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Contrasting two brief online interventions to write better argumentative synthesis at university

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abstract of 100-250 words

Abstract

Writing an argumentative synthesis is a common but demanding task, so usually undergraduates require more instruction to improve their synthesis skills. The objective of this study was to compare two instructional assistances supported by Moodle platform, one already tested (Luna et al., 2020) and the other one considered only in this work, focused on the reading and writing processes of written argumentation.

Sixty-six undergraduate students volunteered to participate. As an academic task, they were asked to write a synthesis after reading two sources which presented contradictory positions about an educational issue as a pre-test, read two new texts about a different but equivalent issue and write a new synthesis following one of two types of instructional virtual environments. Both trainings presented similar tools, employing videos, graphic organizers and exercises, but the first condition (N=33) focused more on linguistic features while the process intervention included a modelling video and a script with questions to guide the reading and writing processes (N=33). In this paper we also analyse how students used the guide. Results show that synthesis of both conditions were similar in the pre-test but, after the intervention, the level of integration of the written products were higher in both conditions, but more in the process intervention. Nonetheless, the products that achieved medium and maximum integration were still limited. In addition, the case analysis points to different ways of approaching the guide, which are partially related to the quality of the written synthesis. Educational implication and further research will be discussed.

Extended summary

Writing an argumentative synthesis is a common but demanding task for university students (Hyytinen, Löfström, & Lindblom-Ylänne 2017; Wingate 2012). It involves understanding, evaluating, weighing, combining and generating arguments and counterarguments from different sources and perspectives to support a final position (Mateos et al., 2018). In spite of its difficulty and complexity, argumentative writing is scarcely taught at the Spanish universities, so undergraduates require more instruction to improve their synthesis skills. Moreover, open universities and the availability of virtual campuses at traditional or on-site universities are increasing and some authors have used technologies to implement virtual scaffolds (Nussbaum, 2012). The objective of this study was to compare two instructional assistances supported by Moodle platform in a full online university, one already tested (Luna et al., 2020) and the other one considered only in this work.

Sixty-six undergraduate students from Psychology and Education degrees who were attending their first-year course volunteered to participate. As an academic task they were asked to: 1) fill in a questionnaire to gather initial students' data 2) write a synthesis after reading two sources which presented contradictory positions about an educational issue as a pre-test; 3) read two new texts about a different but equivalent issue and write a new synthesis following one of two types of instructional virtual environments. For the first group, the environment presented an instruction focused on the argumentation product features, dealing with linguistic aspects of writing and types of arguments and argumentation fallacies (n =33). For the second group (n= 33), an instruction focused on the reading and writing processes of written argumentation was delivered. Both trainings presented similar tools, employing videos, graphic organizers and exercises, but the process intervention includes also a modelling video and a script with questions to guide the reading and writing processes.

Each synthesis was coded regarding its degree of integration following Mateos et al. (2018). A repeated-measures ANOVA was conducted to test main and interaction effects of condition (product/process) and time (pre/post). Additionally, for the process condition, we carried out a case analysis of the participants' answers to the guide, specifically of students whose synthesis improved more after the intervention. Results show that synthesis of both conditions were similar in the pre-test but, after the intervention, the level of integration of the written products were higher in both conditions, but more in the process intervention. This result is very relevant, since interventions in online environments have increasing their importance in education in recent years, and even more with the current crisis of COVID-19. Nonetheless, the products that achieved medium and maximum integration were still limited. These results suggest that, even with explicit instruction on the process, students struggled to reach high integrative conclusions

and that still need more support to develop their skills for generating new integrative arguments. For that reason, is important to know how students actually use with the digital tools they receive. This piece of research also presents qualitative data to expand the knowledge of how students use a virtual guide. The results presented in this paper focus on analyzing how students used the writing guide. This guide employed critical questions to foster contrasting positions and reaching an integrative conclusion. These data allow us to know about 1) Students task representation while using the virtual guide, 2) The relationship between their initial position and the answers the gave to the questions the guide posed; and 3) If their approaches in their answers are related to the quality of the written synthesis or not. This study illustrates how these students represented the task and how the technology has been used and could be improved to implement a successful intervention on argumentative writing in a distance education context.

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