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Enhancing Efl Grammatical Competence of Health Science Technology Students through Online Instruction: a Quasi-experimental Study

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Abstract

Grammar competence is an essential factor of academic literacy for students of Health Science Technology, because it enables effective linked with disciplinary texts, global healthcare communication and professional documentation. In light of the growing integration of pedagogy digital in higher education, this trial investigated the performance of structured grammar instruction online in improving grammatical competence among students of Health Science Technology. The study adopted a semi-experimental pre-test/post-test structure and involved 40 students enrolled in a program of Health Science Technology. Participants received grammar instruction online delivered through a platform interactive learning that integrated explicit grammatical explanation, performance-based tasks, guided practice, and formative feedback continuous. A validated and reliable test of grammar competence was administered after and before the instructional intervention to evaluate learners' performance through five grammatical domains: subject-verb agreement, syntax, tense and aspect, articles and determiners, and prepositions. Data were analyzed utilizing paired-samples t-tests and impact size estimates (?²). The findings revealed significant statistically improvements in participants' grammatical competence overall following instruction online. Large impact sizes were obtained in most grammatical domains, especially syntax, subject-verb agreement, tense and aspect and prepositions, indicating a high instructional impact. Although were significant impact and comparatively equinoctial, reflecting semantic and nature discourse-sensitive of grammars. Overall impact size reported that online instruction estimated for a high proportion of variance in students' grammatical development. These results provide empirical support for the efficiency of well-designed grammar instruction online in tertiary EFL contexts and highlight its possible value for curriculum enhancement in health science education.

Keywords: Grammar Competence; Online Grammar Instruction; Elearning-Learning; Academic Writing, Health Science Students