### Chapter 86

### Challenges in Ethics Education: A Process and Content Analysis

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### **ABSTRACT**

Ethics, broadly defined, is having the integrity to act in a moral and civil manner. It calls for both organizations and individuals to act responsibly and with some trust. This chapter describes a collaborative and cooperative initiative to assess the effectiveness of research ethics education. A pre- and post-survey of over 200 graduate researchers in seven doctoral offering institutions of the North Carolina University System who participated in the open seminar research ethics course showed significant improvement on knowledge and attitude about ethics but did not show improvement in ethical reasoning skills assessment. Compared to the control group, these findings lead researchers to the conclusions that effective ethics education and training may be improved by developing programs that create a community of supportive peers and mentors rather than individual training designed to effect compliance regulations and codes of conduct.

#### INTRODUCTION

"To Educate the Mind without the morals is to educate a menace to the society." -President Theodore Roosevelt

Ethics and ethical behavior are defined as application of moral values and professional codes of conduct by individuals and organizations. Who determines what is ethical and what is not is an ongoing question? Can ethics or ethical behavior be taught? If yes, how and what do we teach? How do individuals acquire morals and also how can

one measure or assess morality? As President Roosevelt mentioned in the opening quote, moral education is critical for the health and development of the society and thus the need to continue the discussions on ethics education and increase the effort to find a common ground to the diverse interpretations and of the ethics conception and its implications.

Education and training for appropriate conduct of research and practice has been a major challenge in the ethics discipline. Major areas of ethical concerns include but not limited to the medical field (abortion, torture, euthanasia,

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stem cell research, animal and human rights), to organizations' responsibility (environmental protection, employee relations, consumerism, leadership transparency, etc.) and research processes (research design, responsible conduct of research (plagiarism, fabrication, falsification), data analysis, publication, etc. Academically, ethical issues exist across the disciplines, from education, sociology, management, psychology, engineering and other STEM disciplines.

Current challenges in responsible professional practices tend to increase with the growing number of minority and international personnel who join research institutions with limited research ethics training. This situation makes ethics training more complex as it introduces a cross-cultural issue. Also, the increase in science and engineering occupations and the need for effective research and development among organization present further need for appropriate innovative training programs. However, there is limited funding to train and educate these researchers and workers as indicated by the National Science Foundation's Science and Engineering indication report (2014).

It is difficult to determine the critical point when ethics education and training materials becomes appropriate and effective. There is an increasing trend in cheating amongst high school and college students and although many school systems offer curriculum in character education while colleges and universities teach courses in ethics at all disciplines, studies indicate that these programs, including the current Responsible Conduct of Research (RCR) training and education, may be at best, inadequate and ineffective (Fisher, 2009; Comstock 2008) The National Science foundation's (NSF) ethical concerns with a focus on responsible professional services' compliance with rules and regulations, peer review rules, mentor/mentee responsibilities, human subject and animal welfare regulations, collaborative research practices, publication/authorship practices, resource management and many more has failed to impact research ethical conduct. In this era of nanoscience, nontechnology, telecommunication, data transmission/sharing/acquisition/management and ownership, the complexity of ethical concerns at both the micro and macro levels have increased the need for a more innovative training materials and procedures (Udoka & Anyansi-Archibong, 2013; 2010). Funding agencies such as National Science Foundation (NSF) and National Institute of Humanities (NIH) are looking for ways to reduce incidences of research misconduct and other unethical issues in research.

The funding agencies in collaboration with higher education research institutions are seeking ways to improve responsible research training that contributes knowledge, analytic and decision making skills in the context of an increasingly globalized society (Fisher, 2009). Recently, an article on the chronicle of high education (Basken, 2014) profiled "a case against the University of California Chemistry professor over the accidental death of a student researcher. At the basis of this case is issue of inadequate training of inexperienced lab attendant. According to the article; "Prosecutors offered evidence that the young lab attendant was given little training and no protective lab coat" (Basken, 2014).) In the article titled "Liability in the Lab: UCLA Case Sends a signal to Universities", the author describes the acceptance of the penalties on the Professor Patrick G. Harran that included "800 hours of community service and the threat of resumed legal proceedings in the event of any new lab-safety violations over the next five years" This incidence was a bad spot for the university and many safety advocates agree that "university research laboratories still remain more dangerous than their corporate counterparts". Another incident of the death of a technician occurred as a result of explosion in a petroleum-engineering lab on the Texas A&M University campus in Qatar (Basken, 2014) and again, there was another recent science lab-explosion that injured a University of Minnesota graduate student.

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