

Worksheets can aid non-science majors in understanding primary scientific literature

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INTRODUCTION: Primary scientific literature (PSL) is a source of information of what scientists are researching. Most universities do not require students to read PSL. My lab has partnered with the Science in the Classroom project, which features annotated PSL, to further understand how students interact with PSL. Research has shown that worksheets help students by providing guided questions to assist students in understand course content. My research question incorporates both annotated PSL and worksheets that contain crossword puzzles and data analysis. I predict that combining these techniques into one single intervention will result in both Biology and non-biology majors having more success with reading PSL.

METHODS: I created three different worksheets and an accompanying questionnaire in order to investigate student's preference regarding worksheets and how useful they are. One group of students were biology majors (n=4) and the other was non-biology majors (n=14). Students read an annotated PSL article and were asked to complete a questionnaire. Students were then assigned worksheets to complete. Once completed, students were asked to answer the final portion of the questionnaire which asked them about how beneficial they deemed their worksheet to be.

RESULTS: Science majors gave the same responses before and after the worksheet was completed, indicating that the worksheet did not help them understand the PSL article further. However, non-science majors showed significant improvement in understanding the PSL article after completing the worksheet. All students indicated on the questionnaire that they found all the worksheets useful.

CONCLUSION: This study suggests that worksheets can be beneficial for undergraduate introductory science courses that use PSL. This would help develop the skills needed for any future scientist as well as spark interest in science and how it is relevant in the word today.