

The relationship of writing beliefs to quality and understanding in STEM and non-STEM writing

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Individual differences in writing, such as motivational factors and transactional (process focused) and transmissional (content focused) writing beliefs, have been shown to affect writing quality and discovery through writing. Research on writing quality and discovery has focused on writing beliefs, gender, writing mode and text length. However, the interaction between writing beliefs, gender and writing mode within disciplines remains under-explored in the writing quality literature. This study addresses this lacuna by examining writing beliefs as predictors of writing quality and understanding after writing in STEM and non-STEM disciplines. It also explored gender differences and mode of writing (typed versus longhand). Participants were undergraduates (N = 100; mean age = 21; female = 76) from three universities in Ireland. They completed five online questionnaires: Writing Beliefs Inventory; Writing Apprehension Scale; Short Computer Anxiety Scale; Social Media Engagement Questionnaire; General Self-Efficacy Scale. Participants wrote two short essays, typed and handwritten, in person, with order counterbalanced. Writing quality, word count and self-rated understanding after writing were measured. There were no significant differences between STEM and non-STEM across any of the measures. Transactional (but not transmissional) beliefs and word count were significant predictors of writing quality in the handwritten condition. Word count was the only predictor of quality in the typed condition. In both the handwritten and typed conditions, word count was the only predictor of understanding after writing. Implications for modality-specific approaches to writing research and instruction are discussed.