Enhancing Young EFL Learners' Metacognitive Awareness of Speaking Skill and Developing Their Speaking Fluency After the COVID-19 Pandemic

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Abstract
The present mixed methods study examined how enhancing young EFL learners' metacognitive awareness through a teaching-speaking framework developed their L2 speaking fluency after the COVID-19 pandemic. To achieve this, 60 Iranian intermediate EFL learners aged 12 to 15 were selected and randomly divided into two groups: experimental (n = 30) and control (n = 30). An EFL teacher instructed the participants in the experimental group to engage in a 7-stage teaching-speaking cycle online for 10 sessions, while the control group followed the conventional method for teaching L2 speaking. Participants in the experimental group were requested to document their perceptions of the metacognitive training in diaries and submit them to the designated teacher online. Their oral performances and perceptions were recorded, transcribed, coded, and analyzed before, during, and after the intervention. Results indicated a statistically significant improvement in the experimental group's metacognitive awareness of L2 speaking, along with a notable enhancement in their L2 fluency by the end of the intervention. Additionally, participants expressed an overall positive attitude toward the teaching-speaking cycle. These findings hold pedagogical significance as they advocate for implementing more metacognitive awareness-raising frameworks on online platforms.

1. INTRODUCTION

The real-time nature of speaking is challenging for language learners, especially young ones because they have limited linguistic resources and cognitive capacity to promptly and fluently respond to their interlocutors (Copland et al., 2014). Many EFL young learners often stay reticent online or experience communication breakdowns while performing the speaking tasks for several cognitive (i.e., low working memory capacity, attention deficit, etc.) and affective (i.e., anxiety, boredom, inhibition, etc.) reasons (Chen & Curdt-Christiansen, 2024; Erten, 2016). This is even the case with those with higher levels of communicative competence (Baghaei et al., 2012; Dörnyei, 2005). Thus, teachers need to be armed with an approach to scaffold these young learners by, for example, providing linguistic resources, using strategies such as task repetition to expand their cognition, making them aware of the L2 speaking process, and teaching them how to plan and evaluate speaking, thus improving their metacognition on speaking (Paterson, 2022). This is

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particularly important since teaching and learning have mostly moved to online platforms after the COVID-19 pandemic, and there has been a surge in distance learning during this period (Wang et al., 2021), especially in EFL contexts, such as Iran. In this regard, metacognitive awareness assists EFL learners with introspecting and contemplating the way they engage in their communicative endeavors (Seifoori, 2016). It enables them to employ new strategies, such as planning and evaluating, to facilitate their understanding of content and language and thinking about their learning (Zhang et al., 2021). Despite its value, the role of metacognitive awareness in developing young learners' L2 speaking has been less explored (Sabnani & Goh, 2021). Motivated by this gap in the related literature, the present study was designed to examine whether the teaching-speaking cycle (Goh & Burns, 2012) had a statistically significant effect on the young EFL learners' metacognitive awareness of L2 speaking after the pandemic. Besides, it explored whether their L2 speaking fluency would develop with raised metacognitive awareness and probed into their perceptions of raising their metacognitive awareness of L2 speaking to develop their L2 fluency (Capital & Sabat, 2023; Sánchez et al., 2015; Seifoori, 2016).

2. LITERATURE REVIEW

The term metacognition was defined by a cognitive psychologist named (Flavell, 1976, 1979) formulator of the metacognitive theory, as ''thinking about one's own thinking''. The prefix "meta" means "beyond," so the concept refers to "beyond thinking" and involves planning, monitoring, problem-solving, and evaluating one's own understanding or performance. It is related to the capacity of an individual to be mindful and aware of their own mental processes and to have control over their learning mechanisms, hence referred to as the ''seventh sense'' (Çini et al., 2023; Tuononen et al., 2023). Developing this sense is feasible for all learners, even young ones

(Nisbet & Shucksmith, 1986; Wenden, 1987). Wenden (1987) was the first to apply the concept of metacognition to language learning, touching upon its role in developing learner autonomy and self-directedness (Goh & Vandergrift, 2021). Not only is metacognition conducive to a learner's cognitive development, but it is also amenable to classroom instruction (Wenden, 1987, 1991, 1998). It gives learners a sense of agency to self-regulate and manage their own learning processes (Goh & Burns, 2012; Gönül et al., 2021; Hacker et al., 2009; Palladino et al., 2025; Taouki et al., 2022; Vosniadou et al., 2021). Thus, an understanding and recognition of this key concept enables teachers to delve into their students' learning processes and become more cognizant of their learning styles. Accordingly, they tailor their teaching to suit their student's needs and assist them with developing their language, including L2 speaking.

Metacognitive awareness in L2 speaking

Metacognitive awareness was defined by Goh and Vandergrift (2021) as "a state of consciousness of our own thoughts as we focus on a particular cognitive or learning situation," which helps learners become self-knowing, self-directed, and self-managed in their learning. In fact, it is related to the manifestations of language learners' metacognition and is deconstructed into metacognitive experience, metacognitive knowledge, and strategy use (Bozorgian & Muhammadpour, 2020; Bozorgian et al., 2022; Çini et al., 2023; Goh & Vandergrift, 2021). *Metacognitive experience* is the real-time feeling of a thought process or learning demand. For example, an L2 speaker may have difficulties recalling proper words when attempting to respond to a question. Thus, they might resort to a communication strategy, such as circumlocution, to communicate what they mean (Burns, 2016; Goh & Burns, 2012; Thomas, 2019). *Strategy use* refers to a learner's use of strategies to solve communication problems. Strategies are also vital to a learner's overall speaking development because they assist them with planning, monitoring, and evaluating their learning efforts (Muhammadpour et al., 2023; Muhammadpour et al., 2024). *Metacognitive knowledge* is a learner's knowledge about a particular experience or learning

situation. For example, an L2 speaker might know how to structure a discourse (Zhang et al., 2021).

According to Goh and Burns (2012) teaching-speaking framework, metacognitive knowledge encompasses three dimensions: person knowledge, task knowledge, and strategy knowledge. Person knowledge involves understanding how we learn and the various factors influencing our learning process. Task knowledge pertains to the characteristics and requirements of a learning task, such as a real-life speaking task. Finally, strategy knowledge entails knowing which strategies to employ to achieve a learning goal, like comprehension or communication. Despite the significance of metacognitive awareness, it has often received inadequate attention in the field of L2 speaking instruction, particularly regarding young EFL learners (Sabnani & Goh, 2021). This oversight may arise because speaking instruction primarily focuses on the final product of speaking, such as delivering a presentation, rather than on the speaking process itself, including the development of communication skills (Baker, 2014). Nevertheless, the following are among the few studies conducted to explore the impact of enhancing young learners' metacognitive awareness through instruction on their oral production.

Sabnani and Renandya (2019) examined the effect of a 7-stage teaching-speaking cycle proposed by Goh and Burns (2012) on enhancing L2 speaking competence in terms of accuracy and fluency and promoting metacognitive awareness of language, discourse, and communication strategies. This methodological framework incorporated cognitive, metacognitive, and socio-affective domains and emphasized techniques, such as rehearsal, task repetition, and focused teaching, to build oral competence holistically. By combining explicit instruction with contextual practice, the model promotes learners' introspective awareness, leading to greater autonomy in their language learning process. Overall, this comprehensive framework seeks to better equip learners for effective communication in academic and interpersonal contexts. In another study, Sabnani and Goh (2021) probed into the teaching practices of three English language teachers to develop 40 10-year-old primary-four and 40 11-year-old primary-five students' metacognitive awareness for speaking in three domains of person, task, and strategy knowledge. Results suggested that the metacognitive instruction elevated young learners' metacognitive awareness and assisted them with communicating effectively.

Similarly, Chou (2021) explored the effectiveness of Goh and Burns (2012) teaching-speaking cycle in improving the speaking skill of 30 low-intermediate Taiwanese EFL university students in terms of pronunciation, grammar, vocabulary, fluency, and content and examined their strategy use while speaking. Results of implementing the teaching-speaking cycle for 18 weeks indicated that the integrated teaching approach honed their lexical and grammatical knowledge, clarified their communicative purpose, and propelled them toward strategy use (e.g., rehearsal and interactional strategies). Therefore, they gradually improved and progressed in terms of their speaking proficiency (i.e., vocabulary, content, and fluency) and strategy use.

Sato and Lam (2021) investigated the effect of metacognitive instruction on 44 Grade Three students' willingness to communicate (WTC), participation in communicative activities, and metacognitive knowledge of oral communication. The experimental group underwent a series of metacognitive awareness-raising activities, while the control group did not. Results suggested that the intervention did not improve the learners' WTC but increased their metacognitive knowledge of oral communication. As a result, the experimental group learners produced more target language and shared the talk patterns more evenly.

Seifoori (2016) examined the effect of raising the metacognitive awareness of 114 Iranian TEFL learners using a fifteen-session metacognitive awareness program on their task-based speaking fluency. The program taught metacognitive strategies for learning, arranging, planning, and evaluating. For this purpose, they were randomly divided into two tripartite classes of

experimental and control participants. Each class consisted of three groups: pre-task planners (PTP), online task planners (OLP), and pre and online task planners (POLP). Results suggested that raising the participants' metacognitive awareness under different planning conditions would significantly improve the L2 speaking fluency of all three experimental groups compared with their control group peers.

Finally, Rahimi and Katal (2013) investigated the effect of metacognitive instruction on the listening comprehension and oral language proficiency of fifty upper-intermediate EFL students who were randomly divided into an experimental and a control group. The experimental group participants underwent a sixteen-week metacognitive instruction, while the control group followed the conventional instruction. The purpose of the metacognitive instruction, including teaching strategies such as planning and evaluation, problem-solving, mental translation, person knowledge, and directed attention, was to raise the experimental group participants' metacognitive awareness. Results indicated that while metacognitive instruction improved the experimental groups' listening comprehension and oral language proficiency, the difference was only statistically significant in terms of their oral speaking proficiency.

The above studies merely examined and probed into the effect of metacognitive instruction on the participants' speaking skills, including fluency. However, it is not yet clear whether raising young learners' metacognitive awareness through strategy instruction leads to their speaking development in online classes as well. The reason is that although the communicative approach is mainly embedded in the Iranian curriculum, L2 speaking remains a challenging skill in many online classes, especially after the pandemic (Baleghizadeh & Nasrollahi Shahri, 2014; Blake, 2017). These online classes were and are normally run on Adobe-Connect or the Big Blue Button Platforms, and the pandemic was the major cause of the shift to these online classes. That is particularly the case with young EFL learners, who often lack words or structures to convey what they mean in online communicative activities (Sabnani & Goh, 2021). Thus, teachers may need to support them in planning and evaluating speaking until they gain enough confidence to become self-regulated (Zhang et al., 2021).

In this regard, teachers may raise their awareness of the elements and processes involved in speaking and assist them with thinking about their learning, a process referred to as metacognition (Sabnani & Goh, 2021). To do so, they can assist them with improving their personal factors, understanding the speaking task requirements, and learning useful strategies to overcome their linguistic difficulties, manage communication problems, and develop their speaking skill. Thus, the present article sought to fill the above gap in the related literature by addressing the following three research questions:

(1) Does a pedagogical cycle have a statistically significant effect on young EFL learners' metacognitive awareness of speaking skill after the pandemic?

(2) Does young EFL learners' metacognitive awareness of speaking skill have a significant effect on their speaking fluency after the pandemic?

(3) What are young EFL learners' perceptions of their metacognitive awareness of speaking fluency after the pandemic?

3. METHODS

Design

The present study is of a mixed methods nature: the quantitative data are collected to compare the two group's performance in terms of the metacognitive awareness of L2 speaking and their speaking fluency while the qualitative data enables the researcher to develop a richer and a more in-depth understanding of the new experience and add support to the quantitative results (Ary et al., 2018)

Participants

The participants in this mixed methods study were 60 EFL learners of 12 to 15 years of age selected through convenience sampling. The participants' native language was Farsi, and they were placed at the Intermediate level of linguistic proficiency using OPTs. The context of the study was a private language institute in Iran. The classes were 90 minutes long and held online on the Adobe Connect Platform twice a week for a full semester (i.e., a period of 20 sessions). There were normally 15 to 20 EFL learners participating in these online classes in the adult department. Locally-designed language textbooks were designed for the adult department's basic to advanced levels. The speaking lessons included topics of everyday life, such as personal interests, social life, etc. There were strict regulations imposed by the policymakers regarding the methodology used by the teachers. There was a fixed set of steps for teaching the four linguistic skills designed for each level at the adults' department. To comply with the ethical standards, online written informed consent was obtained from the EFL learners and their parents. The participants were notified that their participation in the study was completely voluntary and that their performance results would not affect their final class performance grades. They were allowed to opt out of the study any time they liked. Pseudonyms were used for the participants to ensure anonymity, and their data were maintained confidential to ensure confidentiality.

Instruments and Materials

Five instruments and materials, namely the Oxford Placement Test, Metacognitive Awareness Inventory, teaching-speaking cycle, a speaking task, and semi-structured interviews, were used in this study, explained as follows:

Oxford Placement Test (OPT)

The 200-multiple-choice-item OPT (Dave, 2004) consists of two sections, namely listening and grammar. Each of the two sections contains 100 questions. In the listening section, the participants are required to circle around the word they hear (e.g., 'earing' and 'hearing'). The grammar section has multiple choice questions on verb tense and sentence structure (e.g., 'is boiling' and 'boils'). OPT has a high internal consistency reliability of 0.94 (Geranpayeh, 2003).

Metacognitive Awareness Inventory (MAI)

The Metacognitive Awareness Inventory (MAI), proposed by Schraw and Dennison (1994), is a common instrument used to measure metacognition. It consists of 52 items and contains a scoring guide in which participants give themselves 1 point for each true statement and 0 points for each false statement. The scoring guide features two main constituents of metacognitive knowledge (52 items), namely knowledge about cognition (17 items) and regulation of cognition (35 items). The former consists of three components, namely declarative knowledge (eight items: 5, 10, 12, 16, 17, 20, 32, & 46), procedural knowledge (four items: 3, 14, 27, & 33), and conditional knowledge (five items: 15, 18, 26, 29, & 35). The latter consists of five components, namely planning (seven items: 4, 6, 8, 22, 23, 42, & 45), information management strategies (10 items: 9, 13, 30, 31, 37, 39, 41, 43, 47, & 48), comprehension monitoring (seven items: 1, 2, 11, 21, 28, 34, & 49), debugging strategies (five items: 25, 40, 44, 51, & 52), and evaluation (six items: 7, 18, 24, 36, 38, & 49). MAI had a high reliability of 0.95 (Çini et al., 2023). Two experts in the subject-specific field confirmed the validity of the face and content of MAI. They were requested to provide item relevance ratings, according to which a content validity index (CVI) was computed per item. Items achieving a CVI of .78 or higher were considered to have acceptable content validity.

Teaching-speaking cycle

A 7-stage teaching-speaking cycle, proposed by Goh and Burns (2012), was used to develop the EFL learners' speaking fluency by raising their metacognitive awareness of speaking skill.

This pedagogical cycle in speaking was designed to improve the EFL learners' person knowledge (i.e., knowledge of one's internal factors to combat the impediments to L2 speaking), task knowledge (i.e., knowledge of the requirements of the speaking task), and strategy knowledge (i.e., knowledge of the strategies for addressing conversation breakdowns and speaking-related challenges). As depicted in Figure 1, this framework consists of a series of sequenced learning activities, namely (1) focusing learners' attention on speaking, (2) providing input and/or guiding planning, (3) conducting speaking tasks, (4) focusing on language/discourse/skills/strategies, (5) repeating speaking tasks, (6) directing learners' reflection on learning, and finally (7) facilitating feedback on learning.

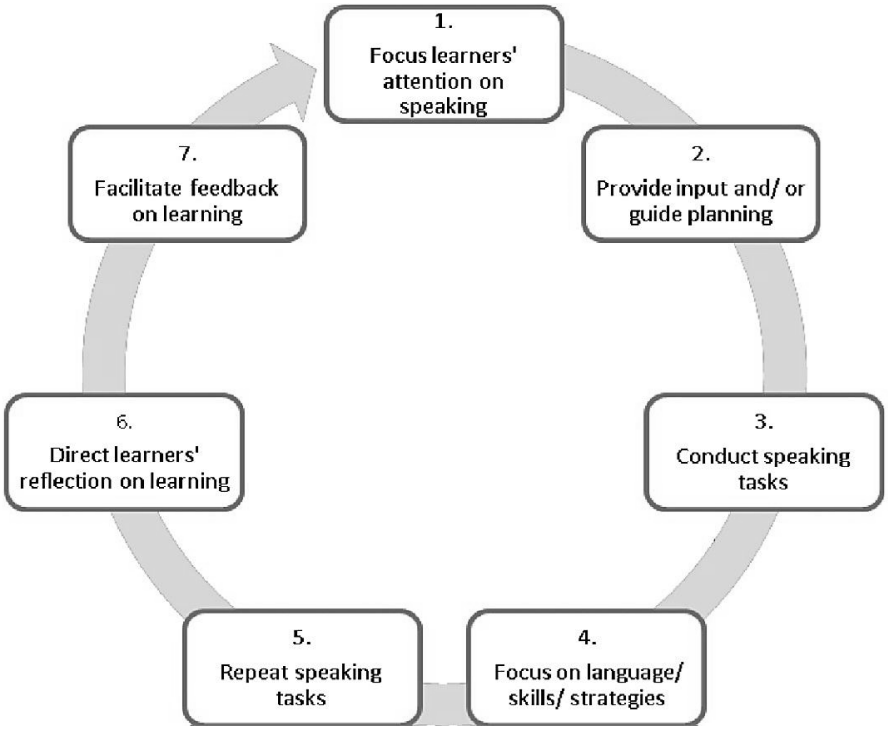

Figure 1: The teaching-speaking cycle (Goh & Burns, 2012, p. 153)

Each of these seven stages plays a pivotal role in developing the participants' L2 speaking skills. Stage 1 raises their metacognitive awareness of L2 speaking and teaches them how to self-regulate their speaking performance. Stage 2 provides them with adequate input to pick up the required vocabulary and speaking-related linguistic forms, understand the roles of the speakers and speaking conventions for various contexts, and produce utterances to communicate what they mean. Stage 3 develops their fluency and improves their speaking skill. Stage 4 re-emphasizes the required vocabulary, forms, and social and linguistic conventions of speech. Stage 5 assists them with acquiring a wide spectrum of speaking skills and strategies, producing utterances for the sake of communicating meaning, and developing fluency. Stage 6 aids them with their overall development of L2 speaking and self-regulating their speaking performance. Finally, stage 7 eases the development of metacognitive awareness of L2 speaking. Consequently, the teaching-speaking framework proposed by Goh and Burns (2012) develops the EFL learners' L2 speaking skills by focusing their attention on speaking, preparing them for speaking, assisting them with reflecting on speaking, and improving their speaking.

Speaking task

Following studies such as Bei (2013) and Bygate et al. (2001), a retelling task (i.e., a 2-minute episode of the silent Tom and Jerry cartoon) is given to the participants to watch and recall its story content. The reason that a silent episode is chosen for the study is that the lack of any dialogue ensures that the participants' speaking performance is not affected by their listening comprehension of the aural linguistic input they receive. Each participant is required to watch the episode individually and narrate the story of the silent video cartoon. The instructions are given in Farsi, and their oral performance is audio-recorded.

Semi-structured interviews

The semi-structured interview (see *Appendix*) was a qualitative data collection strategy in which the researcher asked 10 randomly selected experimental group participants a series of seven predetermined but open-ended questions (Ary et al., 2018). It was a suitable instrument commonly used to capture the participants' attitudes, perceptions, beliefs, and motives in a qualitative research study. To formulate the interview questions, Bloom's taxonomy is used as the fundamental base to assist the researcher with composing questions on a wide range of cognitive thinking, including knowledge, comprehension, application, analysis, synthesis, and evaluation. Each interview was audio-recorded and took 30 minutes to complete. The interview was validated by expert judgments.

Procedure

The researcher initially obtained permission from the head of the private English institute. Online written informed consent was obtained from the participants and their parents to comply with the research ethics. They were also informed that the data would remain confidential and be used merely for research purposes. As tabulated in Table 1, the research data was collected over nine weeks. In week 1, the participants' proficiency levels and metacognitive awareness were assessed using the Oxford Placement Test (OPT) (Dave, 2004) and Metacognitive Awareness Inventory (MAI) (Schraw & Dennison, 1994), respectively. In week 2, their L2 speaking fluency was assessed using a retelling task as the pre-test. In doing so, they were requested to watch a short episode of a silent video cartoon and retell it immediately with no planning time but with unlimited time for completion. Their voices were audio-recorded and transcribed verbatim. It should be noted that they were not made aware of the retelling task beforehand. Following Sabnani and Goh (2021), a 7-stage teaching-speaking cycle by Goh and Burns (2012), including person, task, and strategy knowledge, was adopted for a period of 10 sessions (from week 3 to 7) to teach the speaking skill. Meanwhile, the EFL learners were asked to write down their perceptions in their diaries based on several questions and hand them to the teacher. In week 8, they were asked to retell a new silent video cartoon to assess their L2 speaking fluency as the post-test. The same instructions and procedures were given and followed for this purpose. In week 9, their metacognitive awareness was assessed using MAI. In addition, they undertook a 30-minute semi-structured interview (recorded), and their teacher launched the questions and asked for their ideas.

Table 1: At-a-glance procedure

Week	Participants	Stages
1	All	The participants' proficiency levels were assessed using the OPT. The participants' metacognitive awareness was assessed using the MAI.
2	Individually	The participants' EFL speaking fluency was assessed using a retelling task.
3-7	Experimental and control groups	The experimental group participants underwent a 7-stage teaching-speaking cycle (Goh & Burns, 2012) for a period of 10 sessions (i.e. 5 weeks). Meanwhile, they were asked to write down their reflections in their diaries. On the contrary, the control group participants followed the conventional teaching of L2 speaking.
8	Individually	The experimental group participants' EFL speaking fluency was assessed using a new retelling task.
9	All	The participants' metacognitive awareness was assessed using the MAI. The participants undertook a 30-minute semi-structured interview (recorded).

Teaching-speaking intervention

Stage 1: Focus learners' attention on speaking

The teacher raised the participants' awareness of L2 speaking by inquiring them about their previous L2 speaking experiences and further raising their person, task, and strategy knowledge. They were asked to think about how they can plan for speaking a foreign language by considering the demands of L2 speaking, including but not limited to components such as pronunciation, language forms, vocabulary, fluency, etc. To assist them with thinking about their own L2 speaking process and planning for their overall speaking development, the teacher distributed self-observation sheets on speaking development, which included 10 questions to prepare them for the speaking tasks. The teacher also activated the participants' prior knowledge aimed at facilitating their conceptualization and formulation.

Stage 2: Provide input and/or guide planning

To ease the participants' cognitive overload and reduce their speaking anxiety, the teacher would scaffold them by giving them planning time, activating their prior linguistic knowledge, and allowing them to clarify the specific linguistic items and ideas for the speaking task. Examples of scaffolding that the teacher provided were vocabulary, form, and content support. Besides, the teacher used a pre-task planning guide to give a talk or participate in a discussion.

Stage 3: Conduct speaking tasks

The teacher requested the participants to participate in a communication task which encouraged them to express meaning and develop fluency of expression with no particular focus on form. The communication task which was designed in the form of an information or opinion-gap activity, a problem-solving task, or an extended discourse involved the participants in pair or group discussions. Thus, these tasks would allow the participants to plan, organize, monitor, and evaluate their speaking process.

Stage 4: Focus on language/discourse/skills/strategies

The teacher facilitated the participants' speaking performance by providing the necessary linguistic features and speaking strategies. The linguistic features included pronunciation, grammar, linguistic forms, and vocabulary. In addition, their attention was drawn to specific parts of the fluency task (e.g., discourse markers, intonation features, etc) they had completed in the previous stage. They were also requested to transcribe the speaking performance of one competent speaker to examine their speech production more closely. Thus, they were familiarized with organizing the talk and understanding the function of various linguistic features.

Stage 5: Repeat speaking tasks

The teacher asked the participants to perform the communication task of Stage 3 again. As Bygate (2005) also maintained, this task repetition (i.e., repeating all or part of the original task) enhanced their speaking performance since they had this opportunity to analyze the linguistic features and speaking strategies needed to perform the task once. Thus, it reduced the participants' cognitive overload and increased their planning time, contributing to their automaticity and effective speaking performance, ultimately leading to greater self-confidence and motivation.

Stage 6: Direct learners' reflection on learning

The teacher asked the participants to self-regulate their learning using monitoring and evaluating their prior learning experiences from previous stages. Besides, they had a chance to consolidate their knowledge of the language and speaking strategy use. They were asked to reflect on their learning in pairs or groups through different types of metacognitive knowledge, namely person, task, and strategy knowledge. In doing so, the teacher distributed a prompt for reflection on previous learning experiences.

Stage 7: Facilitate feedback on learning

The teacher provided the participants with adequate feedback on their performance in previous stages of the teaching-speaking cycle. They received their personalized feedback (e.g., comments and grades) based on what they had recorded in their prompts in terms of their previous learning experiences from both the teacher and their peers.

Control group

The control group participants followed the conventional teaching of L2 speaking. The speaking lessons included topics of everyday life, such as personal interests, social life, etc. Every speaking lesson consisted of three sections: Let's Get Started, Dialogue, and Speak Out. The Let's Get Started section served as a warm-up activating their prior schemata. The teacher would have the students do the speaking task and express their opinions. The dialogue section served as the main speaking section, during which the teacher would read the lines of conversation, define the new words or expressions, ask some comprehension questions, and have two students act out the conversation. Finally, the Speak Out section aimed to improve students' oral performance by providing them with the opportunity to discuss an open-ended question.

Data analysis

To answer the first and second research questions, a one-sample Kolmogorov-Smirnov test was used to examine the normality of the data ($P > .05$). Following Ary et al. (2018), independent samples *t*-tests and paired samples *t*-tests were run using the SPSS Package ver. 24 to compare the metacognitive awareness and fluency scores of the participants in both groups before and after the treatments. To answer the third research question, the participants' perceptions were transcribed, segmented, coded, and thematized. The data were collected from recordings, diaries, and semi-structured interviews, which were further transcribed verbatim and analyzed by the NVivo software ver. 11 through thematic and content analyses. The participants' L2 speaking fluency was measured and analyzed before and after the 10-session intervention following Ellis and Barkhuizen (2005) guidelines, and the descriptive statistics were tabulated to support the qualitative analysis. The choice of these guidelines was informed by its application in numerous other task-based articles, such as Ahmadian (2011), Bygate (2005), Foster and Skehan (2013), and Gass et al. (1999). The guidelines for measuring L2 speaking fluency consisted of calculating speech rate A (i.e., the total number of syllables divided by the total number of seconds multiplied by 60) and speech rate B (i.e., the total number of meaningful syllables minus dysfluencies divided by the total number of seconds multiplied by 60).

4. RESULTS

Research Question One

Research question one strove to investigate whether the teaching-speaking cycle (Goh & Burns, 2012) had a statistically significant effect on young EFL learners' metacognitive awareness of speaking skill after the pandemic. We measured the participants' metacognitive awareness before and after the treatments using the metacognitive awareness inventory (MAI). Tables 2 and 3 present the descriptive and inferential results related to the two groups.

Table 2: Descriptive information on metacognitive awareness for the two groups (n = 60)

Measures	Control Group (*n* = 30)						Experimental Group (*n* = 30)					
	Pre-test			Post-test			Pre-test			Post-test		
	M	*SD*	*Std. Error*	*M*	*SD*	*Std. Error*	*M*	*SD*	*Std. Error*	*M*	*SD*	*Std. Error*
Declarative	3.33	1.37	.25	3.47	1.1	.2	3.63	1.24	.22	4.77	1	.18
Procedural	2.17	.98	.18	2.5	.77	.14	2.47	.97	.17	4.43	1.5	.27
Conditional	2.43	.93	.17	3.2	.96	.17	2.77	1.13	.2	4.17	.91	.16
Knowledge of cognition	7.93	1.74	.31	9.17	.148	.27	8.87	1.87	.34	13.37	2.38	.43
Planning	3	1.14	.2	3.5	1.1	.2	2.93	1.11	.2	3.83	.87	.16
Monitoring	2.83	1.28	.23	3.4	1.13	.2	3.03	1.4	.25	3.9	.92	.16
Management	3.33	1.24	.22	3.53	1.22	.22	3.3	1.31	.24	4.5	1.16	.21
Debugging	2.77	1.16	.21	3.23	1.19	.21	2.73	1.04	.19	3.97	.85	.15
Evaluating	2.87	1.19	.21	3.33	1.09	.2	2.7	1.26	.23	4.53	1.07	.19
Regulation of cognition	14.8	2.38	.43	17	2.61	.47	14.7	2.71	.49	20.73	2.16	.39
Metacognitive awareness	22.73	2.8	.51	26.17	2.87	.52	23.57	3.3	.6	34.1	3.15	.57

Table 3: Independent samples t-test of metacognitive awareness for the two groups (n = 60)

Measures	*F*	*Sig.*	*t*	*df*	*Sig (2-tailed)*
Declarative	.29	.58	4.76	58	.00
Procedural	11.75	.00	6.26	43.48	.00
Conditional	.01	.89	3.99	58	.00
Knowledge of cognition	5.54	.02	8.18	48.59	.00
Planning	4.36	.04	1.29	55.05	.2
Monitoring	1.16	.28	1.87	58	.06
Management	.33	.56	3.13	58	.00
Debugging	6.68	.01	2.74	52.38	.00
Evaluating	.003	.95	4.28	58	.00
Regulation of cognition	1.63	.2	6.02	58	.00
Metacognitive awareness	.08	.76	10.17	58	.00

According to Table 3, the teaching-speaking framework (Goh & Burns, 2012) had a statistically significant effect on the experimental group participants' overall metacognitive awareness from the pre-test (M = 23.57; SD = 3.3) to the post-test (M = 34.1; SD = 3.15), $t(58) = 10.17$; $p = .00$. Thus, the answer to the first research question is affirmative. However, it should be noted that there was no statistically significant difference between the two groups in terms of two components of the metacognitive awareness inventory (MAI), namely planning ($p = .2$) and monitoring ($p = .06$).

Research Question Two

Research question two examined whether young EFL learners' metacognitive awareness of speaking skill have a significant effect on their speaking fluency after the pandemic. Table 4 shows the descriptive information related to two measures of fluency development, namely speech rate A and speech rate B, proposed by Ellis and Barkhuizen (2005), for the experimental and control groups.

Table 4: Descriptive information on fluency measures for the two groups (n = 60)

Measures	Control Group (n = 30)			Experimental Group (n = 30)		
	M	***SD***	***Std. Error***	***M***	***SD***	***Std. Error***
Speech Rate A (Pre-test)	109.72	31.9	5.82	113.03	27.97	5.1
Speech Rate A (Post-test)	105.3	32.97	6.02	121.85	27.25	4.97
Speech Rate B (Pre-test)	99.48	58.22	10.63	103.42	28.44	5.19
Speech Rate B (Post-test)	90.3	42.12	7.69	109.55	27.41	7.69

Table 5 displays the results of the independent samples t-test performed to examine whether there was any statistically significant difference between the two groups in terms of their EFL speaking fluency. Results indicated that the experimental group participants outperformed their control group counterparts after undergoing a 7-stage teaching-speaking cycle Goh and Burns (2012, p. 153), for a period of 10 sessions. Thus, there was a statistically significant difference between the experimental group and the control group in terms of two fluency measures, namely Speech Rate A ($t(58) = 2.11$; $p = .03$) and Speech Rate B ($t(58) = 2.09$; $p = .04$). Therefore, the answer to the second research question is also affirmative.

Table 5: Independent samples t-test of fluency measures for the two groups (n = 60)

Measures	***F***	***Sig.***	***t***	***df***	***Sig (2-tailed)***
Speech Rate A (Pre-test)	.16	.68	.42	58	.67
Speech Rate A (Post-test)	.3	.58	2.11	58	.03
Speech Rate B (Pre-test)	3.9	.05	.33	58	.74
Speech Rate B (Post-test)	2.39	.12	2.09	58	.04

Interestingly, Table 6 presents the results of a paired-sample *t*-test indicating that the experimental group participants' fluency (i.e., speech rate A) developed significantly from pre- to post-test ($t(30) = -2.41$; $p = .02$) with a large effect size (Cohen's $d = 0.8$). However, their fluency rate, excluding their dysfluencies (i.e., speech rate B), did not have a significant improvement from pre- to post-test ($t(30) = -1.6$; $p = .12$). Thus, although the opportunity for raising their metacognitive awareness online through Goh and Burns (2012) teaching-speaking framework could assist them with a more fluent speech production from pre- to post-test, this improvement was only statistically significant with the inclusion of all the dysfluencies, but not excluding them.

Table 6: Paired samples t-test of fluency measures for the experimental group (n = 30)

	Pre-test	**Post-test**		
Measures	M (*SD*)	M (*SD*)	*t*	*p*
Speech rate A	113.03 (27.97)	121.85 (27.25)	-.2.41	.02
Speech rate B	103.42 (28.44)	109.55 (27.41)	-1.6	.12

Research Question Three

Research question three sought to capture the young EFL learners' perceptions of their metacognitive awareness of speaking fluency after the pandemic. The thematic and content analyses of the data collected throughout the intervention yielded 10 factors affecting their L2 speaking fluency, which is dealt with below.

Planning

Several participants ($n = 8$) regarded planning as a key activity that allowed them to set a goal, clarify the specific linguistic items, contents, and ideas, and have a plan for the speaking task. For example, Amir (*age* = 15) maintained, *"The teacher gave us some time to think about the words about the subject. So I could speak faster"* (extract 1).

There were other participants ($n = 6$) who maintained that they set a communication goal and predicted the probable difficulties and the way they could resolve them. In this regard, Sam (*age* = 14) stated, "When I don't understand my classmate, I don't know how I should answer. I learned that I can ask the teacher to give me the meaning of some keywords that I hear. This helped me speak more easily" (extract 2).

Monitoring

A number of participants ($n = 7$) learned to self-manage their L2 speaking process and select proper strategies to meet the demands of the speaking tasks. One example of these strategies was to ignore the missing parts and focus on the comprehended parts of the interactions. For instance, Arad (*age* = 15) highlighted, "If there are some parts I can't understand, I ignore them or ask the speaker to repeat his sentence or use another word" (extract 3).

Evaluating

It appears that the teaching-speaking cycle assisted the participants ($n = 5$) in not only monitoring the L2 speaking process and employing proper strategies but also reflecting on and evaluating whether or not their speaking performance was effective. Along this line, Sepehr (*age* = 14) mentioned, "I use some strategies. They sometimes work and sometimes don't work. When I think about these, I try to not use them the next time or don't pay attention to the parts I did not understand" (extract 4).

Problem-solving

The communication problems that the participants (n = 8) mostly encountered centered upon vocabulary and grammar deficits (e.g., Shayan's and Javad's cases) and processing time pressure (e.g., Taha's case). With regard to the former, Shayan (*age* = 13) asserted, "Um, I think I use some strategies when I don't know a word; for example, I use the word 'thing.' If I don't know the grammar, I don't say it, or I ask someone about it" (extract 5). In the same vein, Javad (*age* = 12) continued, "… Usually when I don't know the English word, I change the Farsi word to English or ask our teacher" (extract 6). Apparently, their coping mechanisms were using all-purpose words, message reduction, literal translation, and requesting help from peers or the teacher directly or indirectly. Concerning the latter, Taha (*age* = 14) reported, "The strategies that I use is I remain silent and think. Sometimes I say 'Uhm' or 'you know' …. Yes, I sometimes repeat the word or sentence, too" (extract 7). To solve communication problems, the participants mostly used pauses (filled and unfilled) and repetitions (self-repetition).

Vocabulary

Most of the participants (n = 7) asserted that adequate vocabulary knowledge eases the understanding of the main points of discussion or collaborative talks and limited vocabulary leads to communication breakdowns or misunderstandings, as evident in Matin's (age = 15) words in the following extract.

"When we know the necessary words, we understand each other better. If we have limited words, we might get confused during the discussion or misunderstand the other speakers. Sometimes, I try to remember the meaning of a hard word, but I lose the rest of the talk …" (extract 8).

Linguistic Forms

Like vocabulary, most of the participants (n = 8) referred to grammar as an impeding element that could prevent them from fluent production of their foreign language, as also verified below by Aryan (*age* = 14).

"… or sometimes I forget to add 's' to the verb in simple present tense when I'm talking fast. Other times, I don't know the grammar and use other grammatical forms; for example, I use simple present instead of simple past, or I stop and think a bit …" (extract 9).

Speech Rate

Some participants (n = 5) identified the rate of speech as a source of problems for comprehension and production. For example, Nima (*age* = 13) remarked, "… Some of my classmates speak really fast. This makes it hard to understand. They might make mistakes as they speak too …" (extract 10).

Prior Knowledge

The participants (n = 9) considered prior knowledge as a pivotal factor for overall comprehension and production. In this respect, Arad (*age* = 15) confirmed, "Definitely! Being familiar with the topic is very useful. I should always have some information about it before starting to talk" (extract 11).

Listening Comprehension

Several participants (n = 7) believed that factors such as speech rate, accent, voice clarity, noise, pronunciation, vocabulary, and sentence length affected their listening comprehension in their collaborative interactions, as also opined by Taha (*age* = 14) below.

"I can't respond fast when I don't understand the speaker. If he speaks badly or uses hard words and long sentences, I can't understand him. Or, for example, they talk fast, and I can't understand what they are talking about…" (extract 12)

Peer and Group Discussions

Some other participants (n = 6) mentioned that they could assist one another by building up topic-related knowledge, which made their overall understanding and speech production much easier. In this regard, Sam (*age* = 14) posited, "Group discussions really improve our understanding of the topic" (extract 13). Similarly, Javad (*age* = 12) emphasized that "… Discussing the topic with my classmates makes me talk more and faster" (extract 14).

5. DISCUSSION

The present study set out to examine three research questions. The first research question examined whether the teaching-speaking cycle Goh and Burns (2012) had a statistically significant effect on the young EFL learners' metacognitive awareness of EFL speaking after the pandemic. The answer to this research question was affirmative. Our findings are in agreement with those of the previous studies (Chou, 2021; Sabnani & Renandya, 2019; Scolaro, 2021) in that the teaching-speaking cycle could enhance the participants' overall metacognitive awareness of EFL speaking and improve their knowledge of cognition (i.e., declarative, procedural and conditional knowledge). The reason is that the cycle encouraged the participants to use metacognitive strategies, such as planning, evaluating, problem-solving, and directed attention, and practice them before, while, and after performing the speaking task. However, only three out of five factors under the regulation of cognition, namely information management, debugging, and evaluating, were statistically significant. The remaining two factors, namely planning and comprehension monitoring, did not reach statistical significance, which is in line with previous studies, such as (Bozorgian et al., 2022). Previous studies attributed this insignificance to a number of mediating variables, such as low working memory capacity, which, according to Gathercole (2010), can lead to difficulties in terms of cognitive functions, such as planning, problem-solving, and sustained attention. Other reasons could be the participants' inadequate familiarization with or understanding of the functions of the two metacognitive strategies.

The second research question sought to investigate whether young EFL learners' L2 speaking fluency would develop with raised metacognitive awareness after the pandemic. Results showed that the teaching-speaking cycle proposed by Goh and Burns (2012) had a statistically significant effect on the participants' fluency development from pre- to post-test. Confirming a large effect size, the findings of this study are in line with those of previous studies (Chou, 2021; Rahimi & Katal, 2013; Sabnani & Renandya, 2019; Sato & Lam, 2021; Seifoori, 2016). However, these previous studies did not consider employing this framework on private institutes' online platforms with a particular focus on young EFL learners' L2 speaking fluency development. In any event, results were collectively indicative of the fact that L2 teachers can play a pivotal role in providing adequate scaffolding to EFL learners such that they can reach self-regulation and automatization of their L2 speaking process and move toward developing their fluency. The speaking framework guided them to enhance their metacognitive knowledge of their speaking processes, task requirements, and speaking strategies needed for the sake of meaning-making and effective communication with their interlocutors, which is in agreement with (Burns, 2016).

An interesting finding of the present study is that although Goh and Burns (2012) teaching-speaking framework was successful in improving the EFL learners' fluency development on an online platform, one measure of fluency, namely speech rate B (i.e., the number of meaningful syllables per minute of speech), as proposed by Ellis and Barkhuizen (2005), signaled that the improvement in fluency with the exclusion of all the dysfluencies was not statistically significant. This finding might have been the result of task complexity, language proficiency, low working memory capacity, and foreign language anxiety, which are commonly the case with young EFL learners learning a foreign language (Ahmadian et al., 2015; Awwad & Tavakoli, 2019; Pérez Castillejo, 2019).

Those with lower levels of linguistic proficiency or working memory capacity might not be able to understand and apply all the metacognitive strategies taught (Bozorgian et al., 2022; Muhammadpour et al., 2024). In addition, task complexity might affect the participants' anxiety levels, which in turn disrupts their fluency and accuracy (Mora et al., 2023). Another reason could be that the participants needed more sessions to practice the metacognitive strategies, such as planning and monitoring since no statistically significant results were achieved. Fluent speakers, as Ghonsooly and Hosienpour (2009) also maintained, need to use their articulatory organs properly by drawing on their psycholinguistic and information processing skills; that is, they need to plan the message, use their background knowledge and find proper words, grammar, and sound patterns. Besides, they need to be able to self-correct their mistakes, an ability that has to do with their self-monitoring capacity. This capacity gradually leads to fewer pauses in their speech and more fluency.

The third research question probed into the young EFL learners' perceptions of raising their metacognitive awareness of L2 speaking to develop their L2 fluency after the pandemic. The participants collectively believed that the teaching-speaking cycle assisted them with raising their metacognitive awareness of L2 speaking so that they could speak with greater ease and more fluency. This finding is in agreement with those of Sato and Lam (2021). The findings of their study suggested that the metacognitive intervention improved the participants' metacognitive knowledge of oral communication such that they could produce the target language more and share the patterns of talk more evenly. However, they enumerated 10 factors, including the metacognitive strategies such as planning, monitoring, evaluating, and problem-solving. In addition, they made mention of some language- and communication-related factors such as prior knowledge, vocabulary, linguistic forms, speech rate, listening comprehension, and finally, peer and group discussions that played either a facilitative or debilitative role in developing the L2 speaking fluency of each participant.

The participants considered planning as a metacognitive strategy that allowed them to set a goal, clarify the specific linguistic items, contents, and ideas, and have a plan for the speaking task. This finding is supported by those of Yuan and Ellis (2003), who maintained that pre-task planning assists EFL learners with producing more fluent and lexically varied speech, hence the need to consider proper task conditions. The second metacognitive strategy mentioned by the participants was monitoring, which assisted them with self-management of their L2 speaking process and selecting proper strategies to meet the demands of the speaking tasks. As Levelt (1983) also confirmed, an L2 speaker can monitor their own (i.e., internal or overt speech) or their interlocutor's speech, which might occasionally have the speaker interrupt the flow of speech, carry out self-repairs and restatements, and signal troubles. The third metacognitive strategy was 'evaluating', in which the participants reflected on and evaluated whether or not their speaking performance was effective. This finding is consistent with those of Zhang et al. (2021) in that L2 speakers evaluate their speaking performance to check to see whether it is consistent with the task demands. The fourth and last metacognitive strategy was problem-solving, during which the participants used coping mechanisms, such as using all-purpose words, message reduction, literal translation, and requesting help to cope with vocabulary and grammar deficits. In addition, they used pauses and repetitions to deal with processing time pressure. These findings are in line with those of Mirzaei and Heidari (2012), who postulated that fluent L2 speakers normally use a range of cognitive, linguistic, and interactional problem-solving mechanisms to bridge the communication gaps and negotiate for meaning.

Two language-related components, namely vocabulary and linguistic forms, were mentioned by the participants, who stated that a better understanding of the main points of discussion or collaborative talks can be achieved by adequate vocabulary and grammatical forms, which make

for more fluent speech production. These findings comply with those of Gan (2012), who sustained that these two factors, along with correct pronunciation, are necessary for speaking a second or foreign language aimed at achieving oral fluency. In addition, the participants also referred to four communication-related factors, namely speech rate, prior knowledge, listening comprehension, and peer and group discussions. The findings are in accord with those of Lintunen et al. (2019) and Chang (2018), suggesting that slower speech rates usually lead to an improvement in comprehension and production. In line with the findings of the present study, Sabnani and Renandya (2019) also maintained that discussion tasks encourage L2 speakers to tap their prior knowledge, including their own schemata and personal experiences, to engage in more effective speech production. Like the findings in this study, Zhang (2009) maintained that adequate and effective listening comprehension is an important step in L2 speech production. Last but not least, the implementation of peer and group discussions, as Wahyurianto (2018) asserted, can result in fluency development in students.

6. CONCLUSION

L2 speaking is often a long and complicated process that requires such elements as linguistic competence and metacognitive strategy use. Thus, it appears that teaching L2 speaking can be challenging for EFL teachers. Therefore, they need to be equipped with a tool to teach this skill explicitly in their language classes, thereby providing their EFL learners with scaffolding to assist them with facing the challenges of L2 speaking and meeting the demands of the speaking tasks effectively. In this respect, there have been numerous task-based and strategy-based approaches (Skehan, 2003; Ulla, 2020) that have had positive effects on improving EFL learners' speaking skills in general. However, Goh and Burns (2012) proposed an integrated pedagogical approach that features a teaching-speaking cycle aimed at raising the EFL learners' metacognitive knowledge with a particular focus on the development of fluency.

Therefore, the present study has taken a step further and adopted this teaching-speaking cycle to provide young EFL learners with opportunities for pre-task planning, task repetition, strategy use, guided support, fluency development, and learner autonomy. The reason for this selection is that previous studies in this domain did not take into consideration the application of this teaching-speaking framework on online platforms and did not examine the development of EFL speaking fluency in particular. Findings indicated that the teaching-speaking framework proposed by Goh and Burns (2012) had a positive and meaningful effect on the young EFL learners' fluency development on an online platform by the end of the intervention. However, the improvement in fluency, excluding all dysfluencies, was not statistically significant, which signals the need for longer periods of intervention and more training in strategy use.

Teachers need to provide the EFL learners with learning contexts or environments in which EFL learners can practice the metacognitive strategies of L2 speaking, receive some guided support, engage in collaborative discussions and talks, and reflect on their learning outcomes. The findings of the present study are both theoretically and pedagogically significant. Theoretically, it contributes to understanding metacognition in language learning, particularly highlighting how heightened metacognitive awareness can enhance speaking proficiency among young learners in a post-pandemic context (Flavell, 1979). By exploring strategies that foster metacognitive skills, the study sheds light on the cognitive processes involved in language acquisition and fluency development, offering a framework that educators can use to support learners effectively (Wenden, 1998). Pedagogically, the findings can inform teaching practices by providing actionable insights into implementing metacognitive training in the classroom. This is crucial as educators strive to adapt to new learning environments following the disruptions caused by the COVID-19 pandemic, ensuring that young EFL learners not only regain lost skills but also thrive in their language learning journeys (Goh & Burns, 2012). Ultimately, the study emphasizes the importance of

integrating metacognitive strategies in language teaching, promoting greater learner autonomy and fluency in speaking (Chou, 2021; Sabnani & Renandya, 2019).

However, the present study has some limitations in terms of examining other language proficiency levels and learning environments. Moreover, some aspects of the EFL learners' linguistic proficiency, such as grammatical accuracy and pronunciation, were not fully improved as a result of undergoing this teaching-speaking cycle, which calls for additional training and more proficient learners to arrive at better results. Thus, future research can include higher-intermediate and advanced-level learners and consider extending the present framework by adding accuracy and pronunciation training to the cycle as well. In addition, a variety of task types and task conditions could be of benefit to the L2 speakers' fluency development.

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Appendix: Semi-structured interview

You are kindly invited to participate in the interviews. If you like to join the interview, please check (√) the following sentence to show you are interested.

—— Yes, I want to participate in the interviews.

Interview questions:

1) How did you like your teacher's way of teaching speaking skill?
2) What did you learn during the teaching speaking sessions?
3) What did you learn to do during the planning time for each speaking task?
4) What did you learn to do to check if you did speak well after the speaking task?
5) What did you learn to do when you had problems with words or grammar?
6) What factors do you think prevent you from speaking fluently?
7) How do you think classmates can help each other speak better?