

Another Advance In

STEM Education



Iowa State University informing decision-makers about research in Science–Technology–Engineering–Mathematics Education

Humanizing science improves post-secondary education

Stories dispel myths, increase students' interest in science

Michael Clough is dispelling students' misconceptions about science and increasing their interest in scientific careers by producing historical short stories that accurately portray the field.

“We want students to see science as something that they might want to do,” said Clough, an associate professor in curriculum and instruction at Iowa State University. “We always talk about how we need more people in science, and there’s always been this complacent blaming of the K-12 [system for not getting students excited about science]. But [we’re] now starting to tackle head-on the hemorrhaging that’s happening at universities.”

Clough and Iowa State colleagues in several science areas are developing 30 stories equally divided among the disciplines of astronomy, biology, chemistry, geology, and physics. Several of the stories have already been assigned as readings for introductory science courses at Iowa State – and the concept is generating interest around the country.

“We wanted to create historical short stories that would address the science content, but also address other questions,” Clough said. “How did these ideas come to be investigated? How were they developed? How were they eventually accepted?”

Funded by the National Science Foundation, the project aims to overcome particular misconceptions that Clough encountered during his six years as a science teacher. These include the fallacies that science is devoid of creativity and that data tells scientists what to think. “If science really did work like school science implies that it does, nobody would ever major in science,” Clough said. “The fun part of science is the doing.”

Clough surveyed science majors who had taken classes in which his historical short stories were a featured aspect of the curriculum. A statistically significant proportion (37 percent) of those students reported that their interest in the field had increased as a result of the stories.

“That’s exciting because we know that we lose really sharp people,” Clough said. “As they go through their undergraduate science courses, they decide that science maybe isn’t what they want to do. If we can get more of those people more interested in science – seeing what it really is – then we can have an effect on this need for more people in the STEM fields.”

For more information

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