

Familiarity and interest in science and its relationship with reading comprehension in future Spanish teachers

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Abstract

There is a deficiency of conceptual understanding concerning the science process skills among pre-service teachers in Spain. Previous studies conducted across 39 public universities in the country have revealed a scarcity of national or regional initiatives aimed at enhancing STEM knowledge within initial teacher education programs. Consequently, it is relevant to comprehend the factors contributing to this situation and identify effective actions to address it. To this end, the present study investigates the impact of Familiarity and Interest in science, combined with Self-efficacy, Anxiety for task, and Autoregulation (as well as other learning strategies), on future teachers' science knowledge. In addition, the study explores the relationship between these factors and reading comprehension skills, which is a crucial component according to the scientific literature.

Validated tests and a science-reading task specifically developed for this study were utilized to assess a sample of 200 participants. The analysis yielded some interesting findings, indicating that both the time spent reading and the time spent searching for specific parts of the text (both related to reading comprehension) increased as self-efficacy decreased and anxiety about reading increased. task.

These results emphasize the importance of considering these interrelations when designing novel perspectives for science learning in pre-service teacher education. By incorporating strategies to enhance familiarity, interest, self-efficacy, and autoregulation, while mitigating task-related anxiety, science education programs can better equip future teachers with the necessary knowledge and skills to effectively teach science in the classroom.

Keywords: Science Education, Familiarity, Interest, Self-efficacy, Reading-compenhension