

Research Article

Investigating the Effects of Scaffolding Genre Knowledge and Metacognitive Strategy Use on EFL Learners' Academic Writing Skills: A Mixed-Methods Study

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Abstract

This mixed-methods study aimed to investigate the effects of scaffolding genre knowledge and metacognitive strategy use on English as a foreign language (EFL) learners' academic writing skills. The initial population was 100 EFL students from M.A. English language teaching (ELT) students who took academic writing courses at Islamic Azad University, Tehran, and Alborz branches. The method for sample selection was convenience sampling. To homogenize the sample, the Oxford placement test (OPT) was administered, and based on its results, 75 intermediate learners were selected for the purpose of the study. After that, they were divided into 3 groups, namely the experimental group A (scaffolding genre knowledge), the experimental group B (metacognitive strategy use), and the control group. IELTS academic writing task 2 was administered as the pretest and posttest. The treatments lasted for 16 sessions. To explore the learners' perceptions regarding the instructions qualitatively, the semi-structured individual interviews were administered to 20 students who were chosen from the experimental groups. The results showed that scaffolding genre knowledge and metacognitive strategy use had significant impacts on the Iranian EFL learners' academic writing skills. In addition, the findings indicated that there was a significant difference between the effects of scaffolding genre knowledge and metacognitive strategy use on the Iranian EFL academic writing skills in which scaffolding genre knowledge had more significant effects on Iranian EFL academic writing skills than metacognitive strategy use. Furthermore, the qualitative findings showed that the learners adopted positive views towards scaffolding genre knowledge and metacognitive strategy use in developing their academic writing skills.

Keywords: academic writing skills, genre knowledge, metacognitive strategy, scaffolding

Introduction

Writing is the hardest and most crucial ability for students to master in higher education (Richards & Renandya, 2002). The importance of writing is much more crucial in academic settings because English as a foreign/second language (EFL/ESL) students are increasingly expected to pursue their studies in English and should have sufficient knowledge to competently produce particular writing genres, such as essays, critical reviews, and research papers (Dudley-Evans & St. John, 1998).

Over the past thirty years, L2 classrooms have paid a lot of attention to the application of genre in the teaching and learning of languages (Rasyidah, 2019). Hyland (2002) outlined two goals for this, namely the need to comprehend how language and its setting interact and the application of this knowledge to the teaching of language and literacy. For teaching L2 writing, particularly in English for Specific Purposes (ESP) studies, genre theory has been extensively used (Nueva, 2016; Derewianka, 2003). In the area of L2 writing, genre-based methods have persisted in providing effective education by enhancing students' understanding of discursal characteristics (Cheng, 2011). Learners generally acknowledge the methods or instances indicating specifically what they should perform, linguistically. By reflecting on its social context and purpose, learning a particular genre also helps learners understand why a method of interaction is the way it is (Elashri, 2013). Swales (1990) mentioned how rhetorical teaching could play a significant role in writing development as prior knowledge. When teaching writing skills in this context, the genre approach is particularly useful because it can show learners the formal and functional qualities of a language and the strong relationships between them. According to Tardy (2016), genre knowledge is a complex concept that involves understanding a certain genre. This comprehension spans a wide range of literary, social, and conceptual domains and is quite complex (though perhaps not always conscious). When authors manipulate and make use of genres for their own ends, they are relying on this expertise (Tardy, 2016).

According to Flavell (1979), the ability to assess one's knowledge and regulate one's thinking is known as metacognition. It is thought to help learners understand the key elements of an assignment, which impacts their ability to make intelligent choices. Metacognition is seen as a crucial element of students' capacity to track their progress and regulate their learning across disciplinary borders and educational contexts (Azevedo & Whitterspoon, 2009; Veenman et al., 2006). There is consensus among the common theoretical definitions of metacognition (e.g., Dunlosky & Metcalfe, 2009; Serra & Metcalfe, 2009) that there are two distinct components: 1)

Metacognitive awareness—students' awareness of their knowledge, the activity (task), and their educational approaches; and 2) Metacognitive regulation—students' use of metacognitive awareness to keep an eye on and manage their own learning. Johns (2011) made it clear that the development of metacognition is a component of genre awareness, and L2 writing teachers particularly must encourage task-related inquiry and reflective thinking that improves learners' "mindfulness" or metacognition and, most importantly, yields high levels of ability to apply their knowledge to novel or changing genres, writing procedures, and writing situations. Metacognition is therefore essential in L2 genre-based writing courses.

The notion of genre knowledge calls for teachers to provide scaffolding for learners in order to manipulate genres, adapt their genre knowledge to different circumstances, and evaluate the effectiveness of their choices in light of their genre knowledge while teaching genre writing. Asking students to participate in metacognition is an excellent way to accomplish this. According to Hayes' (2012) cognitive writing model, metacognition is required to coordinate knowledge and strategies in order to meet the specific goals and limitations of writing tasks (Escorcia et al., 2017).

Students in higher education all over the world should become more proficient in ESL/EFL academic writing. For students, having a strong grasp of writing skills translates into higher academic achievement and better college grades. Similar to this, writing for academia refers to a method for satisfying both professional and academic requirements. Despite its importance, writing may appear to be the language skill that Iranian EFL higher education settings have abandoned the most. Based on Bakhshi et al. (2019, 2020, 2021), one of the significant challenges of graduate students writing up their dissertations and conducting their research studies, particularly qualitative research, is the lack of academic writing proficiency. Consequently, to recover the educational loss, some teaching approaches, like product-oriented, process-oriented, and genre-based approaches have been implemented till now. Generally, the emerging problem is that writing instruction aiming to enhance genre knowledge and/or awareness and metacognitive skills has not received enough attention in the field of L2 academic writing, and there is a gap in the related literature. Accordingly, this mixed-method study aimed to investigate the effects of scaffolding genre knowledge and metacognitive strategy use on EFL learners' academic writing skills.

Theoretical Framework

Theoretically, at least two positions—Vygotsky's (1978) social constructivism and Schmidt's (1990) Noticing Hypothesis (NH)—support a

genre-based approach within the discourse analysis framework. According to Schmidt (1990), noticing played a crucial part in the first tradition of EFL learning by converting input—the language a learner encounters, whether comprehensibly or not—into intake, the grasped input (Malekie & Yazdan Moghadam, 2017). Intake could significantly aid students in performing language processing, according to Swain (2000) and Qi and Lapkin (2001), who both considered noticing crucial in SLA. Therefore, a discourse-rhetoric genre-oriented approach via modeling can justifiably assist students in changing potentially incomprehensible input into the pedagogically comprehensible intake in an L2 writing class. This is because writing is considered a cultural fulfillment learned and improved through consciousness (Schmidt, 1990; Schmitt, 2002; Truscott, 1998) and is considered a necessity for consciousness for learning within the NH framework. When it comes to the second position, a genre-based modeling strategy is consistent with the social constructivist concept of the zone of proximal development (ZPD) and the requirement to scaffold the new experience of learning for the novice learner through appropriate treatment and modeling by the experienced instructor (Malekie & Yazdani Moghadam, 2017). Learning is regarded by sociocultural theory (SCT) as a cognitive and social issue (Lantolf, 1996; Vygotsky, 1978). ZPD, the agency, participation, mediation, and internalization—all crucial interconnected SCT concepts—provided a crucial focal point for investigating how knowledge and meaning are constructed in collaborative discourse settings.

Empirical Background

Uzun (2017) investigated whether genre knowledge is connected to writing ability through the lens of content, organization, vocabulary, language use, and writing mechanics in a quantitative and cross-sectional study. Thirty literary analysis writings from second-year ELT learners with low, intermediate, and high levels of genre knowledge were gathered in order to evaluate how closely the writings adhered to genre conventions. Then, these essays were evaluated using a checklist created and verified by Uzun (2017) in the same setting. Essay writing abilities were evaluated using the Jacobs et al. (1981) ESL Composition Profile. The association between genre expertise and writing ability was investigated using correlation analysis. The findings indicated that the group that adhered the least to the literary analysis essay's genre rules performed the worst in terms of writing, and the group that adhered the most to them did the best. Negretti and McGrath (2018) did similar research on how genre knowledge and metacognition techniques might be taught in a genre-based curriculum for PhD candidates who were delivering research papers. Eight doctorate science students in L2 English from a Swedish technical university participated in the course. For

this, the authors designed two tasks. Students have to explain their writing setting and genres in the first. For the second task at the end of the semester, learners provided a visual representation of the research genres in their specific scientific community. Learners were re-interviewed two to six months after the course to determine how they reported employing genre knowledge to their writing. The results indicated that learners conceptualized this knowledge as a tool for writing as a result of the metacognitive activities, which evoked an integrated understanding of genre. In interviews, learners discussed how they address reader expectations, conventions, variance, and the potential for strategic deliberate decisions by incorporating metacognitive parts of genre knowledge into their work. In the same vein, Almacolu and Okan's (2018) research on the development of metacognitive genre-awareness shows how it affects the ability of English Language and Literature learners to evaluate and produce academic texts. The study is a case study, and data collection and analysis have been done using a mixed-methods design. The target population consisted of first-year undergraduate English Language and Literature students at a Turkish state institution during the 2014–2015 academic years. To have a thorough understanding of the process of genre-based writing instruction, a number of sources of data collection from the teacher herself and the learners, including classroom observation and the teacher's journal, learners' written texts (portfolios), learners' diaries, and interviews with students, have been implemented. The study's findings indicate that most students at least have a metacognitive knowledge of the declarative type, and their writing abilities have generally improved. Zhang and Zhang (2021) conducted a quasi-experimental study to determine the efficiency of genre-based instruction regarding learners' overall advancement in EFL writing, encompassing their comprehension of writing and performance in developing arguments. The study included 74 EFL sophomores who were assigned at random to the experimental group or the control group. The experimental group was taught a genre-based writing style, while the comparison group underwent normal writing instruction. Results from pre- and post-writing assessments as well as responses to open-ended questions and stimulated recall interviews were all employed to examine the students' progress. The findings demonstrated that, compared to the comparison group, the experimental groups had seen greater improvements in their knowledge of argumentation as a consequence of the genre-based writing instruction. The experimental group's growth was particularly noticeable in the way that they communicated their comprehension of how discourse moves are organized and of linguistic features specific to the argumentative genre.

The significance and originality of the present study lies in the focus on the scaffolding genre knowledge of graduate students and using metacognitive

strategies in academic writing classes in the Iranian higher education context. As far as the researchers of the present study reviewed the related literature, there is no study to investigate the effects of scaffolding genre knowledge and metacognitive strategy use on EFL learners' academic writing skills in the Iranian EFL higher education context. As a result, the present study will be conducted to fill this gap in the related literature, and it could contribute to the L2 writing skills. Therefore, this study aimed to answer the following research questions:

Q1: Does scaffolding genre knowledge have any significant effect on Iranian EFL learners' academic writing skills?

Q2: Does using metacognitive strategies have any significant effect on Iranian EFL learners' academic writing skills?

Q3: Is there any significant difference between the effects of scaffolding genre knowledge and using metacognitive strategies on Iranian EFL academic writing skills?

Q4: What are the participants' perceptions on the metacognitive strategies use and scaffolding genre knowledge in the course of learning academic writing?

Method

Participants

The initial participants of the study were 100 (62 females & 38 males) EFL students selected from M.A. TEFL students who took academic writing course. They were selected from Islamic Azad University, Tehran and Alborz branches. The method for sample selection was convenience sampling (Ary et al., 2018). The sample was selected based on availability and language proficiency. Their first language was Persian. Their age was between 26 to 30 years old. In order to homogenize the sample, the Oxford Placement Test (OPT) was administered, and based on its results, 75 learners, including 40 females and 35 males, were selected for the purpose of the study. Students with scores between 30 and 47 were included in the study because the researchers intended to include intermediate-level students.

Instruments

Oxford Placement Test (OPT)

The participants' proficiency levels should be homogeneous prior to the start of the treatments. The Oxford Placement Test (OPT) was given to the students to determine their level of proficiency at the time. It is practical for

classifying students into varying levels of proficiency and simple to implement. It is divided into three parts: Part 1 analyzes learners' grasp of grammar; Part 2 evaluates their vocabulary; and Part 3 evaluates their writing skills. Additionally, the OPT test's reliability index was assessed and reported to be .80 (Wistner, Sakai, & Abe, 2009). In addition, construct validity for this placement test has reportedly been confirmed (Wistner et al., 2009). The construct validity of this test was measured, and it is in an acceptable range.

Writing Test

IELTS Academic Writing Task 2 (2021) was used as the pretest and posttest of the study to evaluate the participants' writing skills. The use of this exam was justified by the fact that it is a Standard English exam designed by Cambridge University. Ten students who were comparable to the participants in terms of age and proficiency level served as the pilot group for the writing test. The findings demonstrated that the test met the reliability criterion ($r=.89$). Five subject-matter experts also confirmed the test's validity in terms of its content. Two qualified raters evaluated the tasks. The participants' responses were assessed by the raters based on four criteria: (1) task achievement, (2) coherence and cohesion, (3) lexical resource, and (4) grammatical range and accuracy. Scores were awarded on a scale of 1 to 9. To assess the test scores' inter-rater reliability, the collected results were examined. To measure inter-rater reliability, the Pearson correlation coefficient was conducted, and it was in an acceptable range ($r=.86$).

Semi-structured Interview

The qualitative part of the study included the in-depth semi-structured interview to elicit the perceptions of the participants regarding scaffolding genre knowledge and metacognitive strategy use in the academic writing classes. The interview aimed to find in-depth data on the learners' views toward implementing scaffolding genre knowledge and metacognitive strategy use in academic writing class. Following the completion of the posttest, 20 students from the experimental groups—eight males and twelve females—were chosen randomly to participate in semi-structured individual interviews. The purpose of the interview was to get more specific information on the learners' perceptions of the scaffolding of genre knowledge and the application of metacognitive techniques in academic writing classes. The interviews were conducted face-to-face, and they were conducted in English. There were 12 open-ended questions in the interview that were designed by the researchers. Five subject-matter specialists gave their approval for the questions' content validity. The participants gave their consent for the interviews to be audio recorded and then transcribed.

Procedure

In this study, a mixed-methods explanatory sequential design was adopted, and following the quantitative phase, a qualitative strand was undertaken to explicate and complement the quantitative findings (Creswell, 2012).

Quantitative Phase

One hundred students were selected from M.A. TEFL students who took academic writing course based on availability and language proficiency as the initial sample of the study. They were selected from Islamic Azad University, Tehran and Alborz branches. After homogenizing the participants based on OPT results, 75 EFL students, including 40 females and 35 males, were selected as the participants. They were divided into three groups, namely the experimental group A, the experimental group B, and the control group. The experimental group A received instruction based on scaffolding genre knowledge, and the experimental group B was instructed through training metacognitive strategy use. In addition, the control group received instruction according to the regular syllabus of the class. At first, with a consent form, the students' consent was affirmed to take part in the study. Then, IELTS academic writing task 2 was administered as the pretest. The IELTS academic task 2 was selected since the goal of the course was academic writing instruction. The treatments lasted for 16 sessions, and each session took 90 minutes.

In the experimental group A class, the notions of genre, register, discourse, audience, and aim of academic texts were explained to the students. The learners were introduced to the rules and conventions of academic discourse in English, as well as strategies for structuring written texts and their stylistic idiosyncrasies. They were also given instructions on how to approach project proposal portions in terms of move/step frameworks. Then, to assist careful work on framing each part, templates of pattern phrases relevant to academic genre-based functions were gradually included. Formulating the rhetorical objective, stating the processes for a specific move, describing how they were realized linguistically, and finally placing them in a logical order were all required steps in the work. The task of naming steps and describing their linguistic expression deserved special attention because not all conventional names of steps can be easily recognized by novice L2 writers. Whereas providing background information seems to be similarly interpreted across cultures, other steps, like claiming centrality, at times appeared cognitively challenging. As a result, the students should clearly state the objective of their communication, locate the best language to represent it, compare many L2 expressions for the same intention, and choose the one that best serves their needs. In addition, the learners were encouraged to read related EFL/ESL authentic research articles, specify recurrent

patterns in different sections, and study the language in context. The students' final assignment was to describe steps in their peers' papers, assess them to highlight appropriate variations, and practice editing unsatisfactory samples in order to consolidate their work on their drafts. The majority of the extra assignments were writing, editing, and rewriting that was either supervised or independent. The researchers applied collaboration with their students to scaffold the tasks. In this regard, the first researcher as the instructor collaborated with the learners one by one through checking their tasks and writings to identify their errors and challenges to co-construct the academic genre knowledge.

In the experimental group B class, the instructor taught metacognitive strategies, including planning, monitoring, generating question, and evaluation through scaffolding. The instructor explained these strategies in academic writing process and how the students could apply them in the course of composing and reading academic texts. The assignments could be seen as metacognitive scaffolds, which are any tasks, facilities, strategies, or tips that enable students to develop understandings beyond their immediate grasp. Scaffolds could support numerous metacognitive functions, such as the activation of prior knowledge and evaluation, as well as the development of diverse learning objectives. The writing assignments were designed to help students access, verbalize, and perceive their prior knowledge of academic written genres and, most importantly, how they use this knowledge to make decisions in their academic writing. They were not intended to support learners' metacognitive monitoring while they were writing. As a consequence, the assignments were designed to assist students in developing and integrating their understanding of the various aspects of academic genre knowledge and in making this knowledge visible and applicable to their personal writing practices, or metacognition.

The control group received the instruction based on the regular syllabus of the university. The learners in the control group were instructed through *the academic writing skills* course book. Every session the instructor taught one chapter of the book and required the students to perform the book's activities and practices.

At the end of the treatments, the same IELTS academic writing task 2 was run as the posttest to examine the effects of the treatments on academic writing performance of EFL learners.

Qualitative Phase

Twenty students, chosen from the experimental groups, (8 males and 12 females), were given the semi-structured individual interviews. The participants were made aware of the purpose and the timing of the interviews

before they began. The first researcher conducted the interview sessions, and each interview lasted between 20 and 25 minutes. Then, with the participants' consent, all interviews were recorded and transcribed.

Data Analysis Procedure

Both descriptive and inferential statistics were applied to the data analysis. The scores were obtained and entered into the statistical program SPSS. The median, maximum, and minimum scores were calculated for the descriptive statistics. Regarding the nature of the research topics, the data gathered through this study was examined utilizing ANOVA and an independent-samples t-test. In order to find relevant codes and categories, the qualitative data were analyzed using a thematic approach.

Results

Normality Test

The pretest results of the individuals were examined for the normality of the distribution prior to the testing of the hypotheses. The Kolmogorov-Smirnov test was therefore conducted (Table 1). Pallant (2005) asserts that the distribution is normal and an ANOVA can be performed if the Kolmogorov-Smirnov result is insignificant. Otherwise, the Kruskal-Wallis Test, a different non-parametric test, is the best option.

Table 1
The Kolmogorov-Smirnov Test of Normality on the Data Sets

	Statistic	Df	Sig.
Pretest	.095	75	.200*
Posttest	.100	75	.200*

* This is a lower bound of the true significance.

The results of the Kolmogorov-Smirnov test were not significant, as indicated in Table 1. The normality criterion was thus satisfied. Consequently, to compare the participants' scores before and after the treatment, a one-way between-groups ANOVA with a post-hoc test was performed. The following formula was used to determine the effect size as well:

$$\text{Eta squared} = \text{Sum of squares between groups} / \text{Total sum of squares}$$

Answering the First Three Research Questions

To answer the questions, firstly the pretest scores of the participants were compared so as to make sure that the groups had not been significantly different in terms of writing proficiency before the treatment. First, the

descriptive statistics are discussed and then the inferential test of ANOVA is presented (Table2).

Table 2
Descriptive Statistics of the Group's Scores on the Pretest

Group	N	Mean	SD	Min	Max
Control	25	41.87	2.87	36.00	47.00
Experimental A(scaffolding genre knowledge)	25	41.48	3.08	37.00	47.00
Experimental B (metacognitive strategies use)	25	41.29	3.79	35.00	48.00

As seen in Table 2, the mean and SD values for the control group are 41.87 and 2.87, respectively. These values are 41.48 and 3.08 for the experimental group A. Finally, the experimental group B had a mean value of 41.29 with a standard deviation of 3.79. However, there seems to be no significant difference among the groups. The results of the homogeneity of variances test are presented in Table 3.

Table 3
Test of Homogeneity of Variances for the Pretest

Levene Statistic	df1	df2	Sig.
1.387	2	61	.264

The homogeneity of variances test by Levene examines if the scores' variance is the same for each of the three groups. According to Pallant (2011), the homogeneity of variance assumption has not been violated if the p value (Sig.) for Levene's test is higher than.05. The p value in Table 3 is.264, which shows that the homogeneity of variance assumption has not been violated since it is more than.05. The results of the ANOVA for the pretest scores are represented in Table 4.

Table 4
Results of ANOVA for the Pretest Scores

Sum of Squares	df	Mean Square	F	Sig.
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Between Groups	3.287	2	1.742	.15	.87
Within Groups	637.842	54	11.248	4	2
Total	641.129	56			

Eta squared = $3.28 / 641.18 = .005$

Interpretation: Before the treatment, participant accuracy scores were compared using a one-way between-groups analysis of variance. The scores for the three groups did not differ statistically at the p .05 level: $F(2, 54) = .15, p = .87$. The effect size was .005, which would be considered a small effect size. The results for the posttest are presented in Table 5.

Table 5
Descriptive Statistics of the Group's Scores on the Posttest

Group	N	Mean	SD	Min	Max
Control	25	48.70	3.64	35.00	57.00
Experimental A	25	61.90	4.95	52.00	77.00
Experimental B	25	56.25	4.56	49.00	69.00

As illustrated in Table 5, the mean and SD values for the control group are 48.70 and 3.64, respectively. These values are 61.90 and 4.95 for the experimental group 1. Finally, the experimental group 2 had a mean value of 56.25 with a standard deviation of 4.56. Table 6 shows the results of the test of homogeneity of variances for the posttest.

Table 6
Test of Homogeneity of Variances for the Posttest

Levene Statistic	df1	df2	Sig.
.762	2	54	.482

As indicated in Table 6, the p value is .482. Since this is greater than .05, the homogeneity of variance assumption has not been violated. The results of the ANOVA for the posttest scores are represented in Table 7.

Table 7
Results of ANOVA for the Posttest Scores

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2439.65	2	1221.16	71.99	.000
Within Groups	962.35	54	17.554		
Total	3402.01	56			

$$\text{Eta Squared} = 2438.53 / 3401.73 = .71$$

After the treatment, the participant scores were compared using a one-way between-groups analysis of variance. The scores for the three groups differed statistically significantly (Table 7) at .05 level, $F(2, 54) = 71.99$, $p = .000$. The effect size was .71, which is regarded as a very large effect size based on Cohen (1988, pp. 284–27). To see, where the differences lie, a post-hoc test was conducted. The results are presented in Table 8.

Table 8
Results of Multiple Comparisons of Posttest Scores

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Experimental A	Control	10.700*	1.32	.000	7.87	14.01
	Experimental B	15.30*	1.32	.000	12.35	18.64
Experimental B	Control	-10.60*	1.32	.000	-13.95	-7.85
	Experimental A	4.50*	1.32	.003	1.49	7.84
Control	Experimental A	-15.30*	1.32	.000	-18.64	-12.35
	Experimental B	-4.50*	1.32	.003	-7.78	-1.54

* The mean difference is significant at the 0.05 level.

Interpretation: The results of Table 8 indicated that the experimental A (scaffolding genre knowledge) ($M = 61.90$, $SD = 4.95$) significantly outperformed the other two groups. Also, the experimental B (metacognitive strategy use) ($M = 56.25$, $SD = 4.56$) significantly outperformed the control group ($M = 48.70$, $SD = 3.64$).

Answering the Fourth Research Question

To address the fourth research question that is “What are the participants’ perceptions on the metacognitive strategies use and scaffolding genre knowledge in the course of learning academic writing?” thematic analysis was applied to identify the related codes and categories within the qualitative data.

The Learners’ Perceptions towards Scaffolding Genre Knowledge

Developing Writing Academic Performance

Most of the participants noted that scaffolding genre knowledge could develop their academic writing performance, and they could write their academic essays easily after receiving this instruction. They believed that knowing the features and conventions of academic writing could help them improve the academic writing ability. Reza, one of the participants, in this respect said that:

“The important point in academic writing performance is knowing the rules and features of academic genre to compose an acceptable academic essay. In this course, we could learn many things about academic genre, and this knowledge can help us to write a better essay. Scaffolding genre knowledge is very helpful in boosting our academic writing performance”.

He maintained that this course is beneficial for him to improve his academic writing performance and he could acquire many things regarding academic writing genre. Sara, another participant, in this regard pointed out, “Learning the characteristics of the academic genre could enhance my academic essay ability dramatically. Now, I can write an academic essay more accurately regarding the general features of the academic writing genre.” She believed that this course could help her to improve the accuracy of her writing performance and it also could improve her academic genre knowledge.

Overcoming Academic Writing Challenges

Some of the participants believed that scaffolding genre knowledge could help them overcome the challenges of academic writing. They mentioned that these challenges impeded their academic writing performance and through this course, they could remove these challenges and improve the quality of their academic writing. Zahra in this respect noted,

“I have different challenges in academic writing, such as organizing my ideas, using proper vocabulary and expressions, and implementing a formal tone. After passing this course, I could use the proper academic vocabulary and expressions in my essays and I could also implement the appropriate tone throughout the academic text”.

She maintained that overcoming the academic writing challenges was one of the advantages of this course in which scaffolding genre knowledge could develop her writing performance. As regards, Ali, one of the participants, pointed out, “I experienced many challenges in my academic writing, which hindered my academic writing performance. However, this course could help me remove most of the challenges to write better academic writing.” He could overcome his academic writing challenges after receiving scaffolding genre knowledge.

The Learners' Perceptions towards Metacognitive Strategy Use

Developing the Learners' Reflection

Some of the participants noted that metacognitive strategy use could improve their reflection during their academic writing in which they could reflect more on the different components of their writings. They could reflect on research topics, rhetorical considerations, and even disciplinary epistemology (genres and purposes), as well as aspects of process and form. Mohammad one of the participants mentioned that

“Metacognitive strategy use could help me develop my thinking towards writing. I could focus on different parts of the essay and develop them to compose a better result. Implementing metacognitive strategy is advantageous to think more about the writing process, too”.

He believed that metacognitive strategy use could boost his reflection on different parts of his academic writing and develop the quality of his writing. Fateme noted, “Through this course, I can now make active, thoughtful choices, and I could be aware of different components in academic writing and think more on them to improve my academic writing ability.” She mentioned that metacognitive strategy use is very helpful to raise her awareness towards active and thoughtful choices, as a result, she could improve her writing performance.

Developing the Ability of Using Strategic Choices

Some of the participants maintained that metacognitive strategy use could contribute to their ability to use strategic choices during their academic writing. They expressed that using metacognitive strategy use, they could choose the appropriate expressions, vocabulary, and tone to compose their academic essays. Elham in this respect pointed out, “Upon passing this course, I could learn how to select the appropriate choices regarding academic writing genre. Learning the use of strategic choices could help me develop the quality of my academic writing.” She believed that metacognitive strategy use is helpful in developing her strategic choices and consequently, could improve her writing performance. Ahmad pointed out:

“Metacognitive strategy use could develop my academic vocabulary and expression selection in which I can appropriately choose the proper options to implement in my academic writing.

As a matter of fact, this course was very critical to improve academic writing strategic choices. These strategic choices could improve my academic writing performance”.

He maintained that he could improve his academic writing performance using metacognitive strategy use through strategic choices.

Discussion

Regarding the first research question, the results showed that scaffolding genre knowledge had significant impacts on the Iranian EFL learners' academic writing skills. In addition, with regard to the second research question, metacognitive strategy use had significant impacts on the Iranian EFL learners' academic writing skills. The findings concerning the third research question indicated that there was a significant difference between the effects of scaffolding genre knowledge and metacognitive strategy use on the Iranian EFL academic writing skills in which scaffolding genre knowledge had more significant effects on Iranian EFL academic writing skills than metacognitive strategy use. The qualitative findings showed that the learners adopted positive views towards scaffolding genre knowledge and metacognitive strategy use in developing their academic writing skills which complemented the quantitative results.

Regarding the first research question, the results of the current study are consistent with those of Driscoll et al. (2020), who looked at genre as a crucial element for comprehending and fostering the development of writing. According to their findings, which demonstrated a correlation between genre knowledge and literary progress over the course of a semester, they suggest an expanded perspective on Tardy's four genre knowledge aspects and defend the validity of their explanatory power. The results also agree with those of Thaiss and Zawacki (2006), who examined survey data from 183 students enrolled in an advanced writing course. Their findings revealed that students went through three developmental stages as they developed their disciplinary writing. Freedman (1993) and Freedman and Medway (1994) believe that explicit genre instruction in the classroom is crucial, but Russell (1997) disagrees, arguing that genre knowledge cannot be taught in writing classrooms particularly as genres are gained by participating in the various communities in which students engage. The "insider" knowledge of the practice systems and disciplinary genres required to train them is also lacking among writing instructors (Freedman, 1993). According to these scholars, it is absurd to think that general English writing (GEW) classes can teach students this information or that they will fully understand disciplinary writing—and subsequently, disciplinary genre—in GEW classes. The results are also in line with exploratory findings

from Wardle (2007) and Nowacek (2011), which suggest that teaching learners about genres and having them write as part of a genre-based practice may provide essential support for enhancing basic genre knowledge and, ultimately, long-term writing development. These studies all highlight the critical role that genre and greater genre awareness may have in learners' development. However, they do not offer an exhaustive account of how genre awareness emerges in common English writing or the types of genre knowledge that are relevant in such contexts. The results are in line with those of Almacolu and Okan (2018), who developed a novel and successful way of instructing writing to English Language and Literature students within the context of genre-based pedagogy in consideration of their educational requirements. The majority of students, according to the study's findings, at least gained a declarative-type metacognitive awareness, and they also seemed to have generally improved their writing abilities.

Regarding the second research question, the results are in line with those of Negretti and Kuteeva (2011), who looked at the process of constructing metacognitive consciousness within ESP genre-based academic reading and writing instruction and showed how it affects L2 students' ability to identify and produce academic texts. The majority of participants developed their declarative (what) and procedural (how) metacognitive knowledge of academic texts' genre-relevant elements during their reading analyses and writing assignments, but only a small proportion also demonstrated conditional (when and why) knowledge of the genre. The results are in line with those of Negretti and McGrath (2018), who examined how genre knowledge and metacognition might be scaffolded in a genre-based writing class for doctoral students authoring research papers. Their research revealed that the metacognitive exercises assisted students in developing an integrated understanding of genre as a writing tool.

The findings also demonstrated that the group using genre knowledge scaffolding outperformed the group using metacognitive strategy use. Yeh (2015) recently made the claim that using an online writing system and metacognitive scaffolds that required students to comprehend and apply genre traits helped them improve their academic writing skills. In fact, according to Negretti (2017), even proficient L2 writers may or may not accurately understand the rhetorical effectiveness of their writing because of qualitative differences in metacognitive judgments. Devitt (2015, p. 49) stated that teachers should encourage students to "make deliberate decisions and conscious choices as they write and revise" in relation to genre knowledge, genre awareness, and metacognition. The importance of metacognitive understanding of rhetorical and genre-relevant elements was highlighted by

Negretti (2009). According to her study, every stage of the writing process is influenced by these factors, such as the topic's suitability, the text's aim, the audience's expectations, and the strength of the argumentation.

Conclusion

This mixed-methods study aims to investigate the effects of scaffolding genre knowledge and metacognitive strategy use on EFL learners' academic writing skills. The results showed that scaffolding genre knowledge had a significant impact on the Iranian EFL learners' academic writing skills. Based on the findings, metacognitive strategy use had a significant impact on the Iranian EFL learners' academic writing skills. The findings indicated that there was a significant difference between the effects of scaffolding genre knowledge and metacognitive strategy use on the Iranian EFL academic writing skills in which scaffolding genre knowledge had more significant effects on Iranian EFL academic writing skills than metacognitive strategy use. The qualitative findings showed that the learners adopted positive views toward scaffolding genre knowledge and metacognitive strategy use in developing their academic writing skills. The results showed that the students made significant improvements in their awareness and perceptions of the development of their genre knowledge, as well as in several aspects of their writing performance. The study revealed that they improved in their ability to manage the level of formality in response to a setting and make more appropriate linguistic choices to address the reader and achieve the specific goal of the given work. Additionally, it was clear from the learners' remarks in the interviews that scaffolding genre knowledge and the application of metacognitive strategies had a significant impact on their ability to understand how the language resources they had learned at a receptive level were really put to use to achieve a goal in a real-life setting. In other words, genre-based pedagogical strategies have emphasized the connection between form and function. This connection gives students a basic framework for production. This study could have some pedagogical implications. The results of this study implied that in order for EFL students to understand and produce texts in a variety of discursive contexts, they should increase their genre knowledge and genre metacognitive awareness. A genre-based approach could help EFL/ESL students improve their genre knowledge and metacognitive abilities, which link the social, discursive nature of academic communication with the personal, cognitive side of writing. Using a metacognitive paradigm could help to explain how effective reading and writing methods might result

from rhetorical consciousness raising. The findings suggested that the concepts of genre awareness and rhetorical consciousness might be primarily metacognitive and that using the metacognition framework to examine L2 academic writing might offer fresh views and real-world applications for EFL writing instruction. Applying source texts can help EFL students become more familiar with many genres, especially when it comes to understanding the function that these sources play in shaping their own works and in broader discipline interactions. Additionally, students could acquire at least two distinct types of metacognitive awareness: awareness of the writing strategies used to complete certain writing tasks and awareness of their own skill levels in distinct subsets of process-based writing or subject-specific knowledge.

The present study suffered from some limitations. The participants were M.A. TEFL students who took academic writing course in which their age, sex, and educational background were not considered since convenient sampling was implemented. Thus, the results could not be generalized to other contexts, such as language institutes and other groups of EFL learners. Therefore, future studies could replicate the present study in different contexts using different EFL learners. Moreover, this study applied scaffolding genre knowledge as the method of genre-based instruction, which has been thought to be fruitful for learners' academic writing. Future studies could implement other methods of genre instruction in EFL/ESL writing classes.

Declaration of interest: None

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