielded in the current experiment.

6.1. The IELTS Listening Test

The first research question attempted to discover whether metacognitive strategy instruction has an impact on students' listening performance, the results demonstrated that the mean scores of the listening pre-test for both the experimental and control groups showed no significant difference between them. The findings of the listening post-test, however, revealed that the progress made by the experimental participants with the regard to meatcognitive strategy instruction, was descriptively and statistically significant, as illustrated in their listening mean scores in contrast to the control participants' mean scores. Hence, the null hypothesis, assuming that there will be no difference in the means of pre and post listening tests for the experimental group, is rejected, and the alternative hypothesis, stating that there will be a difference in the means scores of the pre and post listening test for the experimental group, is maintained.

This outperformance reflects the positive effect of metacognitive strategy instruction on learners' listening performance, supporting the previous studies (Goh and Hu, 2013; Vandergrift and Tafaghdtari, 2010) done in this field. Such a finding can, also, strengthen the idea that when teaching listening alongside metacognitive strategies and presenting them to learners systematically, this can help them enhance their overall listening performance.

6.2. The MALQ Questionnaire

The second research question aimed to explore the impact of metacognitive strategy on students' metacognitive awareness in listening. The findings of the general analysis of the MALQ factors demonstrated that there was a significant impact of metacognitive strategy instruction on students' metacognitive awareness of listening for the whole factors. These results support those of other studies (ibid), showing that metacognitive strategy instruction following a process-based approach contributes to raising learners' metacognitive awareness in listening. However, compared to other ones (Bozorgian, 2012; 2014; Rahimi and Katal, 2013) carried out following the same framework of process-based approach and the MALQ to explore the impact of metacognitive strategy instruction on students' listening comprehension and metagognitive awareness, the result of the current study does not support their findings which revealed no significant difference in the listeners' metacognitive awareness after the treatment.

Conclusion

This research emphasized the significance of metacognitive strategy instruction on upper intermediate EFL learners' listening performance and metacognitive awareness, in Algeria. It also investigated whether metacognitive strategy instruction influenced learners' metacognitive awareness. The findings offered some empirical evidence for the idea that

guided metacognitive strategy education using a process-based approach can help EFL listeners improve their listening comprehension and enhance their metacognitive awareness. Hence, this study can recommend a change from conventional listening which is product-oriented to a process-based listening. Moreover, more attention should be directed to how learners should listen, and also how they can get actively engaged in enhancing their listening performance through metacognitive strategy instruction in order to be able to take full responsibility of their own learning and gain more autonomy in listening: self- control and self-regulation. Moreover, teachers, in the EFL classes, should encourage students to use metacognitive strategies while addressing listening tasks. Further research is needed in this field to get more and deeper insights on the benefit of metacognitive strategy instruction with regard to listening performance, in different EFL/L2 contexts targeting larger samples and various levels of proficiency.

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