Raising EFL Learners' Metacognitive Awareness in a Writing Class by Using Analytic Writing Rubric

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Abstract
This study aims to find if applying Analytic Writing Rubric is effective in improving EFL learners' writing skill. Both quantitative analysis and qualitative analysis are employed in this study. The analytic writing rubric which includes content, coherence, cohesion, grammar, vocabulary, and mechanics, is applied to help students monitor their own learning. The result of one-way analysis of variance (ANOVA) shows that there is a significant difference between the Experimental Group and the Control Group. The students in the experimental group are trained to monitor their writing by using analytic writing rubric, while students in the control group are not. The result shows that applying Analytic Writing Rubric is effective in enhancing EFL learners' metacognitive awareness, and hence, improves their writing skill. Analytic writing rubric is, in essence, a simple and clear criterion for students to monitor their own learning. Thus, it is encouraging to find that EFL learners can benefit a great deal by using Analytic writing rubric to improve their writing skill.

Keywords: EFL learners, analytic writing rubric, metacognitive awareness, ANOVA

INTRODUCTION

Among the four language skills, writing has been widely perceived as the most challenging skill to master. An abundance of studies have shown that raising learners' metacognitive awareness assists in mastering their writing skill (e.g. Gerring, 1990; Joe & You, 2001; Kasper, 1997; Victori, 1999; You, 2002; You & Joe, 1999, 2000, 2001, 2002, 2003; Lu, 2006; Xu & Tang, 2007). Analytic scoring is based on an in-depth analysis of aspects of writing such as focus/ organization, elaboration/support/style, grammar usage, and mechanics. To some extent, analytic scoring is one method that can help learners monitor their own writing process. Therefore, finding out whether applying analytic scoring in a writing class is useful in raising learners' metacognitive awareness and hence, enhancing EFL learners' writing skill is worth exploring.

REVIEW OF THE RELATED LITERATURE

An abundance of studies have demonstrated that possessing a strong cognitive knowledge base plays an important role in successful learning (e.g. Baker & Brown, 1984;Devine, 1993; Flavell, 1979; Kasper, 1997; Vandergrift, 2002; Xu& Tang, 2007)。 Metacognition refers to knowing of one's awareness, monitoring, and regulation about one's cognitive activities in the process of performing a task (Baker & Brown,1984; Flavell, 1979, 1985; Gourgey, 2001). Many studies have been carried out to examine the function of meta-cognitive knowledge in ESL/EFL learners'performance of receptive English skills such as reading and listening(e.g. Baker & Brown, 1984; Devine, 1993; Yang & Zhang, 2002); however, relatively few studies have been conducted to investigate the role of meta-cognitive knowledge in EFL learners' performance of productive English skills, particularly writing (Devine, 1993). A pioneer study on ESL writing in this vein is Devine, Railey, &Boshoff (1993), while in EFL context, You & Joe (1999) were

among the few pioneers to investigate the relationship between English writing and meta-cognitive knowledge base. In 2001, You & Joe examined how skilled writers employ meta-cognitive strategies by means of introspective interview. In the investigation, they discussed five types of declarative knowledge and the procedural knowledge for planning and revising based on the analysis of interview transcriptions. You & Joe (2002) also examined the problem of lacking coherence in EFL learners' writing within the framework of meta-cognition. The results revealed that there were three reasons contributing to the problem of incoherence: 1. The participants did not possess sufficient conditional knowledge; hence they failed to apply the appropriate writing strategies; 2. The participants possess very few internalized skills; 3. The participants had difficulties regulate their writing process. In 2003, You& Joe provided instructional guidelines and strategies for Taiwanese EFL writing instructors. The guidelines include three components: explicit instruction, scaffolded instruction, and an academic school year's training.

Under the influence of cognitivism, education witnessed a marked emphasis on experiential learning (Gold et al. 2012) and problem solving (Mohanty, 2007). There has been a move toward process-oriented theories of writing which is, as Hairston (1982) claims, a paradigm shift in composition theory. In the new perspective, writing is viewed as a process of creation of meaning in which the writer gets involved in the recursive process of preparing the draft, revising and checking (Majid, 2015).

METHODOLOGY
Participants and Context of the Study
The study was conducted in the fall of 2015 at a technological university in southern Taiwan. There were fifty-six junior college students participating in this study. The fifty-six participants were randomly divided into two groups: Twenty-eight students with nineteen female and nine male students formed a control group, while the other twenty-eight students with fifteen female and thirteen male students formed an experimental group. This was an 18-week study with two class hours per week. Students in the control group received non-analytic-writing-rubric writing class training, where students' essays were graded by using holistic writing rubric, which was scaled ranging from 0 to 5, designed to grade students' writing as a whole; students in experimental group received analytic-writing-rubric writing class training, which meant students' writings were graded based on an Analytic Writing Rubric. The students in experimental group were aware that their essays would be graded on the basis of an Analytic Writing Rubric and they were given clear and detailed instruction of what their analytic writing rubric was comprised of.

Instrumentation
Instruments employed in this study included a pretest (a 350-word paragraph), a posttest (a 350-word paragraph), and an Analytic Writing Rubric. The Analytic Writing Rubric was used as a criterion for grading the participants' writings of the Experimental Group. Participants' reflective journals were also used to administer the qualitative analysis. A reflective journal is a personal record of student's learning experiences. It is a space where a learner can record and reflect upon their observations and responses to situations, which can then be used to explore and analyze ways of thinking. A reflective journal is a means for learners to reflect on their learning and learning experiences in different ways. They are used to: 1. record the development of learners' ideas and insights and / or those of a group in a given context and can include concepts, ideas and main points from experience and theory; 2. reflect upon the subject content and personal experiences as a means to increase learners' understanding; and 3. analyze learning process for self development.

Procedure

In the first two-hour class, both groups were asked to write a 350-word paragraph entitled "An Unforgettable Experience" as a pretest. Students in the experimental group were taught to understand the content of the Analytic Writing Rubric which was applied to assess their writings for the rest of the semester. The instructor made sure that the experimental group students were aware of each and every detail of the evaluation requirement of the Analytic Writing Rubric. Then, during the following sixteen weeks, aside from lecturing, students in both groups were required to submit the following four articles under the author's guidance: a process paragraph, a narrative paragraph, a descriptive paragraph, and an opinion paragraph. The contents of the lecturer＇s instructions for both groups were the same. The only difference between the two groups was the grading method. In the last two-hour class, both groups were asked to write another 350-word paragraph as a posttest. Both pretest and posttest were graded using non-Analytic-Writing-Rubric method, the holistic writing rubric.

Analytic Writing Rubric

The Analytic Writing Rubric employed in this study is comprised of the following six categories: Content (main idea/ unity), Cohesion (logical organization/explicit transition signals), Coherence (adequate supporting ideas), Grammar, Vocabulary, and Mechanics (spelling and punctuations). Each of the categories of Content, Cohesion, Coherence, and Grammar accounts for 20 percent, while both of the categories of Vocabulary and Mechanics account for 10 percent, respectively. Each category is given a scale from 1 to 5 and each scale describes clearly what students should achieve to gain the points. For example, to attain the highest scale of 5 on the category of Content, students have to make sure the paragraph's main idea directly addresses the topic and is stated clearly and succinctly. If the paragraph does not address the topic or lacks a main idea, then students can only gain the scale of 1.

Data Collection

The pretest and posttest writings were both graded by the author. The results of the pretest indicate that the inter-rater reliability of both pretest (α=.82) and posttest (α=.88) is high. The average scores of pretest and posttest rated are calculated for the use of analyses. Besides, there is no significant difference on the pretest between the experimental and control groups. It implies that students' English proficiency levels in both control group and experimental group, which are randomly divided, are quite similar. One-way ANOVAs are used in this study for quantitative analyses.

Statistical Analysis

The one-way analysis of variance (ANOVA) is used to determine whether there are any significant differences between the means of two or more independent (unrelated) groups. ANOVA partitions the variability among all the values into one component that is due to variability among group means (due to the treatment) and another component that is due to variability within the groups (also called residual variation). Variability within groups (within the columns) is quantified as the sum of squares of the differences between each value and its group mean. This is the residual sum-of-squares. Variation among groups (due to treatment) is quantified as the sum of the squares of the differences between the group means and the grand mean (the mean of all values in all groups). Adjusted for the size of each group, this becomes the treatment sum-of-squares.

Each sum-of-squares is associated with a certain number of degrees of freedom (df, computed from number of subjects and number of groups), and the mean square (MS) is computed by

dividing the sum-of-squares by the appropriate number of degrees of freedom. These can be thought of as variances. The square root of the mean square residual can be thought of as the pooled standard deviation.

The F ratio is the ratio of two mean square values. If the null hypothesis is true, you expect F to have a value close to 1.0 most of the time. A large F ratio means that the variation among group means is more than you'd expect to see by chance. You'll see a large F ratio both when the null hypothesis is wrong (the data are not sampled from populations with the same mean) and when random sampling happened to end up with large values in some groups and small values in others (Zar, 2010).

RESULTS

Quantitative Analysis
Table 1 shows that the Experimental Group (M=4.18) demonstrates higher score on Posttest than that of the Control Group (Mean=3.88), while the pretest of Experimental Group (M= 3.14) shows slightly lower score than that of the Control Group (M=3.28). This statistical analysis reveals that the Experimental Group students made progress after 18-week of training.

One-way ANOVA analysis of Table 2 shows a significant finding: the Experimental Group has significantly higher performance than the Control Group on paragraph writing, $F_{(5,226)} = 87.66$, $p<.001$. This result corroborates the fact that using analytic writing rubric, which is metacognitive-based, is better than not using analytic writing rubric to enhance learners' writings.

Qualitative Analysis
Students from both groups were required to keep a reflective journal. Reflective journals are used to explore situations from a personal perspective, but generally within the context of learning from students' own experiences. They are used to reflect on, in and for action. Journals collected from the Experimental Group showed that by applying Analytic Writing Rubric, many participants admitted that they were more aware of choosing vocabulary words and checking the use of punctuation. Besides, some participants would even try their best to write concise sentences in order to meet the requirements of succinctly addressing the main idea of the paragraph, which is normally neglected by students. Journals collected from the Control Group revealed that most students wrote essays as whatever they wanted to express without paying extra attention or raising any awareness. The journals revealed that they were aware of the differences among process paragraphs, narrative paragraphs, descriptive paragraphs, and opinion paragraphs, the four distinctive paragraphs taught in the classroom. Except for that, they did not pay extra attention to the correct usage of grammar or succinct conveyance of main ideas while they were writing.

Table 1 Descriptive Statistics (Mean and Standard Deviation) of Writing Pretest and Posttest

	Experi-mental	(n=28)			Control	(n=28)		
	Pre-test		Post-test		Pre-test		Post-test	
Test Item	M	SD	M	SD	M	SD	M	SD
Paragraph Writing	3.14	5.31	4.18	6.37	3.28	5.07	3.88	4.21

Table 2 One-way ANOVA Analysis of Control and Experimental Groups' Posttest Comparison

Test Item	SV	SS	Df	MS	F	
	Between	582.15	1	5226.45	87.66***	2>1
Paragraph	Within	1536.46	118	68.49		
Writing	Total	2118.61	119			

*p<.001   2=experimental group   1=control group

DISCUSSION AND CONCLUSION

The results of Table 3 illustrate that students in the Experimental Group who received Analytic Writing Rubric training demonstrate significantly higher performance than the students in the Control Group. It shows that using Analytic Writing Rubric to guide students is quite effective in improving students' writing skill. The qualitative analysis obtained from students' reflective journals also show that students are aware of using correct words, phrases, and punctuation; they even try to check if they clearly express the main idea, which they seldom showed the awareness before.

This study shows that applying Analytic Writing Rubric is effective in enhancing EFL learners' metacognitive awareness, and hence, improves their writing skill. Writing has always been viewed as the most difficult language skill for EFL learners to master. Thus, it is very encouraging to find that making use of Analytic Writing Rubric is helpful in aiding EFL learners' writing skill. There are many ways to raise learners' metacognitive awareness in learning, but using an analytic rubric, in essence, is a simple and clear criterion for students to monitor their own learning.

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APPENDICES
Analytic Writing Rubric

Score	
	Content (main idea/unity)
5	The paragraph's main idea directly addresses the topic and is stated clearly and succinctly.
4	The paragraph's main idea is related to the topic and is reasonably clear.
3	The paragraph indicates a main idea related to the topic, but in ways that could be clear and more explicit.
2	The paragraph's main idea is only marginally related to the topic or is difficult to identity.
1	The paragraph does not address the topic or lacks a main idea.
	Cohesion (logical organization/explicit transition signals)
5	The paragraph is logically organized, its coherence marked by explicit transitions.
4	The paragraph shows solid organization and use of coherence markers.
3	The paragraph's organization may lack logic or coherence because connectors and transition signals are not used consistently or effectively.
2	The paragraph does not have an obvious organizational structure; coherence is weak because connectors and transition signals are inappropriate or absent.
1	The text lacks organization and coherent.
	Coherence (adequate supporting ideas)

5	The paragraph contains specific supporting ideas, examples, and explanations explicitly connected to the main idea.
4	The paragraph contains at least two supporting ideas, examples, or explanations clearly related to the paragraph's main idea.
3	Supporting points may be underdeveloped due to a lack of specificity or examples. The paragraph may also lack an adequate number of supporting ideas.
2	Supporting points are inadequate in number and either unclear or irrelevant.
1	Attempts at supporting the main idea are ineffective due to inappropriateness or an absence of development; explicit coherence markers are altogether absent.
Grammar	
5	Grammatical errors are minor and infrequent.
4	There may be minor grammatical errors that do not interfere with the main idea.
3	The paragraph may contain major grammatical errors that compromise its comprehensibility.
2	Grammatical errors may be numerous and major, to the extent that the text cannot be easily read and understood.
1	Major grammatical errors abound, causing the reader major comprehension difficulties.
Vocabulary	

5	Choice of vocabulary is excellent.
4	Vocabulary use is above average.
3	Vocabulary use is average.
2	Vocabulary use is weak.
1	Vocabulary use is extremely weak.
Mechanics (spelling + punctuations)	
5	Spelling and punctuation are generally accurate.
4	Errors in spelling and punctuation occur but do not distract the reader.
3	Spelling and punctuation errors may distract the reader.
2	Errors in spelling and punctuation consistently distract the reader.
1	Spelling and punctuation errors are frequent and highly distracting.
Total content cohesion coherence grammar vocabulary mechanics	