METACOGNITIVE STRATEGY INSTRUCTION IN EFL CLASSROOMS: A SYSTEMATIC REVIEW

Pipit Prihartanti Suharto

ppsuharto@upi.edu

Universitas Pendidikan Indonesia

Ika lestari Damayanti

ikalestaridamayanti@upi.edu

Universitas Pendidikan Indonesia

Nenden Sri Lengkanawati

nendensl@upi.edu

Universitas Pendidikan Indonesia

ABSTRACT

Metacognitive strategies stimulate an individual's thoughts, resulting in enhanced learning performance. Utilizing such learning strategies encourages students to reflect on their cognitive processes before, during, and after learning. The present study seeks to review the literature on teaching metacognitive strategies explicitly in English as a foreign language (EFL) classrooms. Data collection and analysis followed Newman & Gough's (2020) systematic review procedure. This review begins with a summary of the results of 36 studies on the subject. Based on the summaries, the review draws general conclusions and suggests future research directions. The review identifies a need for more intervention-based research conducted in the primary English classroom that implements metacognitive strategies, focusing not only on a single language skill or language element but also on integrated skills during regular teaching hours.

***Keywords**:* learner training; metacognitive intervention, metacognitive strategies; strategy instruction; strategy training

INTRODUCTION

In this 21st-century language learning, students must become more autonomous to succeed. Learner autonomy requires students' full participation in planning, monitoring, and evaluating their learning (Little, 2004). Thus, equipping students with metacognitive awareness and learning strategies is beneficial to help them better understand how they learn (Ellis & Ibrahim, 2015).

Metacognitive strategies are one of the six language learning strategy groups coined by Oxford (1990). They are used to regulate learning in a way that those strategies involve thinking and reflecting about learning. Pinter (2017) maintained that the process of reflection could be facilitated through metacognitive strategy, i.e., planning, monitoring, and evaluating language learning. In addition, Nunan (1991), as cited in Oxford (2003), argued that reflecting on and describing one's language learning processes distinguished more effective learners from less effective learners. In addition, in a nutshell, using metacognitive strategies is essential to help them become reflective, self-regulated, and autonomous, eventually making them good, successful language learners. Marantika (2021) argued that metacognitive skills and independent learning enhance students' awareness of the learning process and successful strategies. Given that they can manage their learning styles and emotional awareness within the context of learning, students can achieve learning success.

Teachers are essential in providing students with opportunities to reflect on their learning and experiment with their language learning process. They could teach explicit language learning strategies and make the students more aware of their feelings and beliefs regarding assuming greater responsibility for their learning (Oxford, 1990). Using learning strategies explicitly taught in a classroom context refers to strategy instruction. It is also referred to as strategy training (Oxford, 1990; Lin, 2001), learning-to-learn training (Oxford, 1990), and learner training (Holec, 1996; Wenden, 1996).

As Oxford (1990) argued, students must learn how to learn, and teachers must learn how to facilitate this process, necessitating strategy training. She also claimed that this is especially important for language learning, as students must be self-directed toward attaining the expected level of proficiency. Thus, such training will sharpen students' conscious self-direction and strategy use skills. (Oxford, 1990).

Similarly, Holec (1996) believed that self-directed learning requires the explicit instruction of learning strategies and aims to develop student's abilities to direct their own learning. She coined the term learner training to define explicit teaching, which entails assisting students in determining their preferred way of learning to make them more effective and independent learners. Learner training entails encouraging students to take responsibility for their own learning and supporting them in developing learning strategies and study skills. In this case, learner training includes two skills or strategies, i.e.: cognitive and metacognitive. Most significantly, it facilitates language learners in establishing the ability to plan, monitor, and

evaluate their learning. Learner training aims to teach students how to learn and makes them aware that learning can occur inside and outside the classroom. In other words, its goal is to create independent, effective language learners or autonomous learners.

Regarding metacognitive strategies, the explicit instruction of such strategy is known as meta-teaching, metacognitive training, or metacognitive instruction (Fisher, 1998; Lin, 2001; Ozturk, 2015; Veenman, Van-Hout Wolters & Afflerbach, 2006). Strategy training in developing metacognitive strategies could then be referred to as adaptation or familiarization of strategy to help students develop their metacognition. Drigas & Mitsea (2020) pointed out the necessity of such familiarization as they put forward that learning without adaptation serves no purpose, and metacognition without adaption cannot be achieved. This training should be highly practical and beneficial for students to facilitate meaningful language learning (Oxford 1990).

Strategy training, including strategy intervention, should be prepared and conducted in language classrooms (Oxford, 2001). She also believed that strategy instruction would be more meaningful when students are given information about the effectiveness of strategies (Oxford, 2017). Thus, metacognitive intervention could provide students with explicit, practical examples of how metacognitive strategies are taught in the classroom (Lin, 2001). Fisher (1998) explained that interventions for metacognitive strategy training would include explicit instruction through, to name just a few, the following activities to encourage students to probe deeper into what they think about their learning:

a) Think aloud
b) Strategy cards
c) Metacognitive questioning
d) Metacognitive discussion

Implementing metacognitive strategy training in a language classroom will fall under cognitive strategy use in language activities. Cognitive strategies are used to make cognitive progress, while metacognitive strategies are employed to monitor it, according to Flavell (1979). This implies that the latter provides support to achieve the cognitive goal.

According to Lamb (2004), as mentioned in Lengkanawati (2017), language instruction that supports students' autonomous learning pertains to the Western and tertiary education levels. Such a teaching and learning process is almost unfamiliar in Indonesian EFL settings (Lengkanawati, 2017). Investigating to what extent reflection, self-regulation, and learner autonomy have been promoted through metacognitive strategies will inform teachers about the benefits of implementing explicit strategy teaching.

Al-Jarrah, Mansor, Talafhah, & Al-Jarrah (2018a) reviewed 35 journal articles discussing metacognitive strategies implemented in several subjects or across curricula. They found that metacognitive strategies are used to enhance students' writing, reading, listening, and speaking skills in addition to general areas such as self-efficacy, self-esteem, and learning styles. In addition, Fiani's (2018) review of six empirical studies on metacognitive instruction, specifically in developing EFL listening skills, showed that metacognitive strategies significantly improved students' listening comprehension performance.

Unfortunately, the extent to which intervention-based metacognitive strategy instruction has been carried out in EFL classrooms still needs to be researched. To better comprehend metacognitive strategy instruction, we reviewed the pertinent literature to provide a comprehensive overview of its implementation in EFL classrooms. For this purpose, the most recent review examines the following research questions: 1) What research contexts have been investigated? 2) Which language skills/aspects did the reviewed literature examine? 3) What research designs were employed in the studies? 4) How was metacognitive strategy instruction implemented in EFL classrooms? 5) What pedagogical interventions have been implemented in the metacognitive strategy instruction?

METHODOLOGY

This systematic literature review adheres to Newman & Gough's (2020) systematic review process, which includes 1) developing a research question, 2) designing a conceptual framework, 3) constructing selection criteria, 4) developing a search strategy, 5) selecting studies using selection criteria; 6) coding studies; 7) assessing the quality of the studies; 8) synthesizing results from individual studies to answer the review's research question; 9) reporting findings.

The research questions determined the inclusion of articles in the systematic review. In addition, non-empirical and non-intervention-based studies were of exclusion criteria. The peer-reviewed articles were collected from the online databases of *Google Scholar* and *Scopus* using *Publish or Perish* software. Specified keywords were used, including "metacognitive strategy instruction," "strategy training," and "EFL classrooms." The criteria of the article were 100 articles published from 2013 until November 2022 when performing the library search.

The articles generated from the automatic search process were examined through their titles and abstracts to meet the inclusion criteria. Forty-eight articles were selected and then saved as both CSV and *ris* files. Each file was exported to *Excel* and *Zotero*, a reference management software, for coding and referencing. The articles were thoroughly re-examined through their abstracts, methods, and findings sections. Twelve studies were then excluded as they were 1) non-journal articles such as book chapters or master's thesis; 2) non-intervention-based studies, such as those that only explore the use of metacognitive strategies without undertaking the strategy training or those exploring the students' perceptions on the implementation of metacognitive strategies; 3) carried out in a non-EFL context, such as in Malaysia, as it is also explicitly stated in the study that English is a second language at Malaysian school.

Annotating and highlighting keywords and critical findings of the 36 studies (35 of Google Scholar, 1 of Scopus) were done on *Zotero* software. After having the highly selected articles, a big mapping table on a new spreadsheet was then elaborated to organize into author(s)/year, country of study, title, aim, focus, research design, instruments, participants, the intervention program, strategy training framework, and findings. The spreadsheet, in addition, was helpful for

the researcher to identify the themes that emerged from the studies, including research contexts, research focus, research design, strategy training frameworks, and pedagogical interventions implemented in the studies.

FINDINGS AND DISCUSSIONS

This section presents the findings of the research questions by displaying key information regarding the research contexts, research focus, research design, strategy training frameworks, and pedagogical interventions used in the studies.

Research contexts

All reviewed research was conducted in settings where English is taught as a foreign language, i.e., Asia, Europe, and South America. Most studies (31 out of 36) were conducted in the Asian EFL context. It was found that Iran became the country with the most studies of metacognitive strategy instruction (Ajideh et al., 2018, 2018; Al-Shammari, 2020; Farzam, 2018; Fathi et al., 2020; Fathi & Afzali, 2020; Fathi & Hamidizadeh, 2019; Hosseini et al., 2020; M. S. Hosseini, 2021; Maftoon & Alamdari, 2020; Mohamadpour et al., 2019; Mohseni et al., 2020; Sardroud, 2013; Tavakoli, 2018). In addition, nine studies were done in the Southeast Asian region (Acmed-Ismael, 2021; Chinpakdee & Gu, 2021; Dao, 2020; Hapsari, 2020; Lu, 2021; Mulyadi, 2018; Panggabean & Triassanti, 2020; Seedanont & Pookcharoen, 2019; Thongwichit & Buripakdi, 2021). In Europe, where English is also treated as a foreign language, two studies were conducted in Spanish (de Zarobe & Zenotz, 2018) and Turkish EFL classrooms (Irgin & Erten, 2020; Uçak & Kartal, 2022). Additionally, two other studies were done in the South American context (Cabrera-Solano et al., 2019; Jaramillo, 2021).

While most studies (22) involved university students, five were done in secondary schools (Al-Jarrah et al., 2018, 2019; Chinpakdee & Gu, 2021; Hosseini et al., 2020; Seedanont & Pookcharoen, 2019). Studies also involved adult learners in private language centers (Dao, 2020; Farzam, 2018; Hosseini, 2021; Sardroud, 2013). Studies involving young learners aged 5-14, according to Pinter (2017), were done in primary school settings (Acmed-Ismael, 2021; de Zarobe & Zenotz, 2018; Irgin & Erten, 2020; Jaramillo, 2021) as well as private language school (Fathi & Afzali, 2020). In conclusion, according to those studies, the explicit instruction of metacognitive strategies was primarily done in Asian contexts, focusing on adult language learners.

Research focus

Most reviewed research aimed to improve students' listening and reading comprehension skills (12 studies each). The studies imply that implementing metacognitive strategy training, combining cognitive and metacognitive strategies, was done more in teaching receptive skills, especially to teenage and adult students. Three of four studies in young learners' classrooms were meant to improve children's reading comprehension (Acmed-Ismael, 2021; de Zarobe & Zenotz,

2018; Fathi & Afzali, 2020). In addition, there was only one study involving young learners aimed at developing their listening skills (Irgin & Erten, 2020).

In terms of the explicit teaching of metacognitive strategy to improve students' production skills, four studies focused on speaking (Dao, 2020; Farzam, 2018; Jaramillo, 2021; Panggabean & Triassanti, 2020) and six studies aimed at improving students' writing skills (Alfaifi, 2022; Al-Jarrah et al., 2018, 2019; Al-Zubeiry, 2019; Chinpakdee & Gu, 2021; Teng & Zhang, 2020). Similarly, fewer studies were conducted in a young EFL context to teach speaking or writing skills. Jaramillo's (2021) study was the only research involving young learners to improve their speaking skills. In addition to the four skills, two other studies (Cabrera-Solano et al., 2019; Sardroud, 2013) explored the impact of metacognitive strategies in vocabulary learning.

Research design

In the collected studies, metacognitive strategy training was investigated through (1) experimental research, (2) quasi-experimental research, (3) case studies, (4) action research, and (5) mixed-methods research. The findings suggest that the quantitative study outnumbered the qualitative one in researching metacognitive strategy instruction. Although the studies employed different research designs, pedagogical interventions were implemented to promote classroom metacognitive strategies. The data analysis revealed that most reviewed studies investigated the effectiveness of using metacognitive strategies through strategy training using a quantitative method. Quasi-experimental was the most frequently used research design (22 out of 36 studies), along with seven other studies using true experimental design. These quantitative studies employed pre- and post-tests in between the metacognitive interventions. The post-tests evaluated the metacognitive strategies implemented in the study, i.e., whether the instruction significantly affected the participants' language comprehension performance.

Milliner & Dimoski's (2021) quasi-experimental study aimed to test the hypothesis that a metacognitive intervention could improve the listening proficiency and self-efficacy of L2 English learners with lower proficiency. 129 Japanese EFL learners aged between 18 and 21 took part in the study using the TOEIC test, listening vocabulary level test, pre-and post-listening comprehension tests, Listening Self-Efficacy Questionnaire (LESQ), and a post-training questionnaire. The experimental group participants received seven hours of metacognitive listening strategies training focusing on top-down and bottom-up processing. Listening training includes seven hours of explicit listening strategy to practice bottom-up skills and strategies and top-down processing. The strategies included running dictation, word catch, note-taking, picture matching, summarizing, and inference. Students were asked to keep a reflective listening journal to promote greater metacognitive awareness and reflection on using listening strategies. Students wrote reflections following each strategy training (1) How useful was the skill training? (2) How well did you listen? (3) What did you think about the activity? Additionally, students could write

comments and discuss their responses with their teacher and classmates. The results indicate that strategy-based listening training can increase the listening self-efficacy of learners. Positive self-efficacy results from the study may have led to increased L2 listening outside of class. This can have significant implications for the development of L2 listening, as increased confidence and motivation can foster a 'cycle of success.'

Among those reviewed studies, there were only two qualitative studies: one action research (Jaramillo, 2021) and one case study (Panggabean & Triassanti, 2020). These two qualitative studies aimed to explore whether metacognitive strategy training promotes students' learning. Jaramillo (2021) investigated how the instruction of metacognitive strategies, listening, and oral communication strategies improved students' aural and oral skills. Forty-two seventh graders (aged 11-15) from a public institution were involved in action research. The study employed teachers' diaries, surveys, interviews, self-evaluation and peer observation rubrics, and Cambridge English Young Learners Tests. The students received direct instruction in metacognitive strategies through a five-phase model of the CALLA approach for planning, monitoring, and evaluating aural and oral tasks along with listening and oral strategy. During the study, the instructor did explicit teaching through modeling as an intervention during the presentation stage. The instructor demonstrated and explained new metacognitive planning, monitoring, and evaluation strategies for aural and oral tasks. Students were informed of the strategy's name, its usefulness, and the specific behaviors or actions they were expected to execute to implement it. A self-evaluation rubric was distributed to the students during the evaluation stage. This action research found that metacognitive strategies enhanced students' aural and oral skills, increased their vocabulary repertoire, changed their attitudes toward listening and speaking, and raised their sense of achievement and self-efficacy. Most students enhanced their understanding and production of aural and oral signals, resulting in the more effective use of both skills. This indicates that metacognitive strategies should be implemented in regular language classes to help students become more self-regulated learners.

In addition, five studies employed mixed methods design (Chinpakdee & Gu, 2021; Irgin & Erten, 2020; Kobayashi, 2018; Kung, 2019; Thongwichit & Buripakdi, 2021).

Interestingly, the results of all studies revealed that, to a large extent, metacognitive strategy training through pedagogical interventions did enhance students' metacognitive awareness, language comprehension, and language learning performance.

Strategy training frameworks

Most studies employed the *Cognitive Academic Language Learning Approach* (CALLA) to implement metacognitive strategies in EFL classrooms explicitly. By framework, the lesson plans during the strategy training were designed based on a particular model. CALLA is a five-step systematic instructional model to teach students how to use learning strategies for both language and content, i.e., Preparation, Presentation, Practice, Evaluation, and Expansion. The goal of instruction is to help learners become independent so that they can evaluate and reflect on

their learning. CALLA was initially developed by Chamot and O'Malley (1986) in an American setting. In the reviewed studies, however, the CALLA version used in the researchers' metacognitive strategy training varied from one another, from the earliest to the latest version of 2009.

Dao's (2020) study combined CALLA (Chamot, 2005; Chamot & O'Malley, 1987) and Macaro's (2001) strategy training cycle to investigate the effect of interaction strategy instruction on learner engagement in peer interaction among young adult EFL learners in the Vietnamese context. In a three-day strategy instruction, the treatment group participants participated in five-stage pedagogical interventions, including awareness of collaboration and interaction strategies, strategy presentation and analysis, strategy application in interaction, self-evaluation and reflection on the strategy use, and independent strategy practice. They received explicit strategy instruction for about 20 minutes for each stage except the Practice stage, as they performed the strategies for their oral peer interaction tasks. Following strategy instruction, learners produced more language-related episodes. In the picture-based story recount, they were encouraged to speak more, develop more idea units, reflect more on their partner's ideas, and display more positive emotions. The findings also revealed that strategy training positively impacted learners' cognitive, social, and emotional engagement.

In addition to CALLA, one study (Panggabean & Triassanti, 2020) used Oxford's (1990) strategy instructional model to teach metacognitive strategies in a speaking class. The instruction was conducted based on three phases of metacognitive strategy training, including centering the students' learning, arranging and planning the learning, and evaluating the students' learning. Another study (Seedanont & Pookcharoen, 2019) used Oxford's strategy instructional model and the six steps of strategy instruction developed by Grenfell and Harris (1999). The six steps include asking students to identify the strategies, modeling the strategy, asking students to apply the strategies, asking students to set goals and select the learning strategies, and allowing students to apply the strategies independently. The researchers considered using the two models as a hybrid model for metacognitive reading strategy instruction.

In the reviewed studies, there were also other studies combining prominent frameworks of strategy instruction in addition to other particular models, which are more relevant to specific language skills (de Zarobe & Zenotz, 2018; Fathi & Hamidizadeh, 2019; Maftoon & Alamdari, 2020; Uçak & Kartal, 2022). For instance, Maftoon and Alamdari's (2020) study on the effect of metacognitive strategy instruction on the listening performance and metacognitive awareness of English as a foreign language (EFL) learners included two groups of sixty intermediate EFL listeners between the ages of 20 and 26. To achieve this objective, the study utilized the metacognitive strategy instruction framework proposed by Goh (2008) and the categorizations of strategies by Brown (1978), focusing on planning, monitoring, and evaluation. The experimental group participated in a 10-week, once-a-week metacognitive strategy instruction program, with

each session lasting approximately 90 minutes. The first stage consisted of a 20-minute pre-listening task involving content related to the topic to generate and stimulate background knowledge. The second stage was the listening phase, during which experimental group participants completed a 50-minute metacognitive strategy instruction (a total of 7 hours of instruction across the study) that covered the presentation, practice, and review of metacognitive strategies pertinent to the given listening task. The final step consisted of a 20-minute task after listening. Participants in the experimental group were allowed to assess their comprehension of the material and the metacognitive strategies presented and discuss their thoughts on the subject. The results demonstrated that metacognitive strategy instruction substantially varied the students' overall listening performance and metacognitive awareness.

Eight other studies employed different frameworks of strategy training (Al-Shammari, 2020; Al-Zubeiry, 2019; Farzam, 2018; Hosseini et al., 2020; Irgin & Erten, 2020; Kobayashi, 2018; Lu, 2021; Teng & Zhang, 2020). To investigate the effects of implicit instruction on strategy use and listening performance among young EFL learners in Turkey, Irgin & Erten (2020) carried out a 12-week listening strategy intervention based on Graham (2017), which included an awareness-raising phase (modeling and employing awareness raising listening activities), the practice of core strategies (reflection, evaluation, feedback), gradual fading out of reminders (practice, reflection, evaluation). Thirty-four lower-intermediate learners of English in two-4th grade classes in a primary school in Turkey were randomly assigned as the experimental, consisting of 15 students, and the control group, 19 students, to participate in this mixed-methods study. The listening activities included the strategy intervention to see if the participants' awareness of top-down and bottom-up processes in listening comprehension changed. Both metacognitive (planning, monitoring, self-evaluation, selective attention, directed attention) and cognitive (inferencing, word recognition, use of person knowledge, use of task knowledge, prediction, visualization, imagery, summarization) strategies were clustered in the listening tasks that reflected the course objectives and promoted listening comprehension. The only distinction between the two groups was that the experimental group received a strategy intervention of awareness-raising listening activities through instructor modeling and self-assessment grids. The data analysis revealed variations in the listening ability and strategy use of young language learners throughout the study, including a reported change in listening awareness, increased self-confidence, and a greater motivation to use strategies. The findings of this study indicated that training in listening strategies enabled young learners to employ cognitive and metacognitive strategies with the help of listening strategy awareness-raising exercises. Young learners can effectively manage their listening as their implicit comprehension of strategy use increases. This study also suggests that listening classes should include instruction on listening strategies to improve the listening skills of young learners.

Among those reviewed studies, unfortunately, there were also as many as nine research that did not specify any framework used during the strategy training, including those of Alfaifi 2022; Cabrera-Solano et al., 2019; Hapsari, 2020; Hosseini, 2021; Kung 2019; Milliner &

Dimoski, 2021; Mulyadi, 2018; Thongwichit & Buripakdi, 2021; and Whitehead, 2020.

Interestingly, the reviewed studies suggested that any framework of metacognitive strategy instruction, e.g., CALLA, can be utilized either in quantitative (e.g., Acmed-Ismael, 2021) or qualitative research (e.g., Jaramillo, 2021).

Pedagogical interventions

The length of the metacognitive strategy instruction varied among the reviewed studies, ranging from three days (Dao, 2020; Panggabean & Triassanti, 2020) to two semesters (Hosseini, 2021; Mohseni et al., 2020). Among them, quite many studies carried out metacognitive interventions within approximately two to three months (Ajideh et al., 2018; Alfaifi, 2022; Chinpakdee & Gu, 2021; Fathi & Afzali, 2020; Irgin & Erten, 2020; Maftoon & Alamdari, 2020) such as Ajideh et al., 2018; Alfaifi, 2022; Chinpakdee & Gu, 2021; Fathi & Afzali, 2020; Irgin & Erten, 2020; Maftoon & Alamdari, 2020). Regardless of the different lengths of the interventions, all studies suggested positive outcomes from the explicit teaching of metacognitive strategies.

As the reviewed studies used different frameworks of strategy training, pedagogical interventions took place in various stages, too. In studies using CALLA (Chamot and O'Malley, 1986), the metacognitive intervention was primarily carried out in the presentation and evaluation stages. The presentation stage introduced the explicit teaching of metacognitive strategies through, for instance, the teacher's modeling and think-aloud. In the evaluation stage, self-reflection and a learning log were used to enhance students' metacognitive skills strategies. In the reviewed studies using the strategy instruction model (Oxford, 1990), the explicit teaching of metacognitive strategies was focused on the second and the third phases, i.e., arranging and planning the students' learning and evaluating the students' learning.

Panggabean & Trissanti (2020) investigated the implementation of metacognitive strategy training to improve the oral presentation skills of EFL university students in Indonesia. Twenty-seven students participated in three sessions of metacognitive strategy instruction. During the first phase of the strategy training, which centered on the students' learning, a brainstorming activity was conducted by asking them about their prior oral presentation knowledge and experience. The objective of the second phase, arranging and planning the students' learning, was to introduce them to the targeted metacognitive strategies by informing them that their planning and preparation for the presentation would affect the extent of their presentation. During the session, students demonstrated and discussed strategies for planning and preparing an oral presentation. In the third phase, the students were asked to self-evaluate and peer-evaluate. They were also asked to reflect on what they had done after watching the recording of their oral presentations. The study suggested that most of the student's performance in their oral presentation became better in their second performance of their oral presentation.

In studies employing other frameworks, the intervention was carried out within special

sessions for metacognitive strategy instruction. During those time allocations, explicit strategy training for language comprehension, mainly listening, reading, and writing, was implemented. Farzam (2018), for instance, investigated the effects of cognitive and metacognitive strategy training on Iranian EFL learners' willingness to communicate (WTC). Participants in the quasi-experimental were 90 Iranian EFL learners of intermediate English language proficiency studying English at a language academy between the ages of 18 and 35. Three phases of the Strategies Programme for Effective Learning and Thinking (S.P.E.L.T) by Mulcahy, Marfo, Peat, and Andrews (1987) were used to teach metacognitive strategies. The study lasted 12 sessions, 10 of which were for treatment, each lasting one and a half hours. Metacognitive strategies were introduced to the treatment groups in addition to cognitive strategy training.

The target strategies were written on the board throughout each session, and students were invited to focus on them as needed during class. They were taught about target strategies and how to use them. They were also told about the need for speaking strategies to develop their skills. They were prompted to talk about their speaking and communication problems to recognize the importance of strategy learning in dealing with their speaking and communication challenges. The instructor then presented several possible scenarios based on the target strategies and discussed the student's cognitive process and how the target strategy could be useful in hypothetical situations. Students then practiced the strategies with the aid of the instructor. The statistical analysis revealed that cognitive and metacognitive strategy instruction enhanced the WTC of the participants. This study found that cognitive and metacognitive strategy training significantly improved the WTC of EFL learners because the participants were better prepared for speaking challenges after receiving this training. O'Malley et al. (1985) argued that by combining metacognitive and cognitive strategy training, students could reflect on what they are doing and why they are doing it and become aware of how they learn.

CONCLUSION

This literature review presents a systematic overview of the studies on metacognitive strategy training through pedagogical interventions in EFL classrooms published from 2013 until 3 November 2022. The current body of implementing metacognitive strategies has explored strategy training and interventions to facilitate English language learning. This study indicates that metacognitive strategy training was extensively done in quasi-experimental research to improve reading and listening comprehension skills through specific interventions. The contexts under investigation were primarily secondary or higher education EFL settings.

The collected studies also inform practitioners about the significance of explicit teaching of metacognitive strategies, the frameworks of the instruction, and how metacognitive interventions were carried out. Since all the reviewed studies suggested positive effects and outcomes of metacognitive strategies, we can conclude that metacognitive strategy instruction plays a significant role in fostering reflection, self-regulation, and, in the long run, supporting learner autonomy.

The present study limits itself to only two reputable online databases, Google Scholar and Scopus, during the specified time frame. Another area for improvement is that this review was not exhaustive but systematic. This review is valuable to researchers because it provides a systematic review of current studies and identifies gaps in implementing metacognitive strategy instruction in EFL classrooms, such as integrating all four skills during regular teaching hours and focusing on young learners' classrooms. Finally, few studies utilized qualitative research, and there is a methodological gap between researchers.

ACKNOWLEDGMENT

This work was supported by the Pusat Layanan Pembiayaan Pendidikan [202101121710] Lembaga Pengelola Dana Pendidikan [202101121710].

REFERENCES

Acmed-Ismael, F. (2021). Metacognitive learning strategies: Their effects on the reading comprehension performance of grade five pupils. *International Journal of Linguistics, Literature and Translation*, *4*(5), 107–117. https://doi.org/10.32996/ijllt

Ajideh, P., Zohrabi, M., & Pouralvar, K. (2018). The effect of explicit instruction of metacognitive reading strategies on ESP reading comprehension in academic settings. *International Journal of Applied Linguistics & English Literature*, *7*(4), 77–86. https://doi.org/10.7575/aiac.ijalel.v.7n.4p.77

Alfaifi, M. J. (2022). A suggested model for metacognitive strategy instruction in EFL writing classrooms. *Reading & Writing Quarterly*, *38*(4), 323–339. https://doi.org/10.1080/10573569.2021.1954569

Al-Jarrah, T. M., Mansor, N., Talafhah, R. H., & Al-Jarrah, J. M. (2018a). A review of research into metacognitive strategies in the education process: Teaching and learning of English skills. International Journal of Current Research, 10(12), 76832–76838. https://doi.org/DOI: https://doi.org/10.24941/ijcr.33608.12.2018

Al-Jarrah, T. M., Mansor, N., & Ab Rashid, R. (2018b). The impact of metacognitive strategies on Jordanian EFL learners' writing performance. *International Journal of English Linguistics*, *8*(6), 328–339. https://doi.org/10.5539/ijel.v8n6p328

Al-Jarrah, T. M., Mansor, N., Talafhah, R. H., Al-Jarrah, J. M., & Al-Shorman, F. M. (2019). Teaching EFL beginners metacognitive writing strategies through Tamer-Aien writing module. *International Journal of English Research*, *5*(1), 04–11.

Al-Shammari, H. G. (2020). The impact of strategy instruction on Iraqi EFL learners' listening comprehension and metacognitive strategy use. *MEXTESOL Journal*, *44*(4), 1–12.

Al-Zubeiry, H. Y. A. (2019). The efficacy of metacognitive strategies instruction in enhancing Saudi EFL students' academic writing. *International Journal of Social Sciences & Educational Studies*, *5*(4), 71–86. https://doi.org/10.23918/ijsses.v5i4p71

Cabrera-Solano, P., Gonzalez-Torres, P., Solano, L., & Castillo-Cuesta, L. (2019). Using visual vocabulary app as a metacognitive strategy in EFL learning: A case of pre-service teachers.

International Journal of Learning, Teaching and Educational Research, *18*(12), 302–315. https://doi.org/10.26803/ijlter.18.12.17

Chamot, A. U., & O'Malley, J. M. (1986). *A cognitive academic language learning approach: An ESL content-based curriculum*. National Clearinghouse for Bilingual Education.

Chinpakdee, M., & Gu, P. Y. (2021). The impact of explicit strategy instruction on EFL secondary school learners' reading. *Language Teaching Research*, *00*(0), 1–24. https://doi.org/10.1177/1362168821994157

Dao, P. (2020). Effect of interaction strategy instruction on learner engagement in peer interaction. *System*, *91*(102244), 1–13. https://doi.org/10.1016/j.system.2020.102244

de Zarobe, Y. R., & Zenotz, V. (2018). Learning strategies in CLIL classrooms: How does strategy instruction affect reading competence over time? *International Journal of Bilingual Education and Bilingualism*, *21*(3), 319–331. https://doi.org/10.1080/13670050.2017.1391745

Drigas, A., & Mitsea, E. (2020). The 8 Pillars of Metacognition. *International Journal of Emerging Technologies in Learning*, *15*, 162-178. DOI: 10.3991/ijoe.v17i08.23563

Ellis, G., Ibrahim, N. (2015). *Teaching children how to learn.* Delta Publishing Company.

Farzam, M. (2018). The effect of cognitive and metacognitive strategy training on intermediate Iranian EFL learners' willingness to communicate. *International Journal of Applied Linguistics and English Literature*, *7*(1), 193–202. http://dx.doi.org/10.7575/aiac.ijalel.v.7n.1p.193

Fathi, J., & Afzali, M. (2020). The effect of second language reading strategy instruction on young Iranian EFL learners' reading comprehension. *International Journal of Instruction*, *13*(1), 475–488. https://doi.org/10.29333/iji.2020.13131a

Fathi, J., Derakhshan, A., & Torabi, S. (2020). The effect of listening strategy instruction on second language listening anxiety and self-efficacy of Iranian EFL learners. *Sage Open*, *10*(2), 1–13. https://doi.org/10.1177/2158244020933878

Fathi, J., & Hamidizadeh, R. (2019). The contribution of listening strategy instruction to improving second language listening comprehension: A case of Iranian EFL learners. *International Journal of Instruction*, *12*(2), 17–32. https://doi.org/10.29333/iji.2019.1222a

Fiani, A. (2018). The role of metacognitive instruction in developing ESL/EFL listening abilities: A theoretical and empirical review. *Linguistic, English Education and Art (LEEA) Journal*, *2*(1), 86–99. https://doi.org/10.31539/leea.v2i1.442

Fisher, R. (1998). Thinking about thinking: Developing metacognition in children. *Early Child Development*, *141*(1), 1-15. https://doi.org/10.1080/0300443981410101

Flavell, J.H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, *34*(10), 906-911. https://doi.org/10.1037/0003-066X.34.10.906

Hapsari, A. D. (2020). Metacognitive strategy training in the teaching of reading comprehension: Is it effective in EFL classroom? *Lang-Edu Journal of English Teaching and Learning*, *9*(1). https://core.ac.uk/download/pdf/287229415.pdf

Holec, H. (1996). Self-directed learning: An alternative form of training. *Language Teaching*, *29*(02), 89-93. https://doi.org/10.1017/S0261444800008387

Hosseini, G., Izadpanah, S., & Fasih, P. (2020). The effects of metacognitive strategy training on improving Iranian EFL learners' listening performance and the similarities and differences across three elementary, intermediate, and advanced proficiency levels. *International Journal of Research in English Education*, *5*(2), 29–48. https://doi.org/10.29252/ijree.5.2.29

Hosseini, M. S. (2021). Analyzing the effect of using metacognitive strategies on Iranian EFL learners' writing skill. *Journal of Language and Translation*, *12*(1), 141–155.

Irgin, P., & Erten, I. H. (2020). Exploring the role of strategy instruction: Young learners' listening performance and strategy use. *Eurasian Journal of Applied Linguistics*, *6*(3), 415–441. https://doi.org/10.32601/ejal.834676

Jaramillo, M. V. (2021). Developing aural and oral skills of beginner learners of English as a foreign language through explicit metacognitive strategies training. *Revista Latinoamericana de Estudios Educativos*, *17*(1), 120–141. https://doi.org/10.17151/rlee.2021.17.1.7

Kobayashi, A. (2018). Investigating the effects of metacognitive instruction in listening for EFL learners. *The Journal of Asia TEFL*, *15*(2), 310–328.

Kung, F. W. (2019). Teaching second language reading comprehension: The effects of classroom materials and reading strategy use. *Innovation in Language Learning and Teaching*, *13*(1), 93–104. https://doi.org/10.1080/17501229.2017.1364252

Lengkanawati, N. S. (2017). Learner autonomy in the Indonesian EFL settings. *Indonesian Journal of Applied Linguistics*, *6*(2), 222–231. https://doi.org/10.17509/ijal.v6i2.4847

Lin, X. (2001). Designing Metacognitive Activities. *Educational Technology Research and Development*, *49*, 23-40. https://doi.org/10.1007/BF02504926

Little, D. (2004). Democracy, discourse and learner autonomy in the foreign language classroom. *Utbildning & Demokrati*, *13*(3), 105–126. https://doi.org/10.48059/uod.v13i3.784

Lu, D. B. (2021). The application of metacognitive strategies in computer-assisted listening comprehension class. *Advances in Social Science, Education and Humanities Research*, *533*. https://doi.org/10.2991/assehr.k.210226.019

Maftoon, P., & Alamdari, E. F. (2020). Exploring the effect of metacognitive strategy instruction on metacognitive awareness and listening performance through a process-based approach. *International Journal of Listening*, *00*, 1–20. https://doi.org/10.1080/10904018.2016.1250632

Milliner, B., & Dimoski, B. (2021). The effects of a metacognitive intervention on lower proficiency EFL learners' listening comprehension and listening self-efficacy. *Language Teaching Research*, 1–35. https://doi.org/10.1177/13621688211004646

Mohamadpour, P., Talebinezhad, M. R., & Tabatabaei, S. O. (2019). Impact of metacognitive strategy instruction on Iranian EFL learners' listening anxiety. *International Journal of Foreign Language Teaching & Research*, *7*(26), 57–68.

Mohseni, F., Seifoori, Z., & Ahangari, S. (2020). The impact of metacognitive strategy training and critical thinking awareness-raising on reading comprehension. *Cogent Education*, *7*(1), 1–22. https://doi.org/10.1080/2331186X.2020.1720946

Mulyadi, D. (2018). Enhancing students' listening proficiency through the instruction of metacognitive listening strategy. *Getsempena English Education Journal*, *5*(2), 169–176.

Newman, M., & Gough, D. (2020). Systematic Reviews in Educational Research: Methodology, Perspectives and Application. In O. Zawacki-Richter, M. Kerres, S. Bedenlier, M. Bond, & K. Buntins (Eds.), *Systematic Reviews in Educational Research* (pp. 3–22). Springer VS. https://doi.org/10.1007/978-3-658-27602-7_1

O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Kupper, L., & Russo, R. P. (1985). Learning strategies used by beginning and intermediate ESL students. *Language Learning, 35*(1), 21–46. https://doi.org/10.1111/j.1467-1770.1985.tb01013.x

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Heinle Publishers.

Oxford, R. (2001). Language learning styles and strategies. *In M. Celce-Murcia (Ed.), Teaching English as a second or foreign language*. Heinle and Heinle.

Oxford, R. (2003). Language learning styles and strategies: An overview. *GALA*, 1-25. https://www.researchgate.net/publication/254446824_Language_learning_styles_and_strategies_An_overview

Oxford, R. L. (2017). *Teaching and Researching Language Learning Strategies: Self-Regulation in Context, Second Edition*. Taylor & Francis Group.

Ozturk, N. (2015). A short review of research on metacognition training with elementary students. *Journal of Educational and Instructional Studies in the World*, *5*(3), 50-62. https://www.researchgate.net/publication/323686218_A_short_review_of_research_on_metacognition_training_with_elementary_students

Panggabean, C. I. T., & Triassanti, R. (2020). The implementation of metacognitive strategy training to enhance EFL students oral presentation skill. *Journal of English Teaching and Research*, *5*(1), 32–40.

Pinter, A. 2017). *Teaching young language learners.* Oxford University Press.

Sardroud, S. J. E. (2013). Impact of training deep vocabulary learning strategies on vocabulary retention of Iranian EFL learners. *International Journal of Applied Linguistics and English Literature*, *2*(3), 75–82. https://doi.org/10.7575/aiac.ijalel.v.2n.3p.75

Seedanont, C., & Pookcharoen, S. (2019). Fostering metacognitive reading strategies in Thai EFL classrooms: A focus on proficiency. *English Language Teaching*, *12*(7), 75–86.

Tavakoli, H. (2018). Strategy-based instruction: A learner-focused approach to developing metacognitive awareness of Iranian university EFL students. *Journal of Second and Multiple Language Acquisition*, *6*(3), 60–76.

Teng, L. S., & Zhang, L. J. (2020). Empowering learners in the second/foreign language classroom: Can self-regulated learning strategies-based writing instruction make a difference? *Journal of Second Language Writing*, *48*(100701), 1–16. https://doi.org/doi.org/10.1016/j.jslw.2019.100701

Thongwichit, N., & Buripakdi, A. (2021). A glimpse of metacognitive reading strategy instruction through modeling technique in ESP class at the tertiary level. *LEARN Journal: Language Education and Acquisition Research Network*, *14*(1), 118–145.

Uçak, G., & Kartal, G. (2022). Scaffolding design to increase reading comprehension for learners of English through online strategy training. *E-Learning and Digital Media*, *0*(0), 1–22. https://doi.org/10.1177/20427530221111268

Veenman, M.V.J., Van Hout-Wolters, B.H.A.M, & Afflerbach, P. (2006). Metacognition and learning: Conceptual and methodological considerations. *Metacognition Learning 1*, 3-14. https://doi.org/10.1007/s11409-006-6893-0

Wenden, A. L. (1998). Learner training in foreign/second language learning: A curricular perspective for the 21st century. *ERIC*, 1-40. https://files.eric.ed.gov/fulltext/ED416673.pdf

Whitehead, E. (2020). Application of metacognitive strategy instruction in listening comprehension to the level III student teachers. *The Excellence in Education Journal*, *9*(1), 104-119.