Educating for Responsible Conduct of Research in Higher Education
(Poster)

Gizell Green

Technion – Israel Institute of Technology

ggrin@campus.technion.ac.il

Miri Barak

Technion – Israel Institute of Technology

bmiriam@technion.ac.il

Abstract

In the past decade, an increasing number of cases of research misconduct were reported in the news, attracting negative publicity to higher education research institutions worldwide (Kornfeld, 2012; Hwang, et al., 2005; Resnik, 2005). Consequently, many institutions recognized that it is important not only to amend regulations, but also to educate novice researchers about responsible conduct of research (RCR) (Kalichman, 2014; Resnik, 2005). They also recognized the need to incorporate advanced learning technologies for promoting flexible and active learning among students (Barak, 2012; Barak, Harward, Kocur & Lerman, 2007).   Following this ideas, the goal of this study was to examine graduate students' expectations about a course on ethics of research and their initial conceptual understanding of RCR. An exploratory research was conducted among 214 MSc and PhD students in science and engineering research tracks, applying semi-structured interviews and an online questionnaire. Findings indicated that graduate students have high expectations from an RCR course; however, their initial understanding of concepts in the realm of research ethics was at a medium level. Although almost half of the graduate students were able to correctly explain and provide examples for RCR concepts, there is still a need to progress from medium to high levels of understanding and to provide indication for suitable application. The graduate students asserted that researchers should be able to identify and be aware of the implications of their research actions. They indicated the importance of learning an RCR course as part of their graduate studies, and that the course should be delivered online to allow flexibility in preparation and submission of assignments. On one hand, students have basic knowledge and high expectations regarding RCR awareness and actions; on the other hand, there is still a need for deepening RCR understanding and promoting its implementation in the laboratories. In order to meet the students' expectations and the academic requirements, we suggest shifting RCR education from individual content-based training to collaborative, context- and case-based leaning. In this study we present the C3 model and its potential to enhance ethical behavior among science and engineering researchers.

Keywords: Conceptual understanding, Distance learning, Higher education, Online course, Responsible conduct of research.

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