Chapter 11

The Role of Interest and Self-Efficacy in Science-Related Expository Writing

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The investigation reported in this chapter was concerned with the relationship of measures of interest and measures of self-efficacy in the context of students’ expository writing on science topics. How differential access (electronic vs. hard copy format) to topic-related information influences writing performance was also investigated. Adolescents’ behavioral and affective responses were measured as they performed a science-related expository writing task. More specifically, interest and self-efficacy measures were collected prior to and subsequent to the writing task. The findings demonstrated that students’ interest in specific writing topics and their self-efficacy for the writing task were important factors that positively influenced their writing performance. Whereas the experimental writing conditions did not produce consistent differences in the adolescents’ writing quality or quantity across topics, there was some evidence that the web access as opposed to the hard copy condition contributed to students’ self-efficacy. In contrast, the findings indicated that the hard copy condition produced higher quality compositions than the two electronic conditions.

1 Introduction

In a previous study, we investigated how a combination of motivational and instructional variables can be best utilized to improve students’ emotional and cognitive experiences during argument writing (Hidi, Berndorff, & Ainley, 2002). One hundred and seventy-seven students at the junior intermediate level participated in a program involving a pre-test, intervention, post-test with two forms of intervention. In the first experimental
condition, students were given instructions on argument writing that incorporated strong motivational features. In the second condition, in addition to the instructions, students were required to participate in extended collaborative writing activities. We also examined the relationship between students’ general interest in writing and their genre-specific liking and genre-specific self-efficacy in writing. This investigation was one of the few studies we know of that specifically focused on the relationship between interest and self-efficacy in writing. The results demonstrated that the intervention programs contributed to a significant overall improvement in the quality of children’s argument writing. The findings also indicated that the students’ genre-specific self-efficacy in writing was closely associated with genre-specific affect (liking) and that both of these factors were also associated with their general interest in writing. For example, children who believed that they were relatively good writers also liked writing. The research reported in this chapter is an extension of the above study in that it focuses on how interest triggered by a specific writing topic, drawing on both individual and situational factors, is related to self-efficacy and self-efficacy to writing performance.

2 Interest, Self-Efficacy and Expository Writing

Although demonstrating that interest and self-efficacy for specific genres of writing were linked, our previous investigation (Hidi et al., 2002) did not explain why such an association occurred. Both interest and self-efficacy have been associated with similar aspects of students’ performance: increased effort, persistence and positive emotional reactions (see Bandura, 1997; Hidi, 2000; Renninger, 2000; Renninger & Leckrone, 1991; Zimmerman, 2000b). In order to explore the relation between interest and self-efficacy more closely, in this study we have taken a specific writing task, science-related expository writing, and monitored the relationships between interest and self-efficacy at several points within the same task. We focused on the connection between the interest that is triggered when students are first presented with details of their writing topic (topic interest) and their feelings of efficacy in relation to this specific task. These data were supplemented by recordings of the level of interest in the task (situational interest) reported immediately after the writing task has been completed, and self-efficacy measures taken at the same time, in terms of students’ confidence about the quality of their writing. We expected that the association between interest and self-efficacy observed in the earlier investigation when both were measured at the level of a general response to writing compositions of specific genres would also be observed when the measures were tied to specific writing topics.

A second focus of the current investigation involved the issue of the knowledge students have when asked to produce position papers and for present purposes we chose students’ science-related expository writing. An extensive body of literature indicates that interest in and knowledge of topics that students write on, are critical aspects of writing performances (e.g., Benton et al., 1995; Hidi & McLaren, 1990, 1991). As students often do not have adequate knowledge to write on the science topics assigned, in the present investigation we provided them with resource material in various forms that were designed to generate interest and increase their content knowledge. In one of the conditions students were also given opportunities to seek additional topic-relevant information.