A Study on Schema Activation, Summarizing, and Critical Evaluation as Predictors of Writing Proficiency

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Abstract

The study was done to determine whether the three post –reading techniques – summarizing, schema activation, and critical evaluation – are predictors of writing proficiency. A sample of 104 students taking English at De La Salle University were administered a pre-test initially to determine their writing proficiency. Then, they were subjected to the usual reading phases. The students were next given specific prompts that focus on the three targeted post –reading techniques. Three different assessment tools were employed to check the three essay prompts. Using multiple regression, results indicated that the three are predictors of writing proficiency. Of the three, the technique that has the highest strength of relationship to writing proficiency is the technique of schema activation. This finding has pedagogical implications.

Keywords: schema activation, critical evaluation, summarizing, writing proficiency

Introduction

Reading for the purpose of gaining optimum benefit from the reading material is a communicative process that involves three phases: the pre-reading, the while reading and the post–reading phases. In each of the reading phases, the reader has, at his/her disposal, techniques to facilitate fuller comprehension. In addition, within the phases, the reader chooses various techniques. For example, in the pre–reading phase, the reader may skim, scan, read the title of the text and relate it to the main point, or read the initial and the final paragraphs alone to be able to infer from these readings what the message of the text is. The second phase of reading, the while reading has the reader providing an educated guess as to the meanings of difficult words by using contextual clues or analyzing reference words. Finally, according to Yu-hui, Li-rong, and Yue (2010), the reader may verify predictions made at the beginning of the reading process as well as check some inaccurate guesses in the post–reading phase. The reader may also decide what points in the text are important and what may be irrelevant in establishing the author's thesis. For comprehension check, the reader is encouraged to even re-read the text. The current study will focus on the strategies in the post reading phase. These post reading strategies are schema activation, summarizing, and critical evaluation.

The reading techniques that were earlier enumerated are not entirely exclusive to one reading phase. For instance, schema activation, a technique usually associated with the pre–reading phase, also occurs in the while

reading and the post reading phases. The same observation is true for other techniques like skimming and scanning.

Currently, there is a growing interest in pushing forth the notion of reading as a skill useful in increasing the student's writing proficiency. According to the reading–writing connection advocates, reading provides a perfect venue for potentially thought generating writing drills that the language teacher may construct to improve the students' critical thinking skills (Shahan & Lomax, 1986).

Of the three phases in the reading process, it is the post–reading phase that demands the most from the learner particularly since he has to, after having read the text, display what he has learned from the selection by way of a written output. The post-reading phase, in short, determines the verity of the reading–writing connection.

According to Saricoban (2002), the post- reading phase will have the learner writing a summary of the reading passage. This phase will also require the learner a written evaluation of how the reading material is going to be useful as reference, for instance, for future readings. Finally, it is also important to note that the post-reading phase is a writing venue to showcase how well the learner is able to integrate what he already knows about the topic with the new information that he has learned from the text just read. Essentially, the written outputs that are produced from these writing tasks at the post–reading phase are summary, critical evaluation, and schema activation to name just a few.

Several literatures have identified specific areas of interest as regards the effectiveness of the reading strategies. Magno (2008) examined five variables to determine whether they significantly predict writing proficiency. Using multiple regression analysis, his study revealed that all five variables had high correlations with written proficiency. One of the variables he used, reading strategies, has been found to be the best predictor second to the metamemory strategy upon being subjected to semi partial correlations. In another area, Saricoban's (2002) paper compares the reading strategies used by successful and less successful readers in all the three phases of reading. In this study, he raised two questions. The first one examines if there is difference in the reading strategies employed by the successful from the less successful readers. The second question determines whether there is significant correlation between the reading and the overall achievement scores of the participants. Data reveal that the there is indeed difference. Although there is not much significant difference in the strategies at the pre-reading phase since these strategies deal mainly with making speculations on the topic, the significant differences are observed both in the while reading and the post reading phases. Successful readers, for instance, use asserting, analyzing, and describing more than their less successful counterparts in the while reading phase. For the post–reading phase, successful readers use

evaluating and commenting more frequently compared to less successful readers. Another related study this time done by Ozek and Civelek (2006) focused on the use of cognitive reading strategies by 188 ELT students. Two methods were used to collect data. The first involved a questionnaire while the second used the Think-Aloud Protocol. Reading strategies were evaluated, much like in Saricoban's study using the three reading phases. Analysis revealed that the pre- reading phase has the students using the relationship between the title and the text content strategy predominantly over other pre–reading techniques. For the while reading phase, those that were most effective are context clues, skipping unknown words, thinking aloud during reading as well as integrating prior with new knowledge derived from the text. No post–reading strategy was found to be used by the participants. Literatures may have dealt with the subject matter of reading strategies, including the examination of particular strategies in the three reading phases. However, there is scant study, if there is ever one at all, that looks into the different techniques within the reading phase. Also, since there is not enough literatures on the post reading strategies, the purpose of this paper addresses that gap. The study aims to determine whether the three techniques of the post–reading phase–schema activation, summarizing, and critical evaluation–predict writing proficiency.

The study uses the Top-Down Model proposed by Goodman in 1970. This view is a reaction against the Bottom-Up Model which views understanding of the text to be based on morphemes, phonemes and other grammatical text features. In the Top-Down Model, the reader begins with meaning and sampling of information sources in the text. From there, s/he begins to make connections with his/ her own experiences to construct the meaning of the text. This Model holds that reading is not purely extracting meanings from the text. Rather, reading is a process of connecting the information in the text with the ones the reader brings into the act of reading. For instance, Ausebel (1968) initiated the concept that came to be known as advance organizers. Advanced organizers are pre–reading activities that aid student to connect his/her own pre-existing knowledge to the new information s/he will learn once s/he reads a text. Thus, the reader is able to bring his own intelligence to understand the text.

The Top–Down Model that served as the underlying theory behind the present study is observed to be associated with the schema theory, which, in turn, is the basis of the post- reading technique termed as the schema activation. The notion behind the schema theory was attributed to Barlette in 1932. This idea posits that people's understanding and recall of events is shaped by their expectations or prior knowledge, and that these expectations are mentally presented in their schema frame. When applied into the reading act, the reader works his/ her way into a deeper, fuller understanding of the text by accessing prior knowledge. Because of this mode of making

sense of the text, the concept of coherence is observed to be attached not in language but in people (Yule, 1985).

Summarizing is a multidimensional writing skill (Garner, 1982) that combines in the writer various related skills involving organization, logic and accuracy. These features must be evident in the summary output, otherwise the summary text will come out as a poor copy of the original text. For instance, to achieve organization the summary writer needs to make the reader understand that his/her summary, although a much shorter version of the original, is complete in itself in the sense that it contains how the author of the text summarized, begins, establishes the main points, and ends the text. Also, logic is established in the summary if the summary writer is able to identify what the major and the supporting points are in the text. Accuracy is observed if that writer is able to restrain himself/herself from inserting his/her own comments or evaluation into the summary.

Critical evaluation is a post–reading technique that aims to engage the reader into thinking, then writing his/her thoughts in exploration of the arguments that the author of the text puts forth. Hulme (2004) claims that evaluation is substantial if the evaluator is able to determine the author's arguments in terms of whose interests are served by what is said, or what political, cultural, social, religious, pedagogical effects of the truths as claimed in the text are being promoted.

These three post–reading techniques–schema activation, summarizing, and critical evaluation–engage the learner to perform writing-directed skills not only aimed at achieving the desired written outputs but also tapping his/her own established knowledge so that he/she contributes to a fuller understanding of the text. The present study is thus initiated to examine the three post–reading strategies–schema activation, summarizing, and critical evaluation-to determine if the three are predictors of writing proficiency among learners.

Method

Participants

The study selected 104 Englcom (English One) students from four different classes at a private university in Manila in the first term of academic year 2010 – 2011. The first class was composed of 24 students from the College of Engineering. The second and the third classes had 25 and 27 students respectively from the College of Liberal Arts. The fourth class, from the College of Science, consisted of 28 students.

Instruments

The essay for the pre-test was checked using Holistic Rubric for Assessing Student Essay (Allen, 2004). The rubric assesses the students' essays on a 1- 4 scale. The criteria are sophistication (4), acceptability (3), developed competency (2), and inadequacy (1). The essay that addresses the schema activation used the 0-4 scale Rubric for Analytic Scoring of Writing (Alvarez, 1983). The rubric rates the essay of the participants as superior (4), proficient (3), essential (2), in progress (1), and no effort (0) based on four categories - purpose and audience, organization, development and, language. To assess the essay on critical evaluation, the study used the 1-4 scale of Holistic Critical Thinking Scoring Rubric designed by Facione (2009). The rubric rates the evaluation as strong (1), acceptable (3), unacceptable (2), and weak (1). For the essay on summarizing, assessment was done using the 1–4 level in Summarizing Rubric for Non–Fiction. The essay of the participants is assessed using three categories – knowledge and understanding, thinking and communication.

Procedure and Data Analysis

Before the actual study, the participants were subjected to a pre – test to determine their essay writing skills. At the start of the study, all 104 participants were given a text to read. They then underwent the usual pre–reading and while reading phases. For the post – reading phase, they were asked to answer three essay prompts, each one addressing the three different writing skills that the study intended to examine. Scores were encoded in the STATISTICA 7 spreadsheet. Descriptive Statistics was obtained to get the means and the standard deviations of the predictor- variables. Also, Pearson correlation among the three variables was obtained to determine which variable significantly correlated with writing proficiency. The study was analyzed using multiple linear regression. Multiple Linear Regression is a statistical model that determines the relationship between several independent or predictor variables and a dependent or criterion variable. In this particular study, the predictor variables are schema activation, summarizing, and critical evaluation. Writing proficiency is the criterion variable.

Results

The means, standard deviations, and relationship among schema activation, summarizing, critical evaluation, and writing proficiency were determined. The multiple regression was done where writing proficiency was predicted among other variables as the predictors.

Table 1

Mean and SD Scores for Summarizing, Schema Activation, Critical Evaluation and Writing Proficiency

Variables	M	SD	N
Summarizing	2.16	0.76	104
Critical evaluation	2.77	0.59	104
Schema activation	3.40	0.60	104

Note. The mean score here reflects the average scores of summarizing, schema activation, critical evaluation and writing proficiency using the assigned scales.

Table 2

Correlation among Writing Proficiency, Summarizing, Critical Evaluation, and Schema Activation

Variables	Writing proficiency	Schema activation	Critical evaluation	summarizing
Writing proficiency	---	.47	.06	.00
Schema activation	.47*	---	.04	.03
Critical evaluation	.06	.04	---	.35*
summarizing	.00	.03	.35*	---

*p<.05, **p<.01, ***p<.001

Table 2 shows the variables that are significantly correlated with writing proficiency. The technique of schema activation has the most marked correlation with writing proficiency when compared to summarizing, and critical evaluation. This supports the notion that schema theory suggests reading –writing connection (Xiao, 2008). Summarizing poses a low strength of relationship with writing proficiency. This is indicated by a .06 value. On the other hand, the strength of relationship between critical evaluation and writing proficiency is 0.0 indicating an absence of relationship. Among the predictor variables, summarizing and critical evaluation are correlated with a strength of .35 indicating a low relationship.

Table 3
Multiple Regression Table for predicting writing proficiency

Predictors	β	B	SE	t	p
Schema activation	0.08	0.48**	0.08	5.39	.00
Critical evaluation	0.05	0.05	0.09	0.57	.56
Summarizing	.09	-0.02	0.07	-0.35	.72

Note. $R=.47$, $R^2=.22$, Adjusted $R^2=.20$, F(3,100)=9.9, $p<.001$, SE =0.55
** $p<.01$

Table 3 displays analysis done by multiple regression using as regressors schema activation, summarizing, and critical evaluation. The regression was rather a poor fit (R^2 Adjusted=20%) but the overall regression was significant, $F(3,100)=9.9$, $p<.001$. With all other variables held constant, writing proficiency was positively related to schema activation and summarizing and negatively related to critical evaluation, increasing by 0.47 for every extra effort of schema activation, and by .05 for every extra effort of summarizing while decreasing by .03 for every extra effort of critical evaluation. The effect of schema activation was significant, $t(104)=5.39$, $p<0.05$ to writing proficiency. The regression analysis indicates that among the three post – reading strategies, it is only schema activation that proves to have the strongest bearing as predictor of writing proficiency. In short, frequent activation of schema appears to be linked with writing proficiency. However, as also reported in the regression model, the beta coefficient values for both summarizing and critical evaluation show a negligible and negative values respectively indicating an unremarkable relationship for summarizing and an inverse relationship for critical evaluation. This means that although the two are post – reading strategies, they do not as significantly predict the writing proficiency of the participants in the study the way schema activation does.

Discussion

The study was conducted to determine if the three post – reading strategies – schema activation, summarizing, and critical evaluation- predict writing proficiency. Also, the study sought to determine the strength of each post – reading strategy as predictors of writing proficiency. The findings showed that schema activation made a substantial correlation with writing proficiency. The other two post – reading strategies showed a negligible correlation. According to Tomasek (2009), critical evaluation requires the reader to perform not only a summary of the text read but also an assessment of the reading material. In addition, an assessment skill asks the writer to read other related texts so that he or she can present a reasonable basis for his / her assessment. In short, this reading strategy may be considered as a more advanced level of writing output, greater than what is required when

students are simply called upon to activate their schema or to summarize a text. As far as writing about the students' personal experience in relation to the main idea of the text through a schema activation writing prompt and reporting the scope of the text read by way of a summary are concerned, there may not be a problem as regards the desired written outputs since the students will simply draw from what is immediately accessible – their own experiences and the text – to them. According to Becker (2006), the more frequent the activation of schema mechanisms, the better the writing output becomes. This is due to the fact that writers who are equipped with greater schema frames tend to produce almost automatically faculties that will make them more attuned to the needs of the writing prompt as well as provide for them sufficient resource to appropriate from their working memory details that are necessary to make their written texts more meaningful and content-loaded. Included in their schema frames are the interaction of their own personal experience with previous relevant reading material as well as access to appropriate to grammatical features. This interaction will thus facilitate better writing output. In the case of the summary requirement, the student recalls the main point of the text and objectively reports it, keeping in mind how the author of the text begins, continues, and ends it. However, the writing of the critical evaluation expects the reader-writers to go beyond the text since as Hulme (2004) maintains, a substantial evaluation calls for arguments to be established and extensively discussed. Additionally, discussion of the arguments needs to be based on research. This may account for a negligible correlation between critical evaluation and writing proficiency.

The nature of workload required to come up with a writing output such as schema activation involves automatic access to appropriate schema frames and may best be suitable for students in the tertiary level who are just beginning to grapple with writing demands their college life as freshmen at the beginning term of an academic year. This, being the case, more writing drills that require these students to use their schema as a form of text substantiation is beneficial especially as far as enriching their reading-writing experience. However, writing drills that merely call for schema activation may be too limiting in terms of enriching writing proficiency. Thus, the students, who are beginning their term, need to go beyond by writing outputs that will enhance their ability to structure ideas in the text read or to assess the main point of the author. This movement, from schema activated writing prompts to prompts that require assessment of the text or its summary, however, must be done gradually and with proper supervision from the writing teacher so that the students can gain proficiency in the required written outputs. This gradual transition is also preparation for the students who will undergo the next stage of English writing through Englres (Basic Research), an ESP course that teaches the students the rudiments of

academic research writing through a research paper submitted at the end of the term.

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