



Comparing Teaching Metacognitive Strategies on IELTS Candidates in Online and Face-to-Face Classes

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Abstract

The purpose of this study was to examine teaching metacognitive strategies in online and face-to face classes, in IELTS writing task 2. The participants were 25 students chosen from 50 students in English Techno Science Institute (ETI) studying IELTS in both online and face-to-face classes. As a treatment, writing metacognitive strategies in the same length of time, same methods and same materials were taught to all participants in online and face-to-face classes and then through a questionnaire their attitudes were collected and finally with a post-test, the results were analyzed. The findings showed that the IELTS candidates in the online and face-to-face classes had totally the same rate of success in applying the strategies and got higher scores than their pre-test. The findings of this study can be highly useful for all IELTS candidates, trainers, and EFL writing learners.

Keywords: IELTS; Writing Task Two; Metacognitive strategies; Online classes; Face-to-face classes

1. Introduction

Nowadays, learning English is valued around the world and mastering English language in general and productive skills in particular is required by many EFL learners. In the meantime, writing, as a productive skill, is learned when the English foreign language (EFL) learners start learning to communicate through written form. However, it is assumed that writing is the most difficult skill to master for EFL learners and writing is more complicated than the other language skills (Erkan & Saban, 2011). Even a native speaker of the English language may experience difficulty during writing (Johnstone et al., 2002). The writing skill requires a well-structured way of presenting thoughts in an organized and planned way (Javed et al., 2013). Advanced writing skill such IELTS is also one of the basic requirements for better academic performance and academic success (Kellogg, 2008). Therefore, finding ways of assisting the EFL learners to improve their IELTS writing performance is of great importance. Teaching metacognitive strategies has been suggested as an alternative way to improve learners' writing skill.

Flavell (1979), for the first time, introduced the term metacognition as a knowledge related to anyone's cognitive procedures. According to Piaget (1847), metacognition is intentional, conscious, foresighted, and useful. Kentridge and Heywood (2000) mentioned that the use of metacognitive strategies should be encouraged in mastering language skills. A lot of studies have stated that once EFL learners' awareness of writing strategies improves, their writing performance also improves (Panahandeh & Asl, 2014). Metacognitive awareness in writing skills helps students decide which strategies can be used and how they should be used (Pitenoe et al., 2017). Metacognitive learning strategies make students get as independent, alerted, and motivated as possible in the whole process of learning, especially in writing (Al-Jarrah et al., 2018). In writing skill, as it is prerequisite, weak students are mostly weak in thinking skills like writing as one of the hardest skills in language learning proficiency, which demands a great deal of thinking skills (Surat et al., 2014). Hence, the presence of metacognitive strategies as declarative, conditional, and procedural knowledge in writing tasks can be dynamically helpful.

2. Review of Literature

There are many studies that emphasize the application of metacognitive strategies in all learning skills. In a qualitative survey, Aripin and Rahmat (2019) used think-aloud protocol as the primary method in their data collecting and found out that both male and female students used different metacognitive writing strategies in their writing. Teng et al. (2020) illustrated the predictive influences of different metacognitive strategies on EFL learners' academic writing performance. Using metacognitive strategies is considered as a constructive method which improves



students' ability to make a creative writing piece (Liu, 2015; Tufekci & Sapar, 2011; Zhan, 2016). [Anthonysamy \(2021\)](#) confirmed the relationship between the implementation of metacognitive strategies and applying them in online learning. Likewise, [Azizi et al. \(2017\)](#), [Bouirane \(2015\)](#), [Fitrianti and Susanti \(2021\)](#), [Razi \(2012\)](#), [Mutar and Nimehchisalem \(2017\)](#) stated the correlation between learners' metacognitive strategies and the quality of their writing. In the cross-disciplinary construct, these strategies comprise the elements such as planning, monitoring, evaluating, and problem-solving ([Zhang, et al, 2021](#)). [Hosseini \(2021\)](#) also demonstrated the effects of these strategies on Iranian EFL learners' writing skill. Teaching metacognitive strategies can also improve EFL students' communication skills, grammar knowledge, lexical, and enhance their awareness of the relationship between culture and language ([Tufekci & Sapar, 2011](#)).

[Flavell \(1979\)](#) mentioned metacognitive structures such as self-questioning, meditation, reflection, awareness of strengths and weaknesses, awareness of learning styles, mnemonic aids, thinking aloud, graphic organizers, regulation checklists, planning ahead, and final thoughts. [Papleontiou-louca \(2003\)](#) implemented various categorization of metacognitive writing strategies through planning, monitoring and evaluating taxonomies. [Adams et al. \(2015\)](#) summarizes six levels of [Bloom's \(1956\)](#) taxonomy of cognitive learning objectives as knowledge, comprehension, application, analysis, synthesis and evaluation. According to [Anthonysamy \(2021\)](#), learners are unconscious of the way to look inward to check how they learn and to measure which methods are influential especially facing new types of learning online since they lack metacognitive skills which are too vital to their talent.

The researches mentioned above highlighted the confirmed correlation between metacognitive strategies and writing performance which can be applied in EFL writing settings. Although such views can strongly highlight academic writing strategies and implementation, none debated and explored metacognitive writing strategies in IELTS writing task 2. As such in order to fill the gap, this study is going to answer the following research questions:

- (1) What are the IELTS candidates' attitudes toward the use of metacognitive strategies in writing task two?
- (2) To what extent does the performance of face-to-face and online candidates differ in applying metacognitive strategies in IELTS writing task?

3. Methodology

3.1. Research Design

The whole population was the EFL students in English Techno-science Institute

(ETI), studying IELTS exam. This was a quasi-experimental study to investigate applying metacognitive strategies on IELTS task 2 writing in both online and face-to-face learning classes.

3.2. Population and Sample

50 students were chosen in age range between 20 to 34 years old with the background of upper intermediate to the advanced levels.

3.3. Instruments

The instruments applied in this study were a homogenizing test, a pre-test, a questionnaire, and a post-test.

3.3.1. Homogenizing Test

The test chosen to homogenize the students was selected from ETC TOEIC– as a high scale examination through which the students were asked to write a single paragraph (Appendix A). The time given to them, both in traditional and online contexts, was 30 minutes. Two other raters rated the scores.

3.3.2. Pre-test

The pre-test of writing was chosen from the IELTS Cambridge (Appendix B). The time given to them, both in traditional and online contexts, was 40 minutes. Two raters rated the papers according to IELTS writing descriptors.

3.3.3. Questionnaire

A self-report questionnaire (Appendix D) was used to check the attitudes of students after using metacognitive strategies taught in IELTS writing task 2. The questionnaire enjoyed a reliability index of .973

3.3.4. Post-test

The post-test was chosen from the IELTS Cambridge Test (Appendix C). Two raters according to IELTS writing band descriptors, rated the participants' papers. The time for the test was again 40 minutes as in the IELTS exam.

3.4. Procedure

In this study, the researcher attempted to directly and accurately teach the metacognitive strategies; namely, *planning, monitoring, evaluating, and problem-solving* to both online and face-to-face students.



A sample paragraph was given to 50 the online and face-to- face students, to be homogenized, and then 25 of them were selected as the advanced level owning the required ability in writing. Then an IELTS writing task 2 topic was given to the selected participants as the pre-test to write on WhatsApp for the online students and on paper for the traditional ones. The papers were given to two other colleagues as IELTS trainers. After the treatment sessions, a post-test was given to finalize the output of the implementation of the metacognitive strategies. Finally, a questionnaire was designed to analyze the participants' attitudes toward the effects of applying metacognitive strategies on IELTS writing task 2.

3.4.1. Online Context

In the online sessions, during the teaching-learning process, the lecturer employed WhatsApp to do teaching metacognitive strategies, and explaining and arguing writing materials, in IELTS task 2. The participants were taught how to plan for their writing, gather and organize their ideas about the topic, monitor their mistakes, evaluate their writing based on the IELTS writing rubrics and then revise their writing before turning it in.

3.4.2. Face-to-face Context

Similarly, the process of teaching metacognitive strategies was like the online context. The participants of the face-to-face class were taught how to plan, monitor, and evaluate their writing.

3.5. Data Collection Techniques

The first and the second research questions were to analyze the frequency counts and percentages and one-way analysis of covariance, respectively. Before discussing the results, the process of subject selection and reliability of the instruments will be reported.

To select the two groups of homogenous students to participate in the main study there was a topic of the IELTS writing task 2 for 50 students. The students were selected on the base of the mean of 68.62 plus and minus 22.86. The 25 selected students were divided into two groups of online (n = 12) and face-to-face (n = 13).

Table 1*Descriptive Statistics; Pretest of IELTS Writing Task 2 (Subject Selection)*

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Pretest	50	22	96	68.62	22.863	522.730

3.6. Reliability of the Instruments

There was the computing of Cronbach's alpha reliability index for the attitude questionnaire. As displayed in Table 2, the questionnaire enjoyed a reliability index of .973. The reliability index of .973 is considered appropriate. A rule of thumb that applies to most situations is; .9 = excellent, .8 = good, .7 = acceptable, .6 = questionable, .5 = poor and .5 = unacceptable". Based on these criteria, the attitude questionnaire enjoyed an excellent reliability index.

Table 2*Cronbach's Alpha Reliability of Attitude Questionnaire*

Cronbach's Alpha	N of Items
.973	23

Two raters rated the pretest and posttest of IELTS writing task 2. Table 3 displays the results of the Pearson correlations computed to estimate the inter-rater reliability of the two raters who rated the participants' performance on the pretest and posttest of IELTS writing task 2. Based on these results it can be concluded that there were significant agreements between the two raters on;

Pretest of IELTS writing task 2 ($r(23) = .682$, representing a large effect size¹, $p = .000$), and

Posttest of IELTS writing task 2 ($r(23) = .595$, representing a large effect size, $p = .000$).

Table 3*Pearson Correlations; Inter-Rater Reliability of Pretest and Posttest of IELTS Writing Task 2*



		Pre-Rater2	Post-Rater2
Pre-Rater1	Pearson Correlation	.682**	
	Sig. (2-tailed)	.000	
	N	25	
Post-Rater1	Pearson Correlation		.595**
	Sig. (2-tailed)		.000
	N		25

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4

Descriptive Statistics; Testing Normality of Pretest and Posttest of IELTS Writing Task 2

Group	N	Skewness			Kurtosis		
		Statistic	Std. Error	Ratio	Statistic	Std. Error	Ratio
Face-to-Face	Pretest 13	.102	.616	0.17	.051	1.191	0.04
	Posttest13	-1.068	.616	-1.73	.357	1.191	0.30
Online	Pretest 12	1.147	.637	1.80	1.291	1.232	1.05
	Posttest12	-.591	.637	-0.93	-1.858	1.232	-1.51

4. Results

4.1. Answering the First Research Question

What are the IELTS candidates` attitudes towards learning metacognitive strategies in writing task two?

Table 5 displays the frequencies, percentages and standardized residuals (Std. Residuals) for the IELTS candidates` attitude towards learning metacognitive strategies in IELTS writing performance. The results indicated that the online

group (8.3 %, Std. Residual = -1.2), more than face-to-face group (4.7 %, Std. Residual = 1.2), strongly disagreed with the idea that they got through learning metacognitive strategies in IELTS writing performance. None of the Std. Residuals were higher than +/- 1.96. That is to say, none of the two groups showed significant disagreement.

Table 5

Frequencies, Percentages and Standardized Residuals; Attitude towards Learning Metacognitive Strategies in IELTS Writing Performance

		Choices					Total	
		Strongly disagree	Disagree	Slightly disagree	Partly agree	Agree	Strongly agree	
	Count	14	39	74	96	66	10	299
Face-to-Face	%	4.7%	13.0%	24.7%	32.1%	22.1%	3.3%	100.0%
	Std. Residual	-1.2	3.1	-.7	-.5	2.5	-3.2	
	Count	23	7	80	98	27	41	276
Online	%	8.3%	2.5%	29.0%	35.5%	9.8%	14.9%	100.0%
	Std. Residual	1.2	-3.2	.7	.5	-2.6	3.3	
Total	Count	37	46	154	194	93	51	575
	%	6.4%	8.0%	26.8%	33.7%	16.2%	8.9%	100.0%

On the other hand; the face-to-face group (13 %, Std. Residual = 3.1), more than online group (2.5 %, Std. Residual = -3.2) significantly disagreed with the idea that they got through learning metacognitive strategies in IELTS writing performance. Although none of the Std. Residuals were higher than +/- 1.96, the online group (29 %, Std. Residual = .7), more than face-to-face group (24.7 %, Std. Residual = -.7), slightly disagreed with the idea that they got through learning metacognitive strategies in IELTS writing performance. The online group (35 %, Std. Residual = .5), more than face-to-face group (32.1 %, Std. Residual = -.5), partly agreed with the idea that they got through learning metacognitive strategies in IELTS writing performance. None of the Std. Residuals were higher than +/- 1.96.



The face-to-face group (22.1 %, Std. Residual = 2.5) significantly more than the online group (9.8 %, Std. Residual = -2.6) believed that they got through learning metacognitive strategies in IELTS writing performance. And finally; the online group (14.9 %, Std. Residual = 33) significantly more than the face-to-face group (3.3 %, Std. Residual = -3.2) strongly agreed with the idea that they got through learning metacognitive strategies in IELTS writing performance. Figure 4.1 displays the percentages discussed above.

4.2. Answering the Second Research Question

To what extent does the performance of face-to-face and online candidates differ in applying metacognitive strategies in IELTS writing task?

There was a one-way analysis of covariance (ANCOVA) to compare the face-to-face and online groups' means on posttest of IELTS writing task 2 performance after controlling for the effect of pretest to probe the second research question.

The significant results of Levene's test (Table 6) indicated that the homogeneity of variances was not retained on the posttest of writing test ($F(1, 23) = 4.61, p < .05$).

Table 6

Levene's Test of Equality of Error Variances; Posttest of IELTS Writing Task 2

F	df1	df2	Sig.
4.611	1	23	.043

Table 7 displays the results of the linearity test. The significant results of the linearity test; i.e. ($F(1, 15) = 27.80, p < .05, \eta^2 = .809$ representing a large effect size²) indicated that there was a linear relationship between the pretest and posttest of IELTS writing task 2.

Table 7

Testing Linearity of Relationship between Pretest and Posttest of IELTS Writing Task 2

			Sum of Squares	df	Mean Square	F	Sig.
Posttest *	Between	(Combined)	49.646	9	5.516	7.063	.001

Pretest	Groups	Linearity	21.715	1	21.715	27.806.000
		Deviation from Linearity	27.930	8	3.491	4.471 .006
	Within Groups		11.714	15	.781	
	Total		61.360	24		
Eta Squared			.809			

The non-significant interaction (Table 8) between covariate (pretest) and independent variable (types of treatment), i.e. ($F(1, 21) = .410, p > .05$, Partial $\eta^2 = .019$ representing a weak effect size) indicated that there were linear relationships between the pretest and posttest of IELTS writing task 2 across the two groups.

Table 8

Testing Homogeneity of Regression Slopes; Posttest of IELTS Writing Task 2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	.794	1	.794	.435	.517	.020
Pretest	15.948	1	15.948	8.736	.008	.294
Group * Pretest	.748	1	.748	.410	.529	.019
Error	38.337	21	1.826			
Total	234511.000	25				

Table 9 displays the descriptive statistics for the face-to-face and online groups on the posttest of IELTS writing task 2 after controlling for the effect of pretest. The results showed that the online group ($M = 97.00, SE = .392$) had a slightly higher mean than the face-to-face group ($M = 96.69, SE = .376$) after controlling for the effect of the pretest.

Table 9

Descriptive Statistics; Posttest of IELTS Writing Task 2 by Groups with Pretest



Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Face-to-Face	96.691 ^a	.376	95.910	97.472
Online	97.002 ^a	.392	96.188	97.815

a. Covariates appearing in the model are evaluated at the following values: Pretest = 87.12.

Table 10 displays the main results of one-way ANCOVA. The results ($F(1, 22) = .315, p < .01, \text{partial } \eta^2 = .014$ representing a weak effect size) indicated that there was not any significant difference between online and face-to-face groups' means on posttest of IELTS writing task 2 after controlling for the effect of the pretest.

Table 10

Tests of Between-Subjects Effects; Posttest of IELTS Writing Task 2 by Groups with Pretest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pretest	18.395	1	18.395	10.354	.004	.320
Group	.559	1	.559	.315	.581	.014
Error	39.086	22	1.777			
Total	234511.000	25				

5. Discussion

This study tried to compare teaching metacognitive strategies in two environments, face-to-face and online classes. After teaching essential metacognitive strategies such as planning, monitoring, evaluating, and problem-solving, a questionnaire was also presented to the participants. Regarding the first research question, the results showed a dramatic change in the attitudes of the both groups of students using metacognitive strategies. The online group more than the face-to-face group strongly agreed with the idea that they got through learning metacognitive strategies in IELTS writing performance.

Regarding the second research question, the results indicated that there was not any significant difference between the online and face-to-face groups' means on the posttest of IELTS writing task 2. Both groups used the writing strategies in a very similar way in their writing tasks which is in line with the results of Mutar and Nimehchisalem (2017) who confirmed that high and low- proficiency level learners use the same kind of writing strategies. The research showed that both groups improved their writing after learning metacognitive strategies which is in line with Azizi et al. (2017), Adams et al. (2015), Bouirane (2015), and Razi (2012) who mentioned that metacognitive strategies help EFL learners in their writing tasks and there is a positive correlation between learners' use of metacognitive writing strategies and their grades. These findings are confirmed by the results of Razi (2012), Bai et al. (2014), and Zhang, et al (2021), whose participants used metacognitive strategies such as planning, monitoring, evaluating, and problem-solving at a high frequency in their tasks. The findings were in line with Anthonysamy (2021), Zhan (2016) and Liu (2015) who confirmed that the use of writing strategies help learners to be more successful than those who do not.

6. Conclusion and Suggestions for Further Research

This study examined the influence of applying metacognitive strategies on two different groups of IELTS students, in IELTS writing task 2. The findings indicated that both online and face-to-face classes had fully positive attitudes towards the implication of metacognitive writing strategies in writing skill, here IELTS writing task 2. Although the environment was completely different, but in the presence of the same deep teaching metacognitive strategies, similar successful results was achieved in writing performance.

Further studies can be done to evaluate other metacognitive strategies or other related points in writing skill. Besides, the same strategies can be applied in online classes, the same as face-to-face ones, without any worry, as the Corona Virus proved online learning has to be there forever and it must be in the center of attention and improvement. Also, since the attitudes of the students are of paramount importance for evaluating the score of writing, the ways of rising this score in high scale exams like IELTS can be taught, in the presence of strategies like metacognitive ones. Future studies in this domain are recommended to IELTS candidates, not only in writing but also in reading, listening and speaking.

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Appendices

Appendix A:

The topic of the homogenizing test:

Some people prefer to take a job that does not pay well but does provide a lot of time off from work. What is your opinion about taking a job with a low salary but a lot of vacation time? Give reasons for your opinions.

Appendix B:

The topic of the pre- test:

*In some countries, more and more people are becoming interested in finding out about the history of the house or building they live in.
What are the reasons for this?
How can people research this?*

Appendix C:

The topic of the post-test:

In their advertising, businesses nowadays emphasize that their products are new in some way. Why is this? Do you think it is positive or negative development?

Activate \

Appendix D

Attitude Questionnaire

A self-report questionnaire (Zhang, et al. 2019) was used to collect data to check the attitudes of students after using metacognitive strategies taught in IELTS writing task 2, including three-factor metacognitive structures with good internal consistency reliability, called planning, monitoring, and evaluating all through the similar context. The participants given average time was 10-15 minutes in completing the questionnaire, which had six points, 1= strongly disagree 2= disagree 3= slightly disagree 4= partly agree 5= agree 6= strongly agree. Besides, the questionnaire was in English.

Listed below are statements about what you may or may not do when you are engaged in multimedia-mediated writing in English. After reading each statement, think about your own experience, and then please show how much you agree or disagree with these statements in your own writing task by ticking the number that matches your answer.

The numbers mean the following:

1= strongly disagree

2= disagree

3= slightly disagree

4= partly agree

5= agree

6= strongly agree



No.	To what extent do you agree with the following statements?	Please tick (v)
1	I knew how I would plan out each paragraph in my essay.	
2	I made an outline, including a list of the key points of view that I want to include in my essay.	
3	I planned what language features I was going to use in my essay regarding the writing topic.	
4	I thought about the goal I wanted to achieve in my writing (e.g. to use a new word or a new sentence structure, I have learned to avoid a mistake I had made before, or to get a high score, etc.).	
5	I thought about how much time I should spend on each part of the essay.	
6	I collected relevant materials based on the writing topic, doing some reading preparation.	
7	I planned to use online materials, aiming at the efficient use of network resources.	
8	I tried to focus my attention on choosing appropriate words and phrases.	
9	I tried to think about whether the arguments followed the instruction of the essay.	
10	I tried to mark the places in the composition with different colors on the computer screen that I thought required revision. I wouldn't revise them until I had completed my writing because I wouldn't like to break into my thoughts.	
11	I tried to think about how much time I had remaining, adjusting my time arrangements to ensure the completion of the writing task.	
12	I tried to think about how to connect different parts of my essay (e.g., using transitional words).	
13	I tried to think about whether I was using the correct grammar (e.g., tenses, prepositions, etc.).	
14	I tried to think about whether I was using appropriate punctuation and the letter case.	
15	I tried to modify the mistakes, following the prompts on the computer screen.	
16	I tried to think about how many arguments I should have in the essay.	
17	I tried to seek help from an online dictionary to express my own opinions.	
18	I tried to think about what parts my essay should have.	
19	I tried to monitor my writing actively, focusing my attention on the current writing task to avoid being distracted by other irrelevant information.	

20	I reread my essay and made sure that the language of my essay writing was clear.	
21	I reread my essay and made sure that the organization was easy to follow.	
22	I reread my essay and made sure that I had covered the content fully before I submitted it to my teacher.	
23	I thought back to how I write and about what I might do differently to improve my English writing for the next time.	