USING WHATSAPP GROUP AS LANGUAGE LEARNING STRATEGY (LLS) TEACHING TOOL TO IMPROVE ACADEMIC WRITING PERFORMANCE OF EFL STUDENTS

by Masrul Masrul

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Abstract

This study aimed to examine the impact of Whatsapp-based instruction in using indirect Language Learning Strategies (LLS) on their academic writing performance. The participants were Indonesian 60 female and 52 male students aged 16 to 26. The current study was experimental in design, with quasi pre and post-tests for the experimental and control groups. There was one independent (experimental) variable and two dependent variables. The post-test treatment's means were all higher than the pre-test treatment due to the six indications. In other words, from the pre- to post-tests, all indicators increased on average. In accordance with current trends, Whatsapp can be employed as an LLS teaching tool.

Keywords: Language Learning Strategies (LLS); Whatsapp; Writing Performance; Teaching Methods; EFL Students

INTRODUCTION

Language learners' usage of the Language Learning Strategy (LLS) is among the elements that contribute to improving EFL learning performance. According to research on successful and failed language learners, effective language learners are aware of their methods (O' Malley & Chamot, 1990) and employ multiple strategies in their language-learning process (Rajamoney, 2008). Many studies in support of LLS education have proposed various sorts of training for using language learning strategies in EFL classrooms. LLS proponents expect to improve students' awareness of LLS, and implementing the training can improve LLS use among EFL students. They consider themselves capable of learning LLS, particularly indirect techniques. All students naturally use some learning strategy, but it is believed that they can be trained to use LLS more effectively. "Language learning strategies" (Oxford, 1989) is one of the terms used to indicate methods, processes, or activities that learners perform to help them learn a new language. Previous research has revealed that the effectiveness of learning a language is highly dependent on the methods the student uses in the learning process, whether consciously or unconsciously (Chamot et al., 1987). O'Malley and Chamot (1990) defined LLS as a distinctive thought or activity used to assist learners in perceiving, learning, or retaining new knowledge. Students use learning strategies to improve their L2 learning by engaging in specific behaviors or thinking processes (Oxford, 2003). In addition, Oxford (1990) accepted LLS as a tool for effective and voluntary participation, which is essential for developing communication skills. She categorizes LLS into two types of strategies: direct and indirect strategies. Memory, cognitive, and compensation strategies are *direct*ly involved in understanding the text. Memory strategies deal directly with storing and retrieving new knowledge of the language. It assists students in learning and storing new information for future use (Chand, 2014). Cognitive strategies are thoughts and feelings connected with modifying, changing, and engaging with the target language in direct ways. Next, learners employ compensation strategies to bridge the

information gap that prevent them from comprehending and producing the target language. Furthermore, *indirect* strategies facilitate the interaction of the language without being directly linked to it. Metacognitive, affective, and social strategies are included in this category. Metacognitive strategies are parts of the target language's thinking, analyzing, organizing, and assessing used to manage the learning process (Oxford, 2003). Affective strategies are strategies to manage their feelings and attitudes toward language learning. Lastly, social strategies are distinguished by facilitating language learning engagement through communication, enabling the learner to collaborate while comprehending the target language.

Some research on LLS training showed it beneficial, including O'Malley (1987) and Thompson and Rubin (1993) in Oxford (1994). It was discovered that effective language learners frequently apply techniques systematically. Rubin (1993) argued that approaches are not restricted to highly skilled people and that others can learn them. O'Malley and Chamot (1990) also stated that great language learners' learning strategies, once recognized and effectively applied to low-skilled students, have a significant capacity to improve second language abilities. Teachers are also helpful in teaching learners how to employ their learning techniques in various language exercises and expand their strategies to specific assignments in language classrooms and academic fields that require language abilities. Narasuman (2004) found that explicit explanations improved individuals' metacognitive awareness and positively influenced understanding proficiency. Based on the finding, practitioners believed that LLS training could be incorporated into second language instructions. Anderson (2002) suggested that metacognitive LLS be taught as the component of language learning training because strong metacognitive abilities empower EFL learners. With the advancement of instructional strategies, researchers have examined indirect methods for strategy instruction.

With the increasing popularity of online social media, such as Whatsapp, as a mode of interaction among learners, this study is being carried out on the impact of LLS instruction using a Whatsapp group on students' strategies through developmental steps of their assignment and their English academic performance. Whatsapp groups are a feature of Whatsapp that can be used as a language educational medium. Students with Whatsapp accounts have automatic access to this function and can participate in this activity. This study also used a Whatsapp group to connect students in a single forum. The writing instructor employed the Whatsapp group function to provide feedback or remarks during their online sessions.

Chamot & O'Malley, 1994 studied the Cognitive Academic Language Learning Approach (CALLA) to enable learners with limited English proficiency to strengthen their academic language ability. This model incorporates academic language proficiency, content knowledge education, and direct instruction in learning methodologies for academic content learning. The CALLA (Chamot, 2004; Chamot & O'Malley, 1994) model is divided into six stages. Planning is the first step. During this phase, the teacher assesses students' current learning techniques for established activities, such as recalling prior knowledge and previewing important language and subjects to be introduced in class. The presentation phase is the second stage. During this phase, the teacher models, identifies, and explains new approaches while asking pupils whether and how they have used them, such as selective attention, self-monitoring, inference, elaboration, imagery, and note-taking techniques. The third step is to exercise. During this phase, students practice new strategies; following strategy practice, the teacher lowers reminders to encourage independent strategy use by asking students to examine their linguistic competence, plan to build an oral or written report or categorize concepts. The fourth step is to analyze. Following practice in this phase, students compare their technique use, determining the efficacy of their learning by summarizing or delivering self-talk. Expansion activities come next. Students apply strategies to new assignments in this phase, aggregate approaches into clusters, develop a repertory of preferred strategies, and integrate them into their present

knowledge frameworks. The final step is evaluation. In this phase, the teacher evaluates the learners' use of strategies and their impact on their performance.

The development of writing skills is critical for academic advancement. Writing holds significance in generating and sharing knowledge within various disciplinary discourses. Evaluating students' academic success in educational settings largely depends on their capacity to articulate their knowledge and thoughts. It aids students in fulfilling crucial tasks, honing critical thinking abilities, and enhancing cognitive performance and functioning. According to Zamel (1982), successful writers revise and rewrite their ideas as they compose until they reach a definitive statement of their ideas. Zamel, like several other authors (e.g., Ferris, 2001; Raimes, 1983), emphasized the value of teaching throughout the writing process, not only at the end. This, according to Zamel, is not only editing for mechanical problems like grammar and vocabulary but also examining bigger factors of text order and meaning. In line with this, Ferris (2001) research proved the importance of teachers' feedback on earlier drafts of work in affecting students' writing processes. Moreover, peer reaction is beneficial for offering feedback and expanding the writer's audience further than the teacher. In addition, relating writing to reading texts can be a useful way of creating ideas and supporting the writing process, as well as offering example texts when providing learners with the first ideas in their writing. After all, many authors consider this connection to be an important component of academic writing (Flowerdew & Peacock, 2001). Furthermore, ESL writing faults can be global or local (Ferris, 2016). Global mistakes are those that obstruct comprehension of a text. Local errors are faults and omissions in language, spelling, or punctuation that does not restrict understanding, whereas global errors impact the main content, ideas, and organization of the writer's argument. As a result, this study concentrated on the developmental steps of academic writing: brainstorming (pre-writing), composition, instructor and peer evaluation, and revision. The primary goal of this study was to investigate training students to use indirect LLS via the Whatsapp group increases their use of LLS. It assessed if LLS training improves the academic writing performance of EFL students. This study included 112 students divided into experimental and control groups, with pre-test and post-test treatments based on the following research questions.

1. Is there any effect of treatment on the strategies variable on students after the pre-test and post-test?
2. Is there any effect of treatment on the LLS training variable on students after the pre-test and post-test?
3. What are the effects of experiment and control treatments on LLS training Strategic variables?

METHOD

Participants

One hundred and twelve students from the State University of Malang, Indonesia, participated in this study. Students were randomly selected from second-year students majoring in English Education and studying Academic Writing courses. There were Indonesian 60 female and 52 male students, aged 16 to 26. The students were classified randomly into experimental and control groups.

Design

This study was quasi-experimental with quasi pre and post-tests in the experimental and control groups. There was a single independent (experimental) variable, and two dependent variables. The LLS training planned for the students over typical academic writing rules is the study's independent variable. The dependent variables were the usage of LLS before and after the trial,

as measured by language learning strategy questionnaires (SILL), and the variance in improvement between the experimental and control groups in terms of their English academic writing test outcomes.

At the opening of the study, researchers informed English academic teachers participating in this study on how to apply LLS training in experimental groups during regular academic writing classes. A pre-experimental SILL questionnaire and a pre-writing exam were completed by the experimental and control groups. Following the pre-tests, the experimental group received LLS training alongside their regular academic writing instruction. In contrast, the control group subjects attended a typical academic writing lesson without containing LLS training. The instruments were delivered to all students as post-tests at the end of class.

LLS Training for Experimental Group
The experimental group was required to complete a questionnaire about their Whatsapp accounts after completing the pre-writing and pre-SILL questionnaire. They were allowed time to become acquainted with Whatsapp features, particularly Whatsapp groups. This research was divided into three major stages: academic writing process training, feedback training, and feedback exercise through Whatsapp.

This study focused on indirect strategy training, including recognition of metacognitive, affective, and social strategies. Indirect strategies are those that serve as a support function and are not directly related to the engagement of the language as a whole (Alias et al., 2012). The goal of this activity was to expose learners to indirect LLS, which could be used to raise student awareness and improve language learning. Most of the LLS training activities focused on creating this final product, as one of the course goals was to write a dissertation. Simultaneously, LLS instructional activities are integrated into class activities and reading assignments.

To raise student awareness, a set of Language Learning Strategy activities was integrated. The LLS training variable is measured through five indicators: sense, grammar, punctuation, vocabulary, and morphology. Because the primary focus of the course was writing a final paper, the first stage of the practice was to improve students' capacity to plan their writing. The activities began in the classroom with organizing activities for some interesting topics and persisted beyond the classroom when they had to carry out library research on their prospective topics. They were given specific instructions on converting related ideas on their chosen topics into a memory. Students were also taught how to create phrases banks to expand their academic linguistic competence.

Researchers contend that interactions between students and between students and teachers play a vital role in EFL learning. As a result, a communication network between students and teachers has been formed through Whatsapp out of school, an online social network. Taking advantage of Whatsapp's popularity as an online communication tool, teachers could easily establish a communication network between students in the classroom. Teachers used Whatsapp Notes as a platform for interacting with them. The writing activity you selected was posted in a Whatsapp group, and students were asked to discuss the lesson activity online outside of class hours. These activities encourage the utilization of two indirect learning strategies: social and affective strategies. At the same time, students learned (social) through interaction with others and promoted a positive learning environment (affective). Interactions via Whatsapp include providing feedback and discussions about learning English. Students reviewed their work based on suggestions from peers. In addition to these activities, students

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were introduced to extensive reading as part of their prescribing activity (metacognitive). Through extensive out-of-class reading activities, students are trained in effective reading skills. As a component of the planning strategy, students were anticipated to read efficiently to collect information for their research. Activities include the analysis of linear and non-linear texts, distinguishing facts and opinions, and drawing conclusions (cognitive) and inferences that will later be used as supporting information in their writing (memory).

Data Collection and Analysis

The main data analysis used in this study was the multiple ANOVA test, one of the comparative tests to evaluate the significance of the mean between more than two groups. The first assumption must be met when sampling is carried out randomly on several (> 2) independent groups, where the value in one group is independent of the value in the other group. The multiple ANOVA Test works on the principle of separating data variability into two sources of variation: variations within groups (within) and variations between groups (between). If the variations within and between are the same (the comparison value of the two options is close to one), there is no difference in the effects of the interventions performed; in other words, there is no difference in the mean value compared. On the other hand, if the variation between groups is higher than the variation within the group, the treatment has a stronger impact, or the mean being compared shows a difference. It is said to be multiple because when the test is carried out, it runs the data with various treatments on more than two dependent variables.

Before the multiple ANOVA test, the Kendall test was first performed, a nonparametric statistic with a data measurement scale of at least ordinal data. The Kendall tau correlation is used to measure the level of conformity, namely whether there is a difference in the level of ranking suitability between the two observed variables. The Kendall correlation test is similar to the Spearman correlation, which can be used for ordinal and interval scale data or ratios that do not meet the normality assumption. What distinguishes it is that the data must come from the same source or in pairs in this test.

After the multiple ANOVA test, the multiple Tukey test was also carried out. Tukey's test, also known as the honestly significant difference (HSD) test, was introduced by Tukey (1953). The testing procedure resembles LSD, featuring a single comparison and serving as an option to LSD when there is a desire to assess all pairs of treatment means without a predetermined plan. Tukey's test was used to compare all pairs of treatment averages after the Multiple ANOVA Test was carried out. Testing with the multiple Tukey test is usually used if the data analysis in the study is carried out by comparing data from more than two groups of samples of the same number.

RESULTS AND DISCUSSION

Results

Descriptive Statistics

Descriptive statistics is an initial method of analyzing data that aims to offer a summary of measured variables. Analysis in descriptive statistics can include data concentration (mean, mode, median, etc.) and data distribution (standard deviation, variance, etc.). The means and standard deviations of all variables in the study are presented in Table 1

Table 1. Descriptive Statistics of the Strategies variable

Indicator	Pre Test	Post Test

	Mean	SD	Mean	SD
Memory	2.99	1.10	3.30	1.09
Cognitive	2.82	1.07	3.21	1.10
Compensation	2.67	1.12	3.18	1.09
Metacognitive	2.45	0.98	3.24	1.15
Affective	2.36	0.89	3.21	0.99
Social	2.28	0.90	3.21	1.08

Table 1 describes the means and standard deviations of the strategies variable in the pre-test and post-test treatments. The strategies variable was measured through six indicators: memory, cognitive, compensation, metacognitive, affective, and social. The result of the six indicators shows that the means of the post-test treatment are all greater than the pre-test treatment. In other words, all indicators experienced an average increase from the pre-test to the post-test.
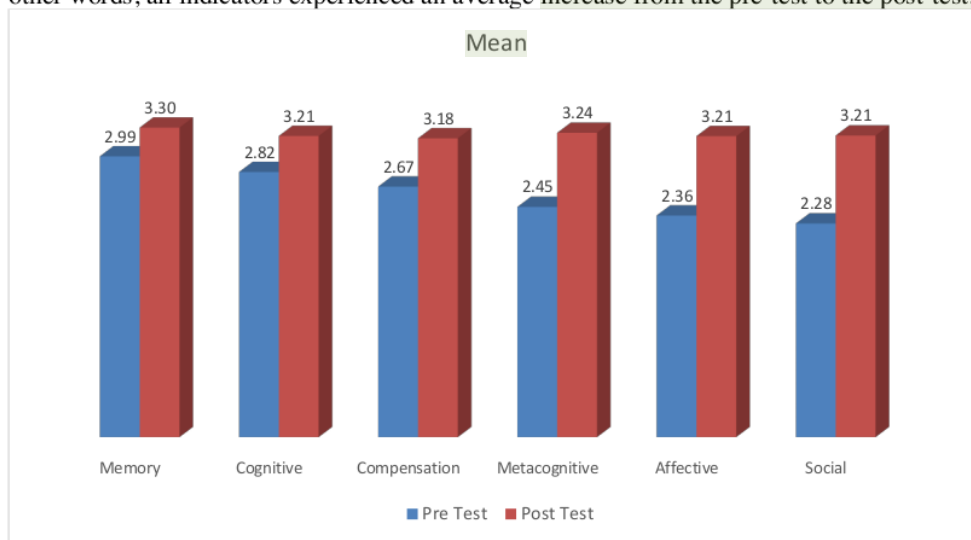

Figure 1 Mean Value per Strategic Variable Indicator

Table 2. Descriptive Statistics of the LLS Training variable

Indicator	Pre-LLS training		Post-LLS training	
	Mean	SD	Mean	SD
Sense	2.13	1.11	2.78	1.23
Grammar	2.19	1.09	2.36	1.18
Punctuation	2.21	1.18	2.20	1.16
Vocabulary	3.03	1.30	2.61	1.26
Morphology	2.27	1.07		

Table 2 displays the means and standard deviations of the LLS training variable in pre and post-treatment. The LLS training variable was measured through five indicators: sense, grammar, punctuation, vocabulary, and morphology. As a result, there were two indicators with the means increasing from pre to post, namely sense and grammar. Meanwhile, there were two indicators with the means decreasing from pre to post: punctuation and vocabulary.

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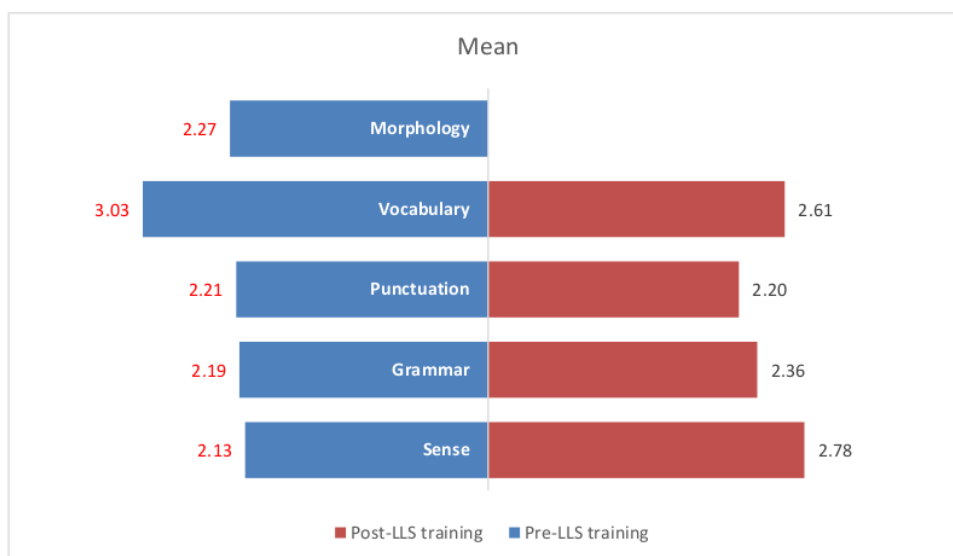PROFESSIONAL JOURNAL OF ENGLISH EDUCATION

Figure 2 Mean Value per Indicator of the LLS Training

Kendall Test

After knowing the difference in the means for the pre-test and post-test treatments for both the strategies and LLS training variables, the Kendall test was conducted to conclude whether each indicator in the variables, both strategies, and LLS Training, had a close relationship with each other. The results of the Tau Kendall test can be seen in the following Table 3.

Table 3. The results of the Tau Kendall test for the Strategic variable

Indicator	Pre Test		Post Test	
	Tau Kendall	Sig	Tau Kendall	Sig
Memory	0.386**	0.000	0.307**	0.000
Cognitive	0.371**	0.000	0.221**	0.001
Compensation	0.329**	0.000	0.244**	0.000
Metacognitive	0.358**	0.000	0.305**	0.000
Affective	0.243**	0.000	0.118	0.075
Social	0.351**	0.000	0.268**	0.000

The results of the Kendall test on the six indicators that make up the strategic variable are presented in Table 3. In the pre-test group, it can be seen that all indicators (memory, cognitive, compensation, metacognitive, affective, and social) had a close relationship with the strategies variable ($p<0.05$). Table 3 shows that all indicators in the pre-test treatment had p-values of less than 0.05. Meanwhile, in the post-test treatment, one indicator had a p-value above 0.05, Affective, which did not correlate with the strategies variable.

Table 4. The results of the Kendall test for the LLS Training variable

Indicator	Pre LLS		Post LLS	
	The Kendall	Sig	The Kendall	Sig
Sense	0.411**	0.000	0.410**	0.000
Grammar	0.454**	0.000	0.395**	0.000

Punctuation	0.358**	0.000	0.300**	0.000
Vocabulary	0.290**	0.000	0.351**	0.000
Morphology	0.399**	0.000		

The results of the Kendall test on the five indicators that make up the LLS training variable are presented in Table 4. In the pre-test group, it can be seen that all indicators (sense, grammar, punctuation, vocabulary, and morphology) had a close relationship with the strategies variable (p<0.05). Table 4 shows that in the pre-test and post-test treatment, all indicators had a p-value of less than 0.05. This means that all indicators strongly correlated with the LLS training variable.

Multiple ANOVA Test

After knowing the difference in means in the pre-test and post-test treatments, both on the strategies and LLS training variables and the close relationship between the indicators forming each variable, the multiple ANOVA test wa conducted. The results of the multiple ANOVA test can be seen in Table 5.

Table 5. Multiple ANOVA Test Results for Variable Strategies

Item	Between Groups	Within Groups	F	Sig
Memory	2.813	1.194	2.357	0.073
Cognitive	3.161	1.193	2.650*	0.050
Compensation	5.653	1.228	4.605*	0.004
Metacognitive	13.115	1.128	11.624*	0.000
Affective	13.864	0.888	15.616*	0.000
Social	16.947	0.989	17.130*	0.000

As explained before, the multiple test principle compares variations within groups (within) and between groups (between). If the within and between variations are the same (the comparison value of the two variants is close to one), there is no difference in the effect of the treatment. On the contrary, when the difference among groups surpasses the difference within the group, the treatment exhibits a distinct effect. Table 5 shows that of the six indicators, five had in-between values greater than that of Within (cognitive, compensation, metacognitive, affective, and social). This indicates that the pre-test and post-test treatments had a real or significantly different effect on the five indicators (p<0.05). As for the memory indicator, the ratio between and within values was close to one (p>0.05), meaning that pre-test and post-test treatments did not significantly affect the memory indicator. Overall, the pre-test and post-test treatments had a real and significant effect on the strategies variable because they had at least an effect on five out of six indicators.

Table 6. Multiple ANOVA Test Results for LLS Training Variables

Item	Experiment		Control	
	F	Sig	F	Sig
Sense	0.009	0.925	0.538	0.464
Grammar	5.031*	0.026	0.123	0.726
Punctuation	0.007	0.934	0.043	0.837
Vocabulary	1.946	0.164	0.528	0.468

Table 6 shows that in the experimental group, one out of four indicators had a p-value of less than 0.05, namely grammar. This means that the pre-test and post-test treatments in the experimental group had a significant or significantly different effect on the grammar indicators. As for the sense, punctuation, and vocabulary indicators, p-values were greater than 0.05, indicating that the pre-test and post-test treatments in the experimental group did not have a significant effect on the sense, punctuation, and vocabulary indicators. Furthermore, in the control group, three indicators (sense, grammar, punctuation, and vocabulary) had p-values greater than 0.05. This means that the pre-test and post-test treatments in the control group did not have a significant effect on the indicators of sense, grammar, punctuation, and vocabulary.

Multiple Tukey Test
After knowing the effect of pre-test and post-test treatment on the variables of strategies and LLS Training, the multiple Tukey test was undertaken to obtain more detailed conclusions about the effect of the treatment in question. The multiple Tukey test results can be seen in Table 7.

Table 7. Multiple Tukey Test Results for Variable Strategies

Treatment	Memory		Cognitive		Compensation	
	Sig	Ket	Sig	Ket	Sig	Ket
Pre Experiment Vs. Post Experiment	0.361	Same	0.405	Same	0.037	Different
Pre Control Vs. Post Control	0.549	Same	0.134	Same	0.122	Same
	Metacognitive		Affective		Social	
	Sig	Ket	Sig	Ket	Sig	Ket
Pre Experiment Vs. Post Experiment	0.000	Different	0.000	Different	0.000	Different
Pre Control Vs. Post Control	0.004	Different	0.000	Different	0.000	Different

Table 7 shows the results of the multiple Tukey test conducted on all indicators divided into experimental and control groups with pre-test and post-test treatments. In both experimental and control groups, there was no significant (same) difference between pre and post-tests for the memory indicator (p>0.05).
For cognitive indicators, there was also no significant (same) difference between pre and post-tests in experimental and control groups (p>0.05). As for the compensation indicator, it was concluded that there was a significant difference between pre and post in the experiment group (p<0.05), but there was no significant (same) difference between pre and post for the compensation indicator in the control group (p>0.05).
In addition, in both the experimental and control groups, there was a significant difference (difference) between pre and post-tests for metacognitive, affective, and social indicators (p<0.05).

Discussion
Similar to investigations by Green & Oxford (1995) and Bremner (1999), this study used ANOVA to discover a connection between language learning strategies and educational language skills. The frequency of use for each of the six strategy categories varies minimally, similar to the final performance, with the two groups experiencing relatively similar mean scores. This was also true for the implementation of a comprehensive strategy. While the upper group was more likely to apply methods, the variations were not statistically significant. This

is possible that if there were a larger sample size, these findings might be more significant. However, these results could be attributed partly to the initial sample, which was relatively homogeneous. To begin, all the classes are reasonably successful English students who have completed an English exam to gain admission to the institution and advance past the first year. Second, all students should be motivated to study English because they have all chosen to keep their English education as either a primary or secondary subject for their degree. More disparities may be discovered in future research if more different groups are used, such as students who have not opted to remain with English for their degree.

As a result of the six indicators, the post-test treatment's means are all higher than the pre-test treatment. In other words, from the pre-test to the post-test, all indicators were increased on average. The results demonstrate that the control group's means for pre and post-tests differ. The mean values of the two indicators had decreased from pre to post. Punctuation and vocabulary were the two markers. This research confirms the findings of Ferris (2001), which showed the importance of teachers' feedback in influencing authors. These students' feedback included a significant amount of peer response, which, the following quotation illustrates, was treasured by the students. The significance of the vocabulary to writers is more difficult to describe based on the questionnaire on its own. However, information from the interview and journals suggests some potential explanations, most notably as a tool for creating the required vocabulary for their written form, as demonstrated by these two interview and journal answers.

CONCLUSION

The data show that, in accordance with current trends, WhatsApp can be employed as an LLS teaching tool. The Internet-savvy university students in this study were observed to be optimistic about the training tool; thus, they began to use the indirect LLS more in their learning. It may be stated that using WhatsApp as an LLS teaching tool encourages university students in research to use indirect LLS. The control group, which did not get LLS training, showed no significant differences in LLS usage before and after receiving the standard EFL instruction. The experimental group, on the other hand, demonstrated that following the training, they employed the LLS more. This finding is similar to those of other scholars such as O'Malley (1988), Palermo & Thomson (2018), and (Rajamoney, 2008). This demonstrated that, even though both groups employ relatively similar strategies, post-test data reveal that the experimental group's students employ the techniques more frequently. The experimental and control groups improved their post-test scores, although the experimental group's improvement was not statistically significant.

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