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Impact of Teaching Metacognitive Strategies on Iranian EFL Learners' Writing Accuracy in Proactive vs. Reactive Classes

Fatemeh Jafari[1], Nasser Ghafoori[2]*, Shima Ahmadi-Azad[3]

[1]Ph.D. Candidate, Department of English Language, Sarab Branch, Islamic Azad University, Sarab, Iran
[2*]Assistant Professor, Department of English Language, Tabriz Branch, Islamic Azad University, Tabriz, Iran
[3]Associate Professor, Department of English Language, Sarab Branch, Islamic Azad University, Sarab, Iran

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Abstract

The present study aimed to examine the impact of instructing metacognitive strategies involving planning, monitoring, and self-evaluation, within proactive and reactive classroom contexts, on the writing accuracy of Iranian EFL learners. Employing a quantitative quasi-experimental design, the research comprised 168 participants, drawn from an initial pool of 206 undergraduate students within the science and engineering department of Azad University, Tabriz Branch, who had completed a general English course during the Spring of 2021. Employing purposive sampling, the homogeneous sample was divided into two experimental and two control groups, aligning with the study's independent variables: the teaching of metacognitive strategies and the classroom environment. The experimental groups underwent instruction in metacognitive strategies, with one group exposed to proactive instruction before commencing writing tasks, and the other receiving reactive instruction when encountering writing difficulties. Pre- and post-treatment writing samples were collected and evaluated for accuracy, and ANOVA was conducted on the pre-test scores, establishing initial comparability among the four groups. Subsequently, a Two-Way Analysis of Variance was employed to assess post-test scores. Notably, teaching metacognitive strategies exhibited a statistically significant influence on writing accuracy only within reactive classroom conditions. Conversely, the classroom environment exerted a negligible direct influence on writing accuracy, though a noteworthy interaction effect emerged between the two independent variables. This study holds substantial implications for EFL instructors, learners, and curriculum developers, highlighting the significance of incorporating metacognitive strategy instruction to enhance writing accuracy within specific instructional contexts.

Keywords: Metacognitive Strategies, Proactive and Reactive Classes, Writing Accuracy

INTRODUCTION

Presently, adept writing holds a pivotal role in both first (L1) and second (L2) language education. As a result, writing instruction has gained increasing prominence in L2 classrooms (Weigle, 2002). Teaching L2 learners effective and accurate writing is integral to communicative language teaching, wherein language is conceived as a communicative process rather than an object of study. Notably, writing should not be confined to mere grammar or vocabulary practice within modern L2 educational settings; rather, it should be an intrinsic objective (Weigle, 2002). According to Hyland (2003), mastery of proper writing proves challenging for both L2 learners and native English speakers, signifying that being a native English speaker does not necessarily equate to effective writing ability. Therefore, the explicit instruction of writing as a skill becomes essential within L2 educational programs.

The skill of writing, often considered one of the most challenging abilities for second language (L2) learners to acquire due to its

*****Corresponding Author's Email: *ghafoori@iaut.ac.ir*

complex nature, presents difficulties arising from the need to blend ideas cohesively while mastering a range of elements including grammar, spelling, vocabulary selection, and punctuation (Hapsari, 2011). Within the domain of L2 education, scholars like Ellis (2003), Ellis and Barkhuizen (2005), and Skehan (1998) concur on the multi-faceted character of L2 and writing competence, which can be comprehensively grasped through the lens of complexity, accuracy, and fluency (CAF; Housen & Kuiken, 2009).

Writing accuracy, as described by Skehan and Foster (1997), relates to how well language conforms to the norms of the target lan- guage. Skehan (1996) defines accuracy as a measure of proficiency, indicating how closely a learner's language resembles that of native speakers. Mainly involving vocabulary and grammar, accuracy reflects adherence to estab- lished language usage standards. Methods for measuring accuracy have varied, including tallies of error-free T-units, error-free T-units per T-unit, and errors per T-unit (Wolfe- Quintero et al., 1998). For this study, Larsen- Freeman's (2006) approach, which quantifies writing accuracy by calculating the ratio of error-free T-units to total T-units while con- sidering lexical, morphological, and syntactic errors, was chosen due to its practicality and applicability.

Metacognitive strategies refer to cognitive processes that learners employ to manage their learning experiences (Wenden, 1991). Metacognitive strategies, as outlined by O'Malley and Chamot (1990), encompass higher-order cognitive skills that involve reflecting on learning processes, planning for learning, and self-evaluation following learning activities (2012). Scholarly investigations have demonstrated that the use of metacognitive strategies significantly enhances learning by empowering students to plan, regulate, and evaluate their learning (Oxford, 2002, 2003). Teaching strategies that guide learners in recognizing, acquiring, and internalizing new information and skills are especially valuable for cultivating writing abilities such as planning, drafting, and revising (Graham & Harris, 2005).

Within instructional methodologies, proactive and reactive approaches have been identified. Proactive teaching involves pre-planned directives to familiarize students with target language features, even if these features might not surface in classroom discourse (Lyster, 2007). Reactive instruction, resembling teachers' corrective feedback, draws learners' attention to language form after encountering problems (Lyster, 2007). Reactive instruction is gaining traction in instructed second language acquisition, complementing corrective feedback to enhance linguistic accuracy (Ammar & Spada, 2006). Corrective or reactive feedback plays a pivotal role in facilitating interlanguage development (Lyster et al., 2013), bridging the gap between present and desired performances (Dlaska & Krekeler, 2013).

Aligned with prior research, this study aimed to replicate earlier investigations and assess the influence of instructing metacognitive strategies - planning, monitoring, and evaluating - on the writing accuracy of Iranian EFL learners within proactive and reactive classroom settings. The study endeavors to address the subsequent research inquiries:

RQ1. *Does the instruction of metacognitive strategies yield a statistically significant impact on the writing accuracy of learners?*

RQ2. *Does the nature of instruction (proactive versus reactive) yield a statistically significant effect on the writing accuracy of learners?*

RQ3. *Do discernible interaction effects arise between the impacts of metacognitive strategy instruction and the nature of instruction on the writing accuracy of learners?*

LITERATURE REVIEW

Numerous research endeavors have delved into the implications of instructing metacognitive strategies for the academic accomplishments of second language (L2) learners within various contextual frameworks. For instance, Lv and Chen (2010) undertook an empirical exploration involving 86 first-year students who were learning English as a foreign language at Laiwu Vocational College in China. By utilizing pre-tests, post-tests, writing journals, and interviews, the study underscored that training in metacognitive strategies significantly boosted the writing performance of the students. In a similar vein, Magogwe (2013) identified a correlation between the metacognitive knowledge of L2 learners and their writing performance, focusing on advanced English writing students at the University of Botswana. The study illuminated the association between metacognitive knowledge and favorable writing outcomes, thereby underscoring the value of this kind of knowledge in effective writing.

Teng (2016) investigated the influence of cooperative strategies on the metacognitive skills of EFL students and their English writing. The research indicated that cooperative learning integrated with metacognitive instructions yielded the highest mean scores in writing and

cognitive regulation. Astudillo (2018) examined the impact of metacognitive strategy training on writing among students in Ecuador, revealing a noteworthy enhancement in writing performance due to the integration of metacognitive and self-regulation strategies.

Examining the Saudi Arabian context, Alfawzan (2020) explored the consequences of metacognitive strategies—planning, monitoring, and evaluating—on the English writing of Saudi graduate students. Employing a case study methodology involving participant observation and think-aloud protocols, the research showcased the efficacy of these strategies in augmenting writing competencies and performance.

Turning to the Iranian English as a foreign language (EFL) milieu, Panahandeh and Asl (2014) scrutinized the ramifications of planning and monitoring skills as metacognitive strategies on the accuracy of argumentative writing among Iranian university EFL learners. Their findings indicated that instruction grounded in metacognitive strategies led to significantly improved writing accuracy. Similarly, Rahimi and Karbalaei (2016) disclosed that training in metacognitive strategies had a positive impact on the writing skills of Iranian EFL learners, as evidenced by post-treatment questionnaires. Tabrizi and Rajaee (2016) directed their attention to imparting cognitive and metacognitive writing strategies to elementary-level learners, resulting in beneficial effects on writing skills, with the metacognitive group surpassing the cognitive group in performance.

All in all, these studies collectively underscore the affirmative influence of metacognitive strategies on the writing performance of L2 learners across a spectrum of settings, underscoring their pivotal role in nurturing effective writing capabilities.

METHOD

Design

The design of the present research was a quasi-experimental pre-test post-test control group design. The independent variable was metacognitive strategy training and the moderator variable was the classroom management under two conditions of proactive and reactive approaches. The dependent variable was the participants' grammatical accuracy in writing.

Participants

From among 206 undergraduate students of the science and engineering department in Azad University (Tabriz Branch) who had taken a general English course in Spring 2021, 182 students (male as well as female) accepted to take part in the present research. The overall English ability of the participants was checked and controlled by an English proficiency test known as the Preliminary English Test (PET). Those participators getting scores within 1.5 SD around the mean score of the PET were selected as the homogenous sample. The selected sample was divided into four groups according to the requirements of the present research design. The participators were 18 to 27-year-olds and came from various cities of East and West Azarbayjan provinces in Iran where the people are bilingual speakers of Persian and Azari Turkish languages.

Instruments

The Preliminary English Test (PET) was used as an instrument for checking the participants' general English proficiency at the onset of the study. The purpose of the test was to identify and exclude the outliers in order to select a more homogeneous sample and to control the general English proficiency as a potential intervening variable. The PET has four sections in accordance to four language skills. However, the Speaking module of the test was excluded for administrative impracticality. The overall score range of the test was zero to 75.

As the instrument for collecting data regarding writing accuracy as a pre-test and post-test, the participants were given some picture prompts for which they were instructed to write short descriptions. The pictures were adopted from (Heaton, 1975) book entitled *Beginners Composition Writing through Pictures*. In order to obtain scores for writing accuracy in the collected writing samples, in the pre-test and post-test, the researcher used Larsen-Freeman (2006)'s profile as a reliable rating scale. This profile is a thorough investigation of English language students' performance via objective gauging which uses T-units in estimating oral as well as written language productions considering accuracy, fluency, and complexity. According to Larsen-Freeman (2006), writing accuracy is the proportion of error-free T-units to total T-units (focusing on lexical, morphological, and syntactic errors). The scoring was carried out by two experienced raters and the inter-rater reliability was calculated by Pearson Correlation which returned a consistency coefficient of .94. Some written samples were also double-scored by the researcher in order to check the intra-rater

consistency whose coefficient turned out to be as high as .98.

Procedures

Data Collection Procedure

The present research started with a homogeneous sample from an initial group of 182 university students studying in different fields of science and engineering, who had taken general English course in Spring course, 2021. For this purpose, the PET was applied to assess the participants' general English proficiency at the commencement of the research. accordant with the test outcomes, the decision was made to exclude 14 participants whose scores lay beyond the range of 1.5 SD around the mean. This range was selected because with a more common range of one SD around the mean we would have lost 70 participants from our sample and this might seriously have influence on the outcome of the statistical analyses which required as many participants as possible. The remaining final sample included 168 participants who were randomly distributed into two classifications of experimental and control groups each of which was further divided into two conditions of proactive and retroactive teaching approaches.

The participants in all groups were given a picture prompt for which they were instructed to write a description in about 400 words. The writing samples were scored in terms of writing accuracy which was computed by adding up the sum total of error-free T-units and dividing the number to all T-units (adopted from Larsen-Freeman (2006). The scores which were extracted were considered as the participants' pre-test scores of writing accuracy. The mean scores of four groups were statistically compared to check initial differences which turned out to be insignificant. So, the four classifications were approximately identical in writing accuracy at the commencement of the research.

The treatment began from the second session and lasted for 10 sessions. The classes were once a week in electronic form through Adobe Connect Application. In each session, one picture prompt was shown to the participants and they were instructed to write descriptions based on the picture. The experimental groups received explicit training of metacognitive strategy use throughout the treatment period while the contributors in the control groups received routine instructions as it is usual in writing classes without any explicit training of metacognitive strategies.

The metacognitive strategies addressed within the treatment sessions incorporated planning, self-monitoring, and self-evaluation strategies, following the guidance of O'Malley and Chamot (1990). During the preparatory phase, the researcher/teacher initiated by aiding learners in assessing their existing comprehension of content and strategies, identifying any knowledge gaps requiring attention. Metacognitive writing strategies were introduced and their significance elucidated, with the researcher guiding learners in setting realistic objectives. The researcher introduced various metacognitive strategies such as self-planning, self-monitoring, and self-evaluation within writing. These strategies' attributes, functionalities, and implementations were directly illustrated through examples, facilitating students' meaningful understanding. Subsequently, learners commenced organizing their writing guided by the self-planning strategy, which encompassed tasks such as recognizing the topic, considering the audience, gathering information, brainstorming, outlining, and analysis. As the writing process unfolded, participants were encouraged to employ the self-monitoring strategy, aiding them in writing and performing corrective actions when encountering obstacles. Additionally, participants were prompted to assess their writing's quality, determining their grasp of contemporary strategies, skills, and evaluative requirements. Self-evaluation activities included self-questioning and debriefing discussions subsequent to strategy practice.

The participants under Proactive experimental condition were taught these strategies in advance, that is, before they began writing their assignments while those under the Reactive condition were explained the strategies during accomplishing the writing activities. The participants in the control groups were given instruction in writing without any explicit mentioning of metacognitive strategies. They were taught how to start their writing and how to develop their description by giving them some grammatical points and writing tips such as punctuation and paragraph separation. The Proactive class received the instructions and tips before the writing activity began while the Reactive class received the same instructions during the writing process that was done in the class time.

Data Analysis Procedures

Descriptive statistical methods were utilized to characterize the initial outcomes of the English language proficiency test, which in turn guided

the selection of participants for the research sample. This sample was divided into four distinct categories, and a writing evaluation was administered to all individuals within these classifications to evaluate their principal variances in relation to writing accuracy. The normal distribution of the scores was assessed using the One Sample Kolmogorov-Smirnov (KS) test. Once the normal distribution was confirmed, a One-Way Analysis of Variance (ANOVA) was conducted to compare the pre-test scores for writing accuracy among the four groups. Given the study's two independent variables, a Two-Way ANOVA was employed to analyze the post-test scores and address the research inquiries. Detailed findings from these analyses are presented in the subsequent section.

RESULTS

At the initiation of the investigation, the participants' overall English proficiency was gauged using the Preliminary English Test (PET) to identify and exclude any outliers, aiming to create a more uniform group of participants. The test involved 182 examinees, and the scoring spectrum ranged from zero to 80. Descriptive statistics (as depicted in Table 1 below) were computed for the initial cohort of 180 candidates.

Table 1
Descriptive Statistics for the Initial English Proficiency Test

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
PET	182	25	72	54.79	10.940	-.565	.180
Valid N (listwise)	182						

As it is seen in Table 1, the mean and the SD for the observed scores were 54.79 and 10.940, respectively. The range for the selection of a more homogeneous group was set to 1.5 SD around the mean. Thus, those test takers who had scored between 44 and 66 were kept as homogeneous while those beyond this range were excluded as outliers. The size of the selected sample was 168 learners who were randomly assigned into four equal groups of 42 participants corresponding to the two variables of the study as follows: Group 1 (Experimental Proactive), Group 2 (Experimental Retroactive), Group 3 (Control Proactive), and Group 4 (Control Reactive).

Two tasks involving writing descriptions of pictures were administered to the participants within the four distinct groups, serving as both the pre-test and post-test assessments of writing accuracy. The participants were instructed to compose approximately 500 words describing the visual prompts they were provided. The evaluations of the written submissions were based on the calculation of the sum of error-free T-units divided by the total number of T-units in each written piece. Descriptive statistical data for the pre-test and post-test scores concerning writing accuracy across the four groups are illustrated in Table 2. Reactive).

Table 2
Descriptive Statistics for Pre-test and Post-test of Accuracy in Four Groups

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
ExProPre-test	42	.46	.91	.6762	.09885	-.391	.365
EXRePre-test	42	.40	.92	.6488	.13744	-.012	.365
ConProPretes	42	.44	.91	.6545	.14586	.137	.365
ConRePretes	42	.49	.90	.7069	.09631	-.389	.365
ExProPost	42	.52	.95	.7443	.08923	-.561	.365
ExRePost	42	.55	.98	.8240	.10682	-.716	.365
ConProPost	42	.45	.91	.6848	.13267	.001	.365
ConRePost	42	.45	.90	.7245	.09462	-.734	.365
Valid N (listwise)	42						

As it is seen in Table 2, the descriptive statistics indicated the minimum and maximum scores in each group as well as the mean, SD and skewness. The skewness statistics which were below 1 could be evidence for the normality of the scores distributions; however, the normality hypothesis was further tested by running One Sample Kolmogrov-Smirnov (KS) test as a prerequisite to use parametric inferential statistics to compare pre-test and post-test scores. Table 3 shows the results of the KS test.

Table 3
One Sample KS test of Normality for Pre-test and Post-test Accuracy Scores

		Ex Pro Pre-test	EX Re Pre-test	Con Pro Pretests	Con Re Pretests	Ex Pro Post	Ex Re Post	Con Pro Post	Con Re Post
N		42	42	42	42	42	42	42	42
Normal Parameters[a,b]	Mean	.68	.65	.65	.71	.74	.82	.68	.72
	Std. Deviation	.10	.14	.15	.10	.09	.11	.13	.09
Most Extreme Differences	Absolute	.10	.08	.12	.11	.14	.13	.14	.16
	Positive	.07	.07	.12	.07	.13	.10	.11	.11
	Negative	-.10	-.08	-.12	-.11	-.14	-.13	-.14	-.16
Kolmogorov-Smirnov Z		.62	.51	.81	.74	.88	.83	.91	1.03
Asymp. Sig. (2-tailed)		.84	.96	.53	.64	.42	.49	.37	.23

a. Test distribution is Normal.
b. Calculated from data.

As indicated by the data presented in Table 3, the p-values associated with the accuracy score distributions from eight different data sets exceeded the predetermined alpha threshold of significance (0.05). This outcome implies that the null hypothesis of normality could not be refuted, thus substantiating the confirmation of the normality assumption for these distributions. This validation of normality provides a solid basis for employing parametric statistical techniques, specifically the One-Way and Two-Way Analysis of Variance (ANOVA), for the purpose of comparing groups.

To explore potential variations among the groups prior to the commencement of the treatment sessions, the pre-test accuracy scores were subjected to analysis through One-Way ANOVA. The objective was to discern whether any statistically significant differences existed across the four groups. The outcomes of this analysis are outlined in Table 4.

Table 4
One Way ANOVA to Compare the Pre-test Scores

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.087	3	.029	1.966	.121
Within Groups	2.428	164	.015		
Total	2.515	167			

The p-value recorded for the F-value of 1.966 was 0.121, surpassing the significance threshold of alpha ($p > 0.05$). This indicates that there is insufficient evidence to reject the null hypothesis asserting the equality of mean scores. Consequently, the disparities among the mean scores of the groups during the pre-test lack statistical significance.

Considering the presence of two independent variables and one dependent variable in the study, a Two-Way ANOVA was conducted to analyze the post-test accuracy scores and address the research inquiries. The initial and second research queries examined the impacts of teaching metacognitive skills (referred to as the Method Variable) and the type of classroom management, either proactive or reactive (referred to as the Condition Variable), respectively. Meanwhile, the third research question explored the interplay between these two variables. The outcomes of the Two-Way ANOVA analysis for the post-test scores are displayed in Table 5.

Table 5

Two-Way ANOVA for Post-test Scores of Accuracy

Tests of Between-Subjects Effects

Dependent Variable: Accuracy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.23[a]	3.00	.08	7.05	.00
Intercept	97.49	1.00	97.49	8927.43	.00
Method	.08	1.00	.08	7.71	.01
Condition	.03	1.00	.03	2.88	.09
Method * Condition	.12	1.00	.12	10.55	.00
Error	1.79	164.00	.01		
Total	99.52	168.00			
Corrected Total	2.02	167.00			

a. R Squared = .114 (Adjusted R Squared = .098)

The results presented in Table 5 offer insights into the study's three inquiries. Initially, the first research question explored the influence of teaching metacognitive strategies (referred to as Method) on learners' writing accuracy. Examination of the third row in Table 5 reveals that the p-value associated with the Method's impact on the dependent variable, accuracy, falls below the designated alpha level of significance ($p < 0.05$). Consequently, the response to the initial research question is affirmative.

Subsequently, the second research question investigated whether the instructional approach (proactive versus reactive, referred to as Condition) had a statistically significant impact on learners' writing accuracy. The fourth row's results within Table 5 display a p-value for the Condition that exceeds the predetermined alpha level of significance ($p > 0.05$), indicating a negative answer to the second research question. Therefore, it can be concluded that the classroom instruction type (proactive versus reactive) did not yield statistically significant discrepancies among the groups on its own.

Lastly, the third research question delved into the potential interaction between the effects of teaching metacognitive strategies and the instructional approach on learners' writing accuracy. Analysis of the fifth row in Table 5 demonstrates a p-value for the interaction effect falling below the established alpha level of significance ($p < 0.05$). Consequently, the null hypothesis suggesting no effect is discarded, affirming the response to the third query. Thus, a noteworthy interaction between teaching metacognitive strategies and the instructional approach (proactive vs. reactive) is evident. A graphical representation of this interaction effect is provided in Figure 1.

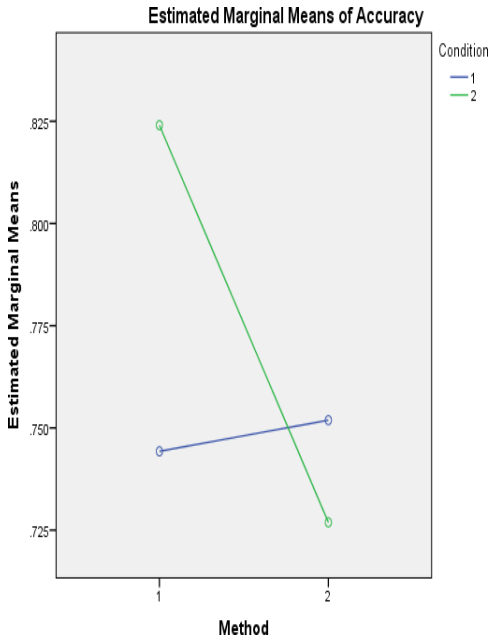

Figure *1*

The Interaction between Method and Condition Variables

As illustrated in Figure 1, the intersection of the two lines representing different conditions signifies a statistically significant interaction between the method and condition. In Method 1, involving the instruction of metacognitive skills in Experimental groups, two conditions

(proactive and reactive) were observed. The difference in accuracy mean scores between the two experimental groups was statistically significant, with the experimental group under reactive condition achieving higher scores compared to the proactive condition and both control groups. Conversely, the difference in mean scores between the two control groups in Method 2 was not significant. Notably, no significant difference between proactive and reactive conditions was observed within the control groups. In summary, the instruction of metacognitive strategies led to a noteworthy improvement in writing accuracy for the group exposed to the reactive condition.

DISCUSSION

The analysis of the gathered data demonstrated that the instruction of metacognitive strategies yielded significant enhancements solely in the writing accuracy of participants subjected to the reactive classroom condition. These findings corroborate previous research outcomes, indicating that fostering awareness of the benefits associated with metacognitive strategy implementation contributes to enhancing writing skills overall (Alfawzan, 2020; Astudillo, 2018; Lv & Chen, 2010; Magogwe, 2013; Rahimi & Karbalaei, 2016; Teng, 2016). Metacognitive strategies, centering around fundamental writing skills and knowledge, especially planning and monitoring, serve as pivotal guidance for L2 writers, facilitating improvements in performance and writing accuracy through emphasis on macro and micro-level structures, culminating in professional competence. Proficiency in these strategies often leads to learner autonomy in executive skills acquisition, enabling them to adeptly comprehend and master the writing process and associated skills.

Regarding the interaction between metacognitive strategy training and classroom instruction type (proactive vs. reactive), wherein metacognitive strategies only significantly improved writing in the reactive condition, this finding can be rationalized by the influence of corrective feedback on learning outcomes. Prior research (Ellis, 2006; Lyster, 2004) has underscored the efficacy of explicit corrective measures in enhancing EFL learners' L2 proficiency. Reactive instruction of metacognitive strategies in this study mirrored direct corrective feedback strategies, wherein immediate use of accurate linguistic forms was emphasized to enhance linguistic accuracy. Conversely, proactive teaching of metacognitive strategies, operationalized as imparting strategies prior to writing activities, did not yield significant improvements in writing accuracy compared to untreated control groups. This unique finding in the study adds a novel dimension to the existing literature.

CONCLUSIONS

In this study, a quantitative approach was utilized to explore the impacts of teaching metacognitive writing strategies, particularly under proactive and reactive conditions, on the writing accuracy of Iranian EFL learners. The outcomes of this research align with previous studies, confirming the effectiveness of enhancing learners' awareness regarding crucial metacognitive strategies like planning, monitoring, and self-evaluation. This heightened awareness exhibited a propensity to bolster not only their overall writing prowess but also the precision of their writing compositions. Notably, the study also revealed that the most favorable outcomes from metacognitive strategy instruction were discerned within reactive conditions. This context, characterized by educators' prompt interventions and guidance, aligned conceptually with the concept of corrective feedback, as elucidated within scholarly literature (Lyster, 2004, 2007).

The implications of this study reverberate profoundly within the pedagogical domain, underscoring educators' pivotal roles in furnishing reactive feedback in the guise of metacognitive strategy instruction. This strategic endeavor equips students with tools to address potential hurdles encountered during the intricate writing process, cementing teachers as catalysts in nurturing effective writing practices. The heightened significance of writing proficiency within various academic disciplines, particularly at advanced levels, emphasizes the timeliness of integrating metacognitive strategy teaching methodologies. In essence, educators are urged

to curate curricula that not only activate but also cultivate learners' metacognitive faculties, thereby elevating their writing skills to newfound heights.

However, certain limitations should be acknowledged. The study's sample size was confined, reflecting a quantitative research design. To ensure the generalizability of findings, it is imperative to undertake further investigations encompassing diverse samples and varying contexts, employing more comprehensive qualitative paradigms. While this study predominantly concentrated on the effects of strategy training vis-à-vis writing accuracy, the avenue for future research is proposed to broaden its scope. This could encompass an exploration of additional variables such as writing fluency and complexity, thereby offering a more comprehensive and nuanced understanding of the multifaceted impact of metacognitive strategy instruction on writing proficiency.

References

Alfawzan, N. S. (2020). *The Effect of Applying Metacognitive Strategic Knowledge (MSK) in L2 Writing Performance in the Saudi Academic Class* University of Dayton].

Ammar, A., & Spada, N. (2006). One size fits all?: Recasts, prompts, and L2 learning. *Studies in second language acquisition*, *28*(4), 543-574.

Astudillo, M. C. J. (2018). The impact of metacognitive strategies on enhancing EFL A2 level students' writing.

Dlaska, A., & Krekeler, C. (2013). The short-term effects of individual corrective feedback on L2 pronunciation. *System*, *41*(1), 25-37.

Doughty, C., & Williams, J. (1998). *Focus on form in classroom second language acquisition*. Cambridge University Press.

Ellis, R. (2003). *Task-based language learning and teaching*. Oxford university press.

Ellis, R. (2006). Researching the effects of form-focussed instruction on L2 acquisition. *AILA review*, *19*(1), 18-41.

Ellis, R. (2012). *Language teaching research and language pedagogy*. John Wiley & Sons.

Ellis, R., & Barkhuizen, G. P. (2005). *Analysing learner language*. Oxford University Press Oxford.

Goo, J., & Mackey, A. (2013). The case against the case against recasts. *Studies in second language acquisition*, *35*(1), 127-165.

Graham, S., & Harris, K. (2005). Writing better. *Baltimore, MD: Brookes*.

Hapsari, A. S. (2011). The use of roundtable technique to improve students' achievement in writing hortatory exposition text. *Semarang State University: Unpublished Script*.

Heaton, J. B. (1975). *Beginning composition through picture*. Pearson Education Limited.

Housen, A., & Kuiken, F. (2009). Complexity, accuracy, and fluency in second language acquisition. *Applied linguistics*, *30*(4), 461-473.

Hyland, K. (2003). *Second Language Writing*. Cambridge University Press. https://doi.org/DOI: 10.1017/CBO9780511667251

Larsen-Freeman, D. (2006). The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English. *Applied linguistics*, *27*(4), 590-619.

Long, M. H., & Robinson, P. (1998). Focus on form: Theory, research, and practice. *Focus on form in classroom second language acquisition*, *2*, 15-41.

Lv, F., & Chen, H. (2010). A Study of Metacognitive-Strategies-Based Writing Instruction for Vocational College Students. *English Language Teaching*, *3*(3).

Lyster, R. (2004). Differential effects of prompts and recasts in form-focused instruction. *Studies in second language acquisition*, *26*(3), 399-432.

Lyster, R. (2007). *Learning and teaching languages through content: A counterbalanced approach* (Vol. 18). John Benjamins Publishing.

Lyster, R., Saito, K., & Sato, M. (2013). Oral corrective feedback in second language classrooms. *Language teaching*, *46*(1), 1-40.

Magogwe, J. M. (2013). An assessment of the metacognitive knowledge of Botswana ESL university student writers. *Educational Research and Reviews*, *8*(21), 1988-1995.

O'Malley, M. J., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge university press.

Oxford, R. L. (2002). Language Learning Strategies. In r. Carter, & d. Nunan (eds.), the Cambridge Guide to Teaching English to Speakers of Otherlanguages (pp. 166-172). In: Cambridge: Cambridge University Press.

Oxford, R. L. (2003). Language learning styles and strategies: Concepts and relationships.

Panahandeh, E., & Asl, S. E. (2014). The effect of planning and monitoring as metacognitive strategies on Iranian EFL learners' argumentative writing accuracy. *Procedia-Social and Behavioral Sciences*, *98*, 1409-1416.

Rahimi, F., & Karbalaei, A. (2016). The role of metacognitive strategies training on developing writing skill among Iranian EFL learners. *Journal of Current Research in Science*(1), 327.

Ranta, L., & Lyster, R. (2007). *A cognitive approach to improving immersion students' oral language abilities: The awareness-practice-feedback sequence*. na.

Simpson, M. L., & Nist, S. L. (2000). An update on strategic learning: It's more than textbook reading strategies. *Journal of adolescent & adult literacy*, *43*(6), 528-541.

Skehan, P. (1996). A framework for the implementation of task-based instruction. *Applied linguistics*, *17*(1), 38-62.

Skehan, P. (1998). *A cognitive approach to language learning*. Oxford University Press.

Skehan, P., & Foster, P. (1997). Task type and task processing conditions as influences on foreign language performance. *Language teaching research*, *1*(3).

Tabrizi, A. R. N., & Rajaee, M. (2016). The Effect of Metacognitive and Cognitive Writing Strategies on Iranian Elementary Learners¡¯ Writing Achievement. *International Journal of Learning and Development*, *6*(3), 216-229.

Teng, F. (2016). Immediate and delayed effects of embedded metacognitive instruction on Chinese EFL students' English writing and regulation of cognition. *Thinking Skills and Creativity*, *22*, 289-302.

Weigle, S. C. (2002). *Assessing writing*. Cambridge University Press.

Wenden, A. (1991). Learner strategies for learner autonomy. In: London: Prentice Hall.

Wolfe-Quintero, K., Inagaki, S., & Kim, H.-Y. (1998). *Second language development in writing: Measures of fluency, accuracy, & complexity*. University of Hawaii Press.

Biodata

Ms. Fatemeh Jafari is a lecturer of English Language Teaching in the Islamic Azad University, Tabriz Branch. Her research interests include sociology and psychology. She has been teaching undergraduate EFL students since 2017.
Email: *fatemehjafari.uni1@gmail.com*

Dr. Nasser Ghafoori holds Ph.D. in TEFL and is assistant professor at Islamic Azad University, Tabriz Branch. He has more than 25 years of experience in teaching various courses in applied linguistics and English translation studies. He has published several articles in local and international journals and participated in several international conferences. His research interests are applied linguistics, EFL teaching and testing.
Email: *ghafoori@iaut.ac.ir*

Dr. Shima Ahmadi-Azad is an associate professor of English Language Teaching in the Islamic Azad University, Sarab Branch. She has been heading the department of English since 2021. Her research interests include sociology, psychology, and SLA issues. She has been teaching undergraduate and post-graduate EFL students since 2008.
Email: *Sh.ahmadiazad@gmail.com*