

Undergraduate critical thinking and reading of academic texts

Pregrado en pensamiento crítico y lectura de textos académicos

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ABSTRACT

This article sought to investigate whether seven Malaysian undergraduate students were able to respond critically to the academic texts delivered to them and to the reading strategies they used to read those texts. Data were collected through the thought protocol out loud and the retrospective interview, and subsequently transcribed, translated and analyzed for recurring topics. The findings indicate that the seven participants responded critically to the texts given, as evidenced by the adoption of all or some of the strategies of critical reading of interpretation, analysis, evaluation, deduction, explanation and self-regulation; the interpretation being the most used strategy. The results of the study also revealed that although university students could use critical reading strategies, they could only do so to a certain extent. It concludes by urging instructors and policy makers to seriously consider the teaching of critical reading, as it gives a purpose and guidance to university students to think critically and prepare for better academic performance and future challenges.

Keywords: Critical thinking, critical reading, reading strategies, critical reading strategies, academic reading

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RESUMEN

Este artículo buscó investigar si siete estudiantes de pregrado malayos pudieron responder de manera crítica a los textos académicos que se les entregaron y a las estrategias de lectura que emplearon para leer esos textos. Los datos se recopilaron a través del protocolo de pensamiento en voz alta y la entrevista retrospectiva, y posteriormente se transcribieron, tradujeron y analizaron para los temas recurrentes. Los hallazgos indican que los siete participantes respondieron críticamente a los textos dados, como lo demuestra la adopción de todas o algunas de las estrategias de lectura crítica de interpretación, análisis, evaluación, deducción, explicación y autorregulación; siendo la interpretación la estrategia más utilizada. Los resultados del estudio también revelaron que aunque los estudiantes universitarios podían utilizar las estrategias de lectura crítica, solo podían hacerlo hasta cierto punto. Se concluye instando a los instructores y formuladores de políticas a considerar seriamente la enseñanza de la lectura crítica, ya que les da un propósito y una orientación a los estudiantes universitarios para que piensen críticamente y se preparen para un mejor desempeño académico y los desafíos futuros.

Palabras clave: pensamiento crítico, lectura crítica, estrategias de lectura, estrategias de lectura crítica, lectura académica

Introduction

The realization of the importance and need for critical reading has long been felt by educators. Efforts have been directed towards the teaching and learning of critical thinking strategies in schools and institutions of higher learning. However, students have often been seen as being passive receptors of information (Oliver and Utermohlen, 1995), with many college students not reading beyond the level of extracting information (Wheeler, 2001). In other words, they lack the critical reading ability that would enable them to analyze and evaluate texts and to provide useful comments of their own. This can be said to be a genuine concern of educationists everywhere, and Malaysia is no exception (Othman & Mohamad, 2014).

Critical thinking in reading is thus a move to comprehend printed materials beyond the simple understanding of messages in print. It calls for higher-order cognitive skills and the abilities to analyze, interpret, infer, and evaluate, to name a few. The ability to read critically is essential for students—especially those of higher learning institutions—to prepare them for their future undertakings, which would require the use of these skills. This paper describes a study that we carried out to examine the critical reading strategies employed by seven Malaysian undergraduate students in trying to comprehend and interpret the academic texts they were given.

2. Literature Review

2.1 Reading and the Critical Thinking Process

The interactive process of trying to comprehend a text involves many aspects of the nature of reading, which includes the cognitive psychology and the schema theory of reading. Readers weigh and compare data from their schemata, the text, and the context in which it occurs. Synthesis of information and the creation of meaning all require constant inferring and assessment by the readers. This application of 'schemata,' according to Wallace (2003), is one of the key principles in critical reading as it shows how readers, who can come from different backgrounds, use their knowledge, experience, worldview, and interpretation of the communicative situation to construct more than one coherent version of the text.

The terms academic reading, skilled reading, and effective reading, are all very much inter-related and can be associated with a kind of interactive reading, assert Lunzer and Gardner (1979).

In reading for academic purposes, the reader will employ the necessary reading and thinking strategies for him or her to understand the text while applying his or her background knowledge and the current situation in question. Hence, student behaviors in identifying issues, making appropriate generalizations, and making judgments based on conscious knowledge, can all relate to those attempts for clarification and a better understanding of textbook content, which is in fact, critical reasoning or critical thinking when reading (Rosenberg and Dean Wolfe, 2000). Critical thinking skills and critical reading skills are also considered synonymous by many researchers (Karlin, 1967a; Russel, 1967; Shirley, 1981; Lunzer & Gardner, 1979; Kurland, 1995). It is for this reason too that both the terms critical thinking and critical reading will be interchangeably used throughout this paper. The direct relationship between reading and critical thinking have also been well established in more recent studies by Mohammadi et al. (2012), Leist et al. (2012), Hohmann and Grillo (2014) and Zhou et al. (2014).

The literature on critical thinking shows a number of frameworks, the most widely used in education being Bloom's Taxonomy (Krathwohl et al., 1956; Bloom et al.1994). For this study, however, the model of critical thinking generated by Facione (1992; 2007; 2015), based on the work of a panel of experts for 'Purposes of Educational Assessment and Instruction,' was found to be the most comprehensive and therefore suitable. Facione's six core critical thinking skills involved the skills of interpretation, analysis, evaluation, inference, explanation, and self-regulation.

2.2 Studies On Critical Reading

Research in reading has also shifted its attention from a product to a more process-oriented aspect of reading. This has been so, realizing that the process of understanding and constructing meaning is as important as the results of the reading comprehension test scores. After having reviewed the studies conducted thus far, it is only fitting to look into the critical reading process, specifically at the strategies the students adopt in their academic reading. Examining the extent to which critical reading strategies are used will give an insight into their reading process, which could help towards helping undergraduates develop better interaction with academic texts, and consequently understand these texts better. This is important in their quest for academic excellence, as well as in their pursuit of knowledge.

3. Research Methodology

This multiple case study adopted the qualitative measures of collecting and analyzing data, in that verbal protocols and retrospective interviews were used, while data from taped observations served as triangulation measures. Seven second-year law students, identified as Rah, Ras, Wak, Fay, Fah, and Zar, were the participants in this study. Each of them went through all the stages of the data collection process, which involved the think-aloud protocol and immediately followed by the retrospective interview. The think-aloud protocol as the primary data collecting method made use of three topics on law as the reading materials. Written consent was obtained from each of the students before data collection. Students were also required to attend practice sessions of the think-aloud to familiarize them with the technique. Audio and video tapes were also made use of at different stages of data collection.

Data gathered were transcribed, translated, and analyzed for recurring themes. The core critical thinking skills of interpretation, analysis, evaluation, inference, explanation, and self-regulation, as outlined in Facione (2015), were used as the framework for the analysis of the think-aloud data in the study.

4. Results and Discussion

The findings provided a strong indication that all the seven students responded critically

to the three academic texts given. This was evidenced by the adoption of all or some of the critical thinking strategies of interpreting, analyzing, evaluating, inferring, explaining, and self-regulating.

4.1 Interpretation

Interpreting as a critical reading strategy seemed like what most of the participants do most frequently, based on the number of interpretations during the think-aloud. 35% of the total strategy use was shown to be interpretive strategies. There was a heavy reliance on paraphrasing in the attempt to clarify meanings. The attempt to clarify meanings using paraphrasing involved students changing the words, the structure, or the sequence of information, without changing the meaning of the text. The tendency to paraphrase could, to a certain extent, indicate that it is the most straightforward strategy compared to the other critical reading skills, as it was done almost automatically, mainly when the texts were 'not so difficult,' or 'ok' to them. This also implies that if students find that texts are too difficult for them, then paraphrasing or clarifying would probably be substituted for other more suitable strategies. A study by Norazman (2000) also found the students using the strategy of interpretation often. Indeed, reading to interpret ideas in the texts was the primary reason why his participants used this strategy.

Two of the students also paraphrased very frequently, using their native language. They both admitted to their lack of proficiency in English, but for the most part, it was not a hindrance to the understanding of the texts. Most of their think-aloud statements showed that they were thinking in their native language. The use of translation in paraphrasing to aid comprehension was very much a part of both the students' reading strategies due to their lack of proficiency when reading in the second language.

4.2 Analysis

Results of the analyzing strategy tend to support the idea that the students were generally able to examine ideas, detect arguments and analyze arguments. The most used strategies were examining ideas and analyzing arguments, which made up about 15% of the total critical reading strategy used. All the participants made use of this strategy, or at least one of the sub-strategies when interacting with the texts.

4.3 Evaluation

Compared to the interpretation and analysis strategies explained earlier, the results also showed that fewer evaluation strategies were generated by the participants, a probable indication that it is one of the strategies that is difficult to apply. It could also be the reason why Bloom (1956), places evaluation at the top of the hierarchy of all critical strategies, although Facione (2015) did not rank it as such. Evaluation accounted for only 3% of the total critical reading strategy used. There were a total of 17 evaluation strategies consisting of 5 sub-strategies. The sub-strategies that were the more frequently used by the students were comparing the strengths and weaknesses of arguments or interpretations, and determining the credibility of the source of information. Very few evaluation strategies were adopted, even by Wak (6 strategies), who usually used many strategies. Ras did not evaluate at all, while Rah did so only once, which was not surprising as they were only confirming what they had said in the retrospective interview, that, "I do not want to think deeply," and "I just agree what their opinion is".

4.4 Inference

Inferring made up about 16% of the total critical reading strategies employed, and was more frequently used compared to evaluation and analysis. The background knowledge that assists the readers can be in the form of knowledge acquired from previous readings, observations, or

personal experience. Those who read a lot, like Wak, Fay, and Zar, would find it more accessible and beneficial to integrate information across the texts and relate their experience to the content of the text for better understanding. Wak linked ideas in the texts with what he got from reading previous texts on the same subject over the internet. Besides Wak, the analysis also showed that Fay also utilized many inference strategies, especially when drawing conclusions. Both of them linked and connected new information with information previously stated in the text, or with information from their own experience to make more sense of what they were reading. The inferring strategy, however, was not part of Ras' and Rah's process of understanding content, as both of them scarcely inferred at all, compared to the other participants.

Making connections and associations based on background knowledge is very much a part of critical reading. This is what Wallace (2003) meant when she stressed that content schemata are an essential aspect of being a critical reader. Without relevant and enough content or knowledge one will not be able to, or rather, will find it difficult to query the evidence, to suggest alternatives, or to draw conclusions. Being able to infer, as witnessed from the think-aloud statements of Wak, Fay, and Zar shows that these students were critical readers. Reid et al. (2000) also describe these readers as active readers who know what they are looking for and how to find it, relate new knowledge to old or previous knowledge, make patterns and connections, as well as ask questions about the text.

4.5 Explanations

10 % of the total critical reading strategies were on explanations. The sub-strategy of explanation that was frequently utilized was *presenting arguments*. The other two sub-strategies of *stating results* and *justifying procedures* were not employed at all. One possible explanation may have to do with the content of the texts which rendered it unnecessary to comment on results and procedures as they were more expository texts than research papers. These second-year law students were not exposed to materials which require them to know the conceptual and methodological aspects of their field of studies. What little they knew was from writing the term paper or a mini-research in their English for Academic Purposes (EAP) class, which was not sufficient to get them to explain and justify the procedures of the methodologies of research. Even though the participants had limited knowledge in *justifying procedures*, they were generally able to present arguments based on the texts they read, which goes to show that they were, to an extent, critical readers.

4.6 Self Regulation

This strategy was used in many instances in all the three texts. Also termed as “meta-cognition,” because it involves self-consciously examining one's thinking or one's cognitive activities (Facione, 2007, 2015), this strategy seemed to be very useful for the students. 21% of the total critical reading strategy used was on self-regulation. Both sub-strategies of self-examination and self-correction were utilized. These included identifying problem words or terms, phrases, sentences, and even sometimes the whole paragraph. Having identified these difficulties, the students would go a step further by guessing the meanings first, then checking and retracing their reading. Besides guessing, the students would flick through the pages, turning back and forth, for some explanation or clues. The inability or failure to make connections with their background knowledge, especially when faced with new words or concepts, initiated them to make guesses and to search the text to find some answer or something they could help them to verify their guesses. The danger would be when students decide to give up, having failed to find the answer after searching for some time. Fah, as revealed in her retrospective interview, usually would give up and stop reading. Although the other students reported that they rarely did that, continued guessing may also lead to inaccuracy, which in turn can lead to prolonged misunderstanding of the related ideas in the text. For all the participants, the self-regulation strategy mainly consisted of identifying and questioning problems in the text, and checking

to see whether their answers were correct. These proved to be useful in monitoring their understanding of the text, as revealed by the think-aloud statements.

4.7 Conclusion

The study sought to examine whether undergraduates could respond critically to texts and if so, the critical thinking strategies they used. The qualitative approach employed provided an insight into the types of strategies used by the students in dealing with academic law texts. An important implication arising from this study is that there is a need for the teaching and learning of critical thinking strategies. Critical reading of academic texts should be taught at the undergraduate level to allow for more effective learning and acquisition of knowledge to take place. The critical reading of academic subject matter gives both purpose and direction for undergraduates to think critically, because it not only prepares them for better academic performance but also prepares them for future challenges (Beyer, 1995; Ahern, O'Connor, McRuairc, McNamara & O'Donnell, 2012; Lunney, 2013; Talebi & Talebi, 2015). It is therefore imperative that students acquire the ability to think and read critically at all levels of the educational hierarchy. Teaching students the critical reading skills as well as strengthening the skills are also as equally important as getting the students to be aware of what it means to be able to read critically and the benefits it brings. This being the case, then there is a great need to develop the curricula for professional and instructional development, as well as assessment strategies, such that both learners and instructors would benefit.

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