

With the help of the Honors College's funding, I have been able to complete a psychology project that presents a novel and somewhat revolutionary approach to mathematics pedagogy that redefines what it means to learn from our mistakes. The funding was used to pay my own wages over the course of the research project. Over the course of a year, I have conducted a project where students were exposed to a litany of geometric word problem worked examples and made to elaborate on the problem-solving steps. While some participants viewed wholly correct information, others viewed completely erroneous information. Others still saw a mix of information, where aspects of the problem were incorrect while others were accurate. In each condition—Correct, Incorrect, and Mixed—students were asked to elaborate and explain the problem steps that yielded the final result. We found that students who viewed only incorrect information actually outperformed their peers in the other two conditions on a geometric posttest. This work supports prior research which outlines the benefit of erroneous worked examples while adding a new intervention through geometry.

The finding through the college allowed me not only to carry this work into a presentation at the CEPA/Psi Chi research conference but also carry the data into a full-fledged honors thesis which I will soon be defending. Needless to say, these opportunities were formed in no short part due to the support of the honors college. After completing the conference, I am more confident and more clear in my intellectual ideas and future goals. I am moreover ready to go to other professional conferences and present on further work. Finally, because of my work, I won two research awards at Mississippi State: 1st place for the 3Min research pitch and 2nd place in my departmental award competition.