

The Effect of Instructional Treatment on ESL Students' Writing Performance: A Comparative Study of Treatment and Control Groups

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Abstract

One of the most important abilities for attaining language proficiency is the ability to write. Previous studies have revealed that Pakistani English as a second language (ESL) students faced several writing issues. Nonetheless, there are few studies on the effect of metacognitive strategic interventional treatment on academic writing since researchers have been emphasising the impact of metacognitive strategies on reading and listening. The current study aimed to investigate the effect of metacognitive learning strategies on writing skills and the effect of metacognitive intervention on ESL undergraduate learners' writings in Baluchistan, Pakistan. The study used a quasi-experimental design in which two intact groups of ESL undergraduates participated in a metacognitive strategic intervention, including eight training sessions. Data were collected through a pre- and post-training writing task and were analysed through statistical analysis, SPSS version 23, according to Flowers' and Hayes' (1980) theory. To analyse the quantitative data, Independent Samples t-test, Paired Samples t-test, and One-way ANCOVA were performed in SPSS (version 24). The results revealed that the degree of metacognitive strategic awareness was low among the participants in the two groups of the study. The intervention was found to be significantly effective and assisted the students in the experimental group in improving their academic writing. This study implies that teaching metacognitive strategies plays a significant role in enhancing ESL undergraduate learners' writing skills and improving their writing scores. Therefore, teachers can use this strategy in teaching to help students improve their writing skills.

Key Words

Academic Writing, Metacognitive Strategies, ESL Learners, Writing Strategies

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Introduction

Teaching-learning English has remained an important topic of discussion in Pakistan among policymakers, language teachers and psychologists. The education policy in Pakistan encourages people to learn the language. Learning to write in a first or second language is one of the most difficult challenges a student faces (Richard, 1990, p.100).

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It has been observed that writing in a second language is a challenging task for students at all levels of education. This is why writing is perceived to be the most difficult task of all language skills. It has been noted that most of the errors committed by Pakistani EFL/ESL learners are due to intra-lingual factors that could be minimised after the implementation of pedagogical strategies. These intra-lingual mistakes, that Pakistani EFL learners are making, are due to a lack of language training, lack of motivation, lack of positive feedback and lack of care (Sarfraz, 2011).

Abdullah and Rahman (2010) reported that for the last 70 years, universities have been delivering English as a mandatory course, but the quality of these universities' English graduates has rarely been satisfactory. As such, this information requires a full-scale analysis to diagnose the reasons underlying the poor performance and to prescribe solutions towards improvement. Students' incompetence in writing skills affects their future performance as they cannot express their ideas during writing, resulting in difficulty in achieving low scores in higher education and employment.

However, if certain strategies are introduced, they may overcome the deficiency in students' writing ability. Therefore, the current study focuses on how writing skills for ESL learners, i.e., ESL undergraduate students at Sardar Bahadur Khan Women's University (SBKWU) in Pakistan, can be improved through strategic intervention.

The findings of this research can help administrators and teachers plan interventions to improve students' learning. It can also be helpful for the learners to organise their thoughts and properly convey them through their writing.

Research Objective & Research Question

The research question and objective of the current research are:

- ▶ Is there any significant difference between the treatment and control groups of ESL students in terms of writing scores?
- ▶ To investigate if there is any significant difference between the treatment and control groups of ESL students in terms of writing scores.

Literature Review

Strategic learning has been given dire importance in learning and improving writing skills. O'Malley et al. (1990) defined learning strategies as techniques and devices used by second language learners for remembering and organising samples of the second language.

At the tertiary level, the problems of teaching and learning writing skills were highlighted by Sajid and Siddiqui (2015). Prior studies in Pakistan (Dar & Khan, 2015; Haider, 2012; Javed et al., 2013), especially related to academic writing skills, have revealed many problems at the higher education level, as the majority of the students have only basic English language skills, i.e., vague or lose sentence construction, unparalleled sentence construction, faulty deep structural, weak vocabulary and weak speech (language style). Sajid and Siddiqui (2015) also noted that Pakistani students cannot rephrase texts to synthesise knowledge to duplicate research work as members of the discourse community. They make errors in pronoun usage, posts and the use of punctuation.

Similarly, several empirical studies have been conducted on self-regulated strategic learning, which is as follows:

Matsumura et al. (2015) explained that writing is a part of the curriculum which is often neglected by learners. Moreover, it was observed that the required level of thinking in writing is not in practice, so the learners don't answer analytically. Therefore, task-based instruction in analytical writing is the core requirement of the students (Matsumura et al., 2015).

Al Moqbali et al. (2020) investigated the relationship between metacognitive strategies and language performance. The sample involved 263 Omani EFL twelfth-grade students. A metacognitive writing survey and semi-structured interview were used to collect data. The results authenticated that the students commonly use three metacognitive strategies, i.e. planning, monitoring, and evaluating strategies, at a high frequency of 58. It was also observed that female students apply strategies more than male students.

Fajaryani et al. (2021) found that the students and teachers need to improve their writing skills to support their professional lives. To this end, different strategies such as metacognitive strategies, cognitive strategies, and social strategies were used. The study was quantitative with a survey design using a questionnaire as a tool to collect the data. The sample involved 88 students. The results presented that male and female students used different strategies, with males preferring social strategies and females preferring metacognitive and cognitive strategies.

Meinawati et al. (2021) conducted a study on the metacognitive strategic pattern in English academic writing learning. The researchers used the Zoom application and applied metacognitive strategies to see its effect on academic activities. The descriptive qualitative method was used. Data were collected from 20 students who were enrolled in academic reading and writing courses. The data was analysed using the observation technique. However, the results indicated that the students started managing their activity patterns when the metacognitive strategies were introduced by the teachers.

However, these studies did not particularly focus on improving content and organisation, unity and coherence, and grammar using metacognitive learning strategic intervention applying a quasi-experimental design. Therefore, the current study is an effort to explore the impact of the metacognitive strategic intervention on said writing skills using a quasi-experimental design.

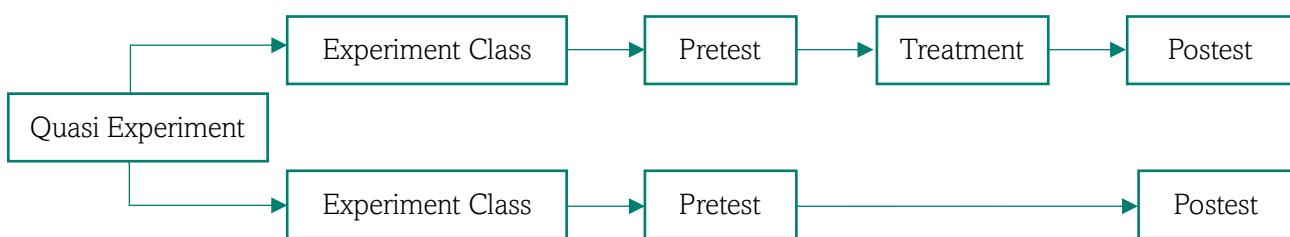
Research Methodology

Research Design and Procedure

The present study adopted a quasi-experimental design since it was not feasible to randomly assign students to control and treatment groups. Consequently, two intact classes were selected as the sample for this research. As Cohen et al. (2007b) stated, the quasi-experimental design is often used in empirical educational studies more frequently than true experimental designs. Since the researcher did not have the authority to transfer students from one class to another, random assignment of participants to the experimental and control groups was not possible. Therefore, the existing classes were used as intact groups for this study.

Figure 1

Adapted from Creswell (2012)



According to Creswell (2012), 15 participants are a sufficient number to include in an experimental research. However, the two groups of ESL undergraduate students, who attended an Academic Writing English course at SBKWU, were randomly assigned to experimental and control groups. The intact groups involved 65 participants

in the experimental group and 67 students were involved in the control group (a total of 132 participants in both groups).

After obtaining official approval to conduct the metacognitive strategy intervention, the treatment phase commenced. The experimental group received eight sessions (three hours per session) of instruction and training in metacognitive strategies, aiming to examine their impact on undergraduate students' academic writing performance. In contrast, the control group continued with traditional writing instruction. The intervention was conducted by two English language teachers, both having over ten years of experience teaching academic reading and writing courses. To ensure the reliability and consistency of instruction, both teachers received eight weeks of training prior to conducting the metacognitive strategy intervention.

However, the control group received the traditional writing. The study was conducted on academic writing topics designed for BS students and implemented by the Higher Education Commission (HEC), Pakistan. The topics involved in the Academic Writing course. The two regular English language teachers for academic reading and writing, sharing the same background of teaching English courses for 10 years, conducted the treatment, where both teachers were trained before conducting a strategic intervention for an eight-week training session.

Data Analysis

Research Question: Is there any significant difference between the treatment and control groups of ESL students in terms of writing scores?

Ho1. There is no significant difference between the treatment and control groups of ESL students in terms of writing scores.

To analyse the research question, the researcher had to collect data from both pre- and post-writing tests to identify the level of improvement before the intervention and after the intervention.

The pretest and post-test included a descriptive writing task. The students had to complete this writing task within 45 minutes. The total score of the writing task was 30 (10 points for content and organisation, 10 points for unity and coherence, and 10 points for grammar). Scoring Rubrics were adapted from (Del Vecchio, 2017).

To answer the research question, an Independent-Samples t-test was performed on the pre-test to determine whether the two groups (i.e., control and experimental group) were homogeneous. Table 4.1 delineates that there was no homogeneity between the two groups in the pre-test, as there was a significant difference between the control group ($M = 18.19$, $SD = 3.40$) and the experimental group ($M = 16.98$, $SD = 1.79$; $t = 2.54$, $p = 0.012$).

Table 1

Pre-test Mean Scores of Two Groups		M	SD	t-value	p
Instruction Group					
P-test	Control Group	18.19	3.40	2.54	.012
	Experiment Group		16.98		1.79

As the two groups were not homogeneous on the pre-test, the pre-existing differences between the two groups need to be controlled to analyze the post-test results. Hence, to analyze the post-test results, an independent t-test was replaced with a One-way Analysis of covariance (ANCOVA) in which pre-test results were treated as a controlling variable or covariate. According to Tabachnick and Fidell (2007), one-way ANCOVA produces the results after removing the effects of the covariate(s). The following Table 2 displays the post-test descriptive score:

Table 2

Post-test Descriptive Statistics Posttest_Total_scores

Groups	Mean	Std. Deviation
1	20.06	3.57
2	23.48	1.71

According to Table 2, experimental group students' mean score in overall writing score after participating in the metacognitive strategies-based intervention was ($M = 23.06$, $SD = 1.71$), which was comparatively higher than the control group students ($M = 20.06$, $SD = 3.57$). To check whether this mean difference was significant or not, one-way ANCOVA was performed in SPSS, in which the pre-test overall score was treated as a confounding or covariate variable.

Covariance analysis (ANCOVA) was used to evaluate the research hypotheses. By using covariance analysis, the effect of an intervening or covariant variable, which was writing pre-test scores, was controlled and extracted from the equation. In an analysis of covariance (ANCOVA), pretest scores were used as a covariate to control for the probable initial group differences. The posttest results were also compared using ANCOVA to assess the effects of the intervention of learning strategies. In addition, effect sizes were calculated to assess the practical significance of the results (see Table 3).

Table 3

Test of Dependent Variable: Tests of Between-Subjects Effects

Dependent Variable: Posttest_Total_scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1022.345a	2	511.172	167.833	.000	.722
Intercept	173.638	1	173.638	57.011	.000	.306
Pretest_Total_Score	637.079	1	637.079	209.172	.000	.619
Groups	607.571	1	607.571	199.484	.000	.607
Error	392.898		129		3.046	
Total			63816.000		132	
Corrected Total			1415.242		131	

a. R Squared = .722 (Adjusted R Squared = .718)

The results of One –way ANCOVA are summarized in Table 4.3. The results show that tertiary students in the experimental group outperformed tertiary students in the control group [$F (1, 129) = 199.484$, $p < .001$, partial eta squared = 0.607]. These results denote that intervention based on metacognitive strategies explained 60.7% of the variance in tertiary students' writing scores. These results also rejected the null hypothesis 1.

The aim of the Research Question was to investigate whether there were any statistical differences between the two groups (experimental and control) before receiving instructions in metacognitive strategic intervention. An independent sample t-test indicated that there were pre-existing differences in pre-writing scores between the two groups. Since there are differences between the two groups, the issue can be resolved using the statistical techniques of the ANCOVA test to control pretest scores statistically (Pallant, 2020). To evaluate between-group differences, the post-treatment ANCOVAs were performed. An ANCOVA on post-test scores, with pre-test scores as a covariate, usually provides a more appropriate and informative analysis (Pallant, 2020). According to Dugard and

Todman (1995), an ANCOVA on post-test scores, with pre-test scores as covariate, usually provides a more appropriate and informative analysis. Similarly, the ANCOVA technique was used by Brimo (2016) to control the differences in the pretest results between the intervention groups.

Conclusion

The research question focuses on the effect of the metacognitive strategic interventional treatment on ESL students' English writing scores between the treatment and control groups. The findings demonstrate that the academic writing scores of the undergraduate students of SBKWU were low before they were trained through metacognitive strategic intervention. However, the scores of the students increased significantly after receiving instruction through metacognitive strategic intervention. The findings evince that those students who received metacognitive strategic intervention performed better and gained better scores compared to those who did not receive any training.

The results of the current study provide an overall picture of the impact of metacognitive strategic intervention on the writing skills of undergraduate students. They also provide an insight into the role played by metacognitive strategic intervention to improve ESL undergraduate students' writing skills. Overall, metacognitive strategic intervention contributes significantly to improving learners' writing skills.

Implications and Future Directions

The findings of the study added to the body of knowledge. The study implies that the use of MSL can be maximised to reach the desired writing level as the MSL can be integrated into writing skills and further supports the claim that the other writing skills can also be improved to ensure the successful composition writing at a minimum.

It would be recommended to replicate the current study with a larger sample size over a longer metacognitive strategic intervention time frame.

However, it is suggested that for future research, some classroom observations and focused group discussions should be included, and it would be interesting to see the results.

Finally, the study was limited mainly to the impact of metacognitive strategies on academic writing. However, the impact of other strategies, such as effective strategies and social strategies, can also be included to find their impact on academic writing.

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