

Helping Pre-service Elementary Teachers Write Scientific Arguments and Understand Their Connection to the Common Core State Standards

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Writing during school science instruction using tasks that model how practicing scientists write can aid students' learning about science and writing and help teachers connect hands-on science instruction to the Common Core State Standards for English Language Arts (CCSS). This essay reflects on how pre-service teachers in a science education pedagogy course utilized argumentative writing, both with elementary students to whom they taught science for a week and also in their own science notebooks. It also describes the implications of that writing for these teachers' future elementary students. Additionally, the essay makes connections between science instruction and the CCSS in order to highlight the importance of pre-service teachers learning argumentative writing as part of education pedagogy. The findings of the two-year study suggest the need for educators to be more explicit in explaining to pre-service teachers the connections between the nature of learning in science and how such learning can be accomplished through writing. The findings also suggest that more emphasis needs to be placed on helping pre-service teachers understand the rationale for argument in science, the role of alternative explanations, and the elements of a strong argument.

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