Public Abstract
First Name:Linh
Middle Name:To
Last Name:Ngo
Adviser's First Name:Miriam
Adviser's Last Name:Golomb
Co-Adviser's First Name:Marcelle
Co-Adviser's Last Name:Siegel
Graduation Term:SP 2017
Department:Biological Sciences
Degree:MA
Title:Patient stories in life sciences and society courses: A versatile teaching tool

Narratives are widely used instructional tools, and a growing body of evidence supports their positive impact on learning. In the training of health professionals, the inclusion of narratives has been recognized as a powerful approach, known as narrative medicine, to foster empathy, memory, and reasoning skills. While there is substantial research on narrative-based teaching practice in medical education, little is known about how college instructors use narratives to teach undergraduate life science courses. Is it feasible to use narratives to teach science in college classroom? In which contexts do narratives become a useful teaching approach? How instructors adapt narrative approach for effective teaching? What factors influence the implementations of narrative approach? These are the guiding questions for this study. We use a qualitative methodology that combines observation of classroom activities and interviews with instructors to address research questions. Particularly, this research focused on narratives that incorporate experience from patients who are affected by genetic conditions.

College-level courses that are at the intersection between life sciences and society are crucial in teaching science literacy and critical thinking to both majors and nonmajors. This study explored the practice of narratives in two college courses, Genetics and Society (BIOSC 3050) and Biotechnology in Society (BIOCHM 2112), each of which combines science with social context. The two courses differed in student population and course design. Most students in BIOSC 3050 were life-science majors in junior and senior classes, while those in BIOCHM 2112 were non-majors of multiple class standings. BIOSC 3050 is a writing-intensive course, whereas BIOCHM 2112 is a moderately-paced course in which the majority of class time was devoted to student discussions. The differences in student populations and course design between the two courses provided an opportunity for a comparative study on teaching and learning with narratives.

Our findings indicate that patient narratives are used as an effective and versatile teaching tool in the two surveyed courses. Notably, both instructors incorporated stories in their classroom to teach decision-making and to illuminate real-world connections. As a teaching tool, stories make science real, relevant, and relatable to students. Teaching students to make connections between what they learn and their own experiences is crucial to improve science literacy and social responsibility. By using stories, the instructors were able to introduce new perspectives that are different from those of students, yet allow them to use their own values to make decisions. Stories, when used in combination with thinking prompts, provide a frame to teach decision making without requiring the instructors to assume an authoritative role.

Though the two courses are markedly different in student backgrounds and instructional models, there are strong parallels in their objectives. Both courses aim at helping students be able to make informed decisions based on knowledge and evidence. Stories are used to achieve this goal in several way. They provide background knowledge that are necessary to explore the topics. They supply facts and evidence that are used to support decisions. They provide realistic contexts when there is no absolute answer, and thus push students to come up with creative solutions. They help students realize and overcome their misconceptions that could lead to ill-informed decisions. These characteristics of stories, as observed in the practice of the two instructors, demonstrate that they are an effective teaching tool.