



## The Effect of Meta cognitive Strategy Training on ESL Pre-University Students' Listening Achievement

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**Abstract.** This study examines the effect of meta cognitive strategies on pre-university students' listening achievement. In total, 62 students were selected from a matriculation college located in Malaysia. A quasi-experimental design was adopted, both the control and treatment groups were administered standardised measures of listening comprehension tests: Pre-test, Post-test1, and Post-test 2. The treatment group received nine weeks of Meta cognitive Strategy Training (MST) while the control group attended regular listening classes for the same period. After Post-test 1, both groups underwent online listening activities for four weeks without any assistance prior to Post-test 2. The Paired-sample T-tests revealed that both treatment and control groups improved their listening performance in Post Test 1. However, in the Post-test 2 results indicated that only the treatment group performed significantly than the control group in their listening performance. Thus, MST not only improved the students' listening performance but also helped them to become autonomous learners.

**Keywords:** Listening, meta cognitive strategy training, meta cognitive knowledge, autonomous learners

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### INTRODUCTION

Listening is can be considered as the most central language skill that need to be mastered by ESL learners. However, many learners fail to become successful listeners. Despite its prominence in EFL, the instructions for listening skills have long been disregarded and taught below the par. Several studies have acknowledged that listening has become a neglected skill and receives less importance (Xu, 2013; Vandergrift & Goh, 2012; Usó-Juan & Martínez-Flor, 2006; Renukadevi, 2014; Nguyen, 2019; Noor Idayu, Nooreen & Abu Bakar, 2019). In the context of ESL, listening test scores are given more significance than the process of comprehending the text itself. Vandergrift & Goh (2012) noted that although listening is the poorest skill for a lot of ESL students, it received the least significance in the most of ESL syllabus. Similarly, Xu (2013) revealed that the performance of students in listening comprehension skills is not on par with other language skills such as reading comprehension, writing, and grammar. Usó-Juan & Martínez Flor (2016) also indicated that students instead of regarding it as part of the process of attaining a second language proficiency, they usually think of listening as a test. Moreover, teachers commonly focus on the students' correct answers when teaching listening skills. As a result, many students fail to become successful listeners and are unable to understand the listening text. Thus, an effective listening instruction that focuses on the students' listening process is essential. The metacognitive listening strategy, for instance, is one of the teaching methods that allows students to manage their own learning.

Metacognitive listening strategies have attained considerable thought from researchers and educators. Previous studies have examined the effect of Metacognitive Strategy Trainings (MST) on the students' listening comprehension and yielded positive effects of MST on their listening comprehension and metacognitive knowledge (Maryam & Mohammad Reza, 2014; Fahim & Ebrahim, 2014). According to Rubin (1987), metacognitive strategies are "management steps or operations by which learners' control and manage their learning or problem-solving processes via planning, monitoring, evaluating, and modifying their learning approaches". Specifically, by using MST, students can establish different thought processes to attain learning activities on their own and at the same time, reflect on their performances. In a study by Maryam and Mohammad Reza (2014) involving 60 students with average English language ability at the state University of Qom, the experimental group significantly outdid the control group in listening

performance and showed enhancement in metacognitive awareness after the strategy training was provided. Furthermore, the students were found to expand their strategies and use them more frequently.

In addition, Fahim and Ebrahim (2014) evaluated 90 intermediate EFL listeners who were divided into three groups and discovered that the experimental group students did significantly better than the control group students. As opposed to the previous studies which only had two groups, namely a treatment and control group, Fahim and Ebrahim (2014) used three groups and utilised two dissimilar approaches of incorporating metacognitive strategies in the experimental group. The first group used the linear training for the ten-week strategy training, while the second group used the Metacognitive Pedagogical Sequence (MPS) for their training. Finally, the last group, which was the control group, did not incorporate any strategy training or direction from the teacher. However, all the participants used the same listening resources. The results indicated that the highest mean scores were obtained by the treatment group that used MPS. These findings indicate that MST has changed the conventional way of teaching listening skills as it focuses on the outcome that is geared towards process-based learning.

Similarly, Siegel (2013) stated that there was a shift in the L2 listening instructions based on the students' cognitive and metacognitive processes due to an increased understanding of the process-based approach as opposed to the product-based method. Mendelsohn (1994) identified that the process-based approach increases the learners' awareness of listening strategies and assists them in using these strategies efficiently during the process of comprehending the listening text. Students must be conscious of the strategies that can assist them to become effective listeners. Although the guided strategy instruction and L2 listening comprehension depicted a positive relationship, Graham and Macaro (2008) stated empirical evidence to support its effectiveness is still limited. Hence, this research attempts to highlight the effect of MST on pre-university students' listening achievement.

Besides that, O'Malley and Chamot (1994) emphasised that learners must acquire the skill to monitor and control their own learning process. Similarly, Henter and Indreica (2014) indicated that stages of metacognitive knowledge contain thinking about what we think, how we think, and why we think in that way. This observation was also supported by Nunan (1999) affirmed that learning strategies such as metacognitive strategies would encourage learners to pay attention to the mental processes which are essential to their learning. Thus, in this study, metacognitive strategies were integrated in the listening strategy instruction for pre-university students as they are required to be independent learners. Kaur (2020) in her study suggests that students must embrace autonomy in learning process even though teachers play an effective role in facilitating them.

Hamzah and Abdullah (2009) also recognized lack of metacognitive learning strategies as the main reason for Malaysian ESL students for using English language in their daily life. The metacognitive strategy integrated in this lesson was incorporated through Metacognitive Pedagogical Sequence (MPS) (Vandergrift, 1999, 2004, 2007; Vandergrift & Goh, 2012) and it was firstly suggested by Field (2000). The main aspect in MPS is that students were repeatedly exposed to metacognitive processes like planning, monitoring, evaluation and problem-solving in students' listening. Repeated practice with same sequence of metacognitive strategies would lead to autonomous stage, where students could apply metacognitive strategies without seeking for clarification (Vandergrift, 2007). Hence, Malaysian students need to be responsible for their own learning, in order to be autonomous learners (Kaur & Yusuf, 2004; Naginder, 2013). On the other hand, Feng (2020) reported that students in group meta cognitive support displayed high level metacognitive knowledge and task perception.

In this study, the pre-university students commonly use their listening abilities to answer the Malaysian University English Test (MUET) listening paper and listen to lectures for other subjects. It is worth noting that MUET is the national English entry requirement for public universities in Malaysia. Hence, to prepare students at higher level of learning or in higher education they must be taught to self-regulate their own listening process. Teaching students with effective metacognitive strategies can help them cultivate self-regulated learning as it allows them to select their own goals, monitor their progress, and evaluate their own learning outcomes. Furthermore, Chamot (2005) stated that "learners may utilise a learning strategy automatically after they have repeatedly used it, as it will become familiar to them" (p. 112). In other words, students would be able to use metacognitive strategies automatically once they have some experience in using it. Therefore, this study aims to aid students become self-regulated learners and improve their listening skills for higher education.

### **Studies on the Effect of Meta cognitive Strategy Training**

Various researches have revealed the positive effects of meta cognitive strategy training on students' language achievement in the context of EFL (Tabeei, Tabrizi & Ahmadi, 2013; Latifi, Tavakoli & Dabaghi, 2014; Bozorgian, 2012; Alhaisoni, 2017; Bidabadi, & Yamat, 2011). Tabeei et al. (2013) revealed that

strategy training had a positive effect on listening comprehension although no differential effect was observed based on gender. Similarly, Latifiet al.(2014)found that the high-skilled and low-skilled participants in the treatment groups outdid the control group that was not exposed to metacognitive strategy instruction. In addition, Bozorgian(2012) provided evidence that low-skilled listeners improved further as compared to high-skilled listeners after receiving the metacognitive strategy training.

Although studies on MST are gaining popularity in the Malaysian context, these studies are mainly focused on improving reading skills (Habibian, 2015; Abdul Rashid, Chew, &Kabilan, 2006; Mohammad Reza, Hairul Nizam &Kabilan, 2013; Tengku Nor Rizan, &Nooreiny, 2012; Marimuthu, Muthusamy &Veeravagu, 2011; Fauziah, 2003)and only a small number of studies have emphasized on listening skills. In fact, studies on the retention effect of MST are still lacking (Rozilawati & Ganakumaran, 2013;Sa'adiyah&Saemah, 2010). For instance, Habibian (2015) investigated the effects of MST on 48 ESL students in University Putra Malaysia and revealed that effective MST training improved the students' reading strategies. Similar findings were reported by Mohammad Reza et al. (2013)who indicated that ESL learners from University Science Malaysia gained some positive effects in learning a second language from the metacognitive reading comprehension. In addition, Tengku Nor Rizan&Nooreiny (2012)noted that the 41 undergraduate students investigated in their study were aware of the metacognitive reading strategies that helped them to become skilled readers. On the other hand, Marimuthu et al. (2011) suggested the use of cognitive academic language learning approach (CALLA) as a training strategy. The studies described above indicate that MST helps ESL learners in language learning, especially in reading comprehension. Similarly, Fauziah (2003) stated that the awareness of reading metacognitive strategies greatly improved the reading ability of 40 Malaysian secondary school students who were either in L1 or L2.

To date, very few studies have examined the influence of MST on listening performance in the Malaysian context (Suzanah & Gurnam, 2013; Suzanah & Gurnam, 2011; Faridah, Isarji, Ainon Jariah & Engku Haliza, 2013; Lye & Goh, 2016). Suzanah and Gurnam (2013)showed that 34 first-year students in a Malaysian public university scored higher in the listening test when they frequently used metacognitive strategies. The students revealed the MST helped improve their listening skills during lectures and allowed them to be more effective in extracting information from the lectures. In addition, Faridah et al. (2013) reported that in the International Islamic University of Malaysia, 54 students whom registered in a 14-week pre-university English program did better to some extent than the learners in the control group, although the differences were not statistically significant. It was also shown that the treatment group expanded their listening comprehension strategies. Lastly, Lye and Goh (2016)conducted a beneficial small scale quasi-experimental study to compare the effects of metacognitive strategy instructions using two pedagogical methods on the metacognitive awareness of Malaysian ESL listeners, namely Metacognitive Pedagogical Sequence and Cognitive Academic Language Learning Approach. Interestingly, significant improvements were obtained in the students' IELTS listening scores. However, there was no development in the students' metacognitive awareness using both approaches, thereby requiring further research to be conducted to achieve more conclusive results.

Nevertheless, some basic principles in the metacognitive strategy training that should be used as guidelines in MST. For instance, Goh (2008)proposed a form of metacognitive training for L2 listening based on metacognitive knowledge (Person knowledge, Task knowledge, and Strategy Knowledge) and Brown's (1978) metacognitive strategies (Planning, Monitoring, and Evaluating). This study emphasis was on the L2 learners' role in the listening process. She also stated that this social-cognitive framework highlights the cognitive and affective advantages of the learners' collaboration with others to discover new ways of learning. There are two types of learning activities that could be included in the proposed framework for strategy training which consisted of incorporated experiential listening activities and guided reflections on the skill. The first activity focuses on daily listening activities with metacognitive material that encourage learners to become more aware of their listening process. On the other hand, guided reflections are activities that would elicit learners' listening experiences and create new knowledge for future listening activities. Lastly, Goh (2008)outlined three principals in her study for successful metacognitive training that include embedded metacognitive instructions, student awareness of the usefulness of MST, and prolonged training to guarantee the maintenance of MST.

Studies on the awareness of MST in the context of ESL listening is still lacking, whereby only a few studies have focused on the influence of learners' metacognitive awareness on their mental development (Goh, 2008; Goh & Taib, 2006). Besides, Goh (2008) stated that it is important to investigate and clarify the role of metacognitive instructions and their effects on listening comprehension and metacognition to improve teaching practice, especially in the context of ESL. Therefore, this study investigates the effectiveness of MST on learners' listening comprehension and metacognitive knowledge. Specifically, this study evaluates the effectiveness of MST on students' listening comprehension after post-test 2 to

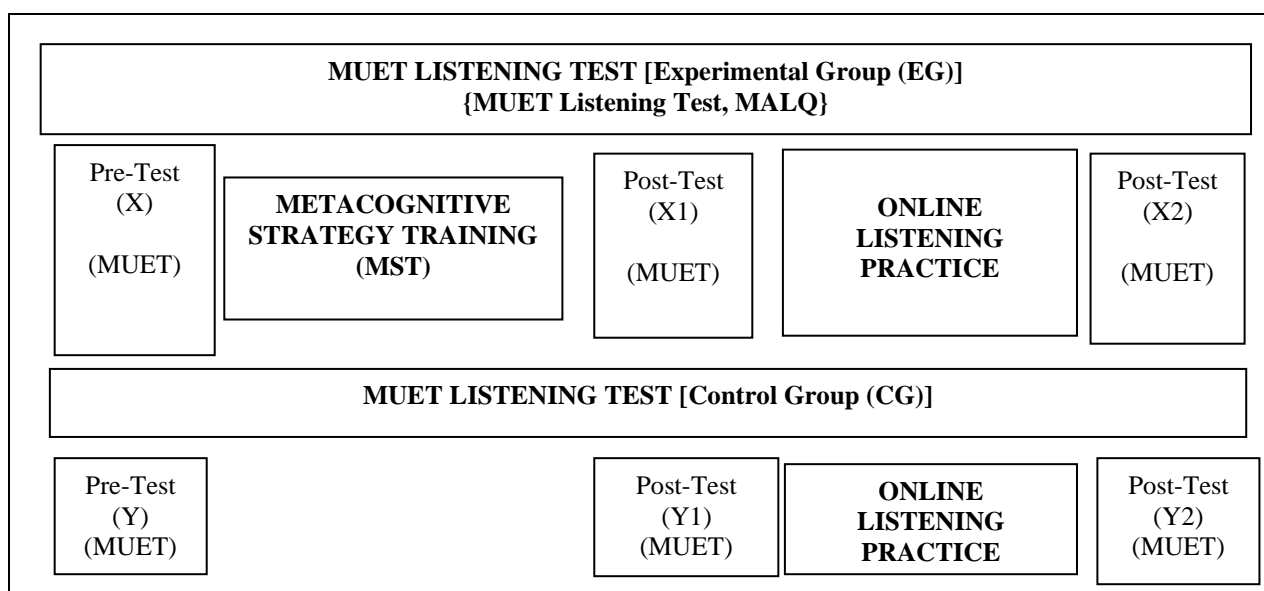
identify its retention effect because it is still under researched. The main objective of this study is to identify the effect of metacognitive strategy training on pre-university students' listening performance.

### MATERIALS AND RESEARCH PROCEDURES

Prior to the listening activities, students in both groups were given the pre-test (X) (Y) respectively to determine their scores for MUET listening achievement. Additionally, before the commencement of the strategy training, the lecturer was briefed on MST and provided with the MST module that consisted of detailed lesson plans and lesson objectives. Subsequently, students in the treatment group (EG) were taught how to apply the metacognitive strategies in listening tasks. They attended 9 weeks of MST using the Metacognitive Pedagogical Sequence (MPS) (Vandergrift & Goh, 2012). MPS is an embedded approach towards strategy instruction for listening activities, whereby students experience metacognitive processes of planning, monitoring, problem-solving, and evaluation. The control group (CG) underwent listening activities without strategy training for the same period using the same listening activities and audio tapes used in the other group. In the ninth week, all the students were administered Post-test 1 (X1) (Y1) respectively to measure their MUET listening performance after the training. After Post-test 1, both groups continued to do the online listening activities uploaded by the lecturer in their college portal for four weeks independently. Once the online listening activities were completed, students were given Post-test 2 (X2) (Y2) respectively to measure their MUET listening performance after online practices and also to measure the retention effect of MST.

#### Study Participants

In total, 62 pre-university students participated in this study, in which both the control group (CG) and treatment group (EG) consisted of 31 students, respectively. The students were considered to be mixed-ability students with high, average, and low scores in the Malaysian Certificate of Education (SPM) English paper. The minimum entry requirement for the English Language in this pre-university college is grade C (UPUonline.com, 2020). The participants were homogenous in terms of their age (above 18 years old) and all of them completed their SPM examinations. The treatment group consisted of 26 females and 5 male students, while the control group had 22 female and 9 male students. All the 31 participants from the treatment group agreed to be interviewed for the study. The students were divided into 5 groups according to their intact classes.



**FIGURE 1:** Randomised Pre-test and Post-test Metacognitive Strategy Training Experimental Design

#### Metacognitive listening strategy training module

The metacognitive listening strategy training module was validated by two lecturers from a local university. In total, six out of ten criteria listed in the module were rated as 'very good', while two criteria were given an 'excellent' rating and only one criterion was rated as 'good'. Therefore, changes were made to the lesson plans based on the experts' validation. The training module consisted of lesson plans based on Metacognitive Pedagogical Sequence (MPS) by Vandergrift and Goh (2012) for the treatment group,

lesson plans for the control group, worksheets for classroom listening and online listening, an audio CD, and a performance checklist for students (Vandergrift, 1997). The same audio materials and worksheets for listening activities were used for both treatment and control groups and extracted from the book entitled 'Ace Ahead Text MUET' (6<sup>th</sup> Edition) (Choo, Yeoh, Stanley Nyanaprakasan, & Yee, 2014).

### Pre- and Post-Listening Tests

The Malaysian University English Test (MUET) July 2016 were adapted from Penerbitan Pelangi Sdn. Bhd (2017) listening paper and was utilised for all the pre- and post-listening tests. The tests were conducted to measure the students' MUET listening achievement before and after the meta cognitive strategy training. The listening test paper contained 20 questions, in which Part 1 comprised six information transfer questions with two multiple-choice questions, Part 2 had six multiple-choice questions, and Part 3 consisted of six sentence-completion questions.

Quantitative data analysis was carried out using the SPSS (Version 22.0) statistical software. An independent-sample t-test was performed to test the homogeneity of the listening performance in the treatment and control groups. Next, a paired t-test was performed to determine if there was any significant difference between the control and experimental groups.

## RESULTS

Paired sample t-test was utilised in order to investigate whether there is any significant effect between students MUET listening test achievement before and after the metacognitive strategy training in the treatment and control group. Table 1 displayed the results of paired sample t-test for control and treatment groups' pre-test (Y) (X) and post-test 1 (Y1) (X1) MUET listening results respectively. From this table, it is clearly seen that both control ( $t(30) = -7.04, p < 0.05$ ) and treatment group ( $t(30) = -8.51, p < 0.05$ ) had statistically significant effect between pre-test and post-test 1. Both groups improved in Post-test 1. Therefore, at this stage the effect of metacognitive strategy training on students' MUET listening test achievement is still not clear because the control group's also had statistically significant effect.

**Table 1.** Results of paired-sample t-test for MUET listening pre and post-test 1 scores

Group	Test	N	Mean	SD	df	t	p
Control	Pre- and Post-test 1	31	-3.52	2.779	30	-7.044	.00
Treatment	Pre- and Post-test 1	31	-3.19	2.088	30	-8.514	.00

However, in Table 2 the results of mean scores of both treatment and control group showed a slight increase in the treatment group's MUET listening test scores. The mean for pre-test scores for the control group (Y) is ( $M=11.35, SD = 2.37$ ) while for treatment group (X) is ( $M=11.77, SD = 2.13$ ) while post-test scores (X1) for the treatment group is ( $M=14.97, SD=2.20$ ) and control group (Y1) is ( $M=14.87, SD = 2.14$ ). Treatment group's post-test 1 scores mean is slightly higher than the control group's mean. Thus, this requires further exploration on the effectiveness of meta cognitive strategy training on students' listening comprehension.

**Table 2.** Descriptive Statistics for MUET listening pre-test and post-test 1 scores

Group	Test	N	Mean	SD
Control	Pre-test	31	11.35	2.37
	Post-test 1	31	14.87	2.14
Treatment	Pre-test	31	11.77	2.13
	Post-test 1	31	14.97	2.20

Table 3 below revealed that there was no significant effect between post-test 1 (Y1) and post-test 2 (Y2) for the control group ( $t(30) = 0.72; p > 0.05$ ). However, there was a significant effect between the treatment groups' MUET listening test achievement in post-test 1 (X1) and post-test 2 (X2) ( $t(30) = -5.14; p < 0.05$ ). Table 4.3 clearly revealed the effect of metacognitive strategy training on students' MUET listening test achievement in post-test 2 (X2). Students in the treatment group were able to improve their listening performance even after the period of MST in classroom. Their results in Post-test 2 justified that treatment group students were able to manage and plan their own learning. This finding supports claims by Vandergrift (2002) where in his study learners that have been exposed to metacognitive strategies will become autonomous learners in their future listening tasks. Mareschal (2007) also agreed that students who received metacognitive strategy training were able to self-regulate themselves while completing their

listening task compared to those who did not receive the training. The findings also show that the use of MST in teaching listening significantly enhanced the treatment students' MUET listening scores as compared to their scores for the pre-questionnaire before treatment. The students were exposed to metacognitive strategies by employing MPS (Vandergrift & Goh, 2012) which is the embedded approach for metacognitive strategy instruction. However, before this they were taught by basically testing method. Thus, it has become explicitly clear that the application of MST played an important role in encouraging students to learn listening skills independently.

**Table 3.** Results of paired-sample t-test for mean post-test 1 and post-test 2 scores

Group	Test	N	Mean	SD	df	t	p
Control	Post-test 1 and Post-test 2	31	.258	2.01	30	.719	.478
Treatment	Post-test 1 and Post-test 2	31	-2.290	2.48	30	-5.144	.000

## DISCUSSIONS

The findings of this study are consistent with previous studies evaluating the impact of MST on listening comprehension (Tabeei, Tabrizi & Ahmadi, 2013; Latifi, Tavakoli & Dabaghi, 2014; Bozorgian, 2012; Alhaisoni, 2017; Bidabadi, & Yamat, 2011; Vandergrift, 2002). For instance, Vandergrift (2002) stated that students who were exposed to metacognitive strategies will become autonomous learners in their future listening tasks. In addition, Mareschal (2007) also showed that students who received metacognitive strategy training were able to self-regulate themselves while completing their listening tasks compared to those who did not receive the training. Furthermore, Cross (2012) mentioned that metacognitive experiences acted as a trigger for self-regulation and management of L2 listening. Therefore, if the metacognitive strategy instruction had some effect on students' listening performance, it can be utilised as a significant method in assisting the students' understanding of a listening text. According to Suzanah and Gurnam (2011), students in their study agreed that the MST had helped them in improving their listening for lecture. The students also agreed that they understood the lecturer better. Besides that, development in metacognitive awareness also encourages students to control their own learning processes. This knowledge is vital as it has a certain degree of influence in their overall academic success. Thus, MST is useful as it offers a possible technique of helping students to increase their academic achievement by providing them with effective listening strategies and increasing students' metacognitive awareness.

In this study, students became aware and were able to regulate their own learning during the online listening practices, thus achieving a better performance in Post-test 2. Sun (2013) suggested that students should be made aware of the metacognitive strategies as it plays a crucial part in developing learner autonomy. To further support the necessity of MST for pre-university students, De Backer, Van Keer, and Valcke (2015) indicated that university students have insufficient meta cognitive regulation skills to regulate their own learning. Therefore, if students have sufficient meta cognitive skills, they will be able to regulate their learning. Anthonysamy, Koo, and Hew (2020) revealed that generally, self-regulated learning strategies certainly correlate with non-academic outcomes. It should be noted that not all of the students know or have the knowledge on how to become independent learners. Hence, more training is needed to expose students to new techniques and strategies in listening. MST is one of the effective methods that teachers can incorporate in the classroom to train students to become autonomous learners. Thus, it is necessary to provide pre-university students with sufficient metacognitive knowledge and MST is one of the methods that can be employed.

According to Carrier (2003) in order to train students for higher academic accomplishments, a systematic teaching of metacognitive strategies for students to understand authentic input in second language classrooms is vital. Lastly, teachers and stakeholders play a major role in increasing student awareness of metacognitive strategies and developing their abilities to being able to manage their own learning and become self-regulated students. It should also be noted that although the study participants consisted of ESL pre-university students, metacognitive strategy training is applicable for ESL/EFL learning in any country.

## CONCLUSIONS

This study is one of the few studies that provides valuable insights for the progress of students' listening performance based on the use of post-test 2 and its long-term effect. Nevertheless, more studies need to be performed to investigate the outcome of delayed effect of strategy training on the students' listening performance, as this topic is relatively lack of studies in the context of ESL. Therefore, this study not only contributes to the growing knowledge on the efficiency of MST in improving listening performance, but it

is also innovative as it incorporated the element of delayed post-test. It is envisaged that the results of this study would be beneficial for curriculum planners and educators, whereby information on the effective use of strategy training in listening and its integration with metacognitive strategies is made available for future use.

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