

Teaching Ethics in a Forensic Science Curriculum

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ABSTRACT: Higher education programs in forensic science seldom devote attention to issues of professional ethics in their curricula. This paper describes the results of a pilot study inquiring into the attitudes of undergraduate students before and after exposure to forensic science ethical standards and problems. Recommendations are offered concerning those terms and concepts with which students should be familiar and the skills they need to acquire.

KEYWORDS: forensic science, symposium, education, ethics

Background

The field of forensic science encompasses a wide range of natural and behavioral science disciplines directed toward the resolution of legal and social controversies through application of scientific principles and methods of analysis. The growth of the forensic sciences and their acceptance by the legal system reflect both society's reliance on science and technology to solve problems and its belief that physical evidence and scientific testimony are more reliable than other forms of evidence and testimony.

Along with an intricate body of specialized knowledge, a protracted period of education and training, and service to society, one of the hallmarks of a profession is the development and enforcement of a code of ethics [1-4]. Such codes have evolved in the forensic sciences over the past several decades, and address three primary areas: truthfulness, scientific competency, and objectivity.

Truthfulness

- Forensic scientists should not misrepresent their qualifications with respect to education, training, experience, or areas of expertise.
- Forensic scientists should be truthful with respect to their data. There is a clear prohibition against examiners falsifying, exaggerating, or in any way misrepresenting scientific results.

Scientific Competence

- Forensic scientists are expected to have a sound, theoretical understanding of the methods they use and to be technically proficient in their application.

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- Forensic scientists should use only those techniques having proven accuracy and reliability and reject those that do not.

Objectivity

- Forensic scientists should review evidence without preconceptions or bias, and resist pressures that may be applied by case adversaries.
- Forensic scientists are expected to communicate their findings and opinions to nonscientific, legal fact finders so that such persons understand both the strengths and weaknesses of the evidence and its value within the context of the case under review.

Real World Considerations

In spite of acceptance of these ethical principles, educators and professionals recognize that it is sometimes very difficult to adhere strictly to these standards of conduct. Consider the following constraints:

- Forensic scientists function within an adversary system where parties are oftentimes more interested in winning cases than in discovering “truth.”
- Forensic science laboratories commonly have insufficient resources to keep pace with high caseloads, and examiners are not provided with the latest state-of-the-art training and equipment. Such conditions lead to problems in proficiency levels of examiners and an overall unevenness in the quality of results produced by the nation’s laboratories.
- Despite a sincere concern for ethical standards, professionals disagree as to what the proper behavior of a scientist should be in various situations. Responsibilities of individual examiners are sometimes not clear, vis-a-vis the responsibilities of laboratory supervisors, agencies and professional societies.

Real world ethical dilemmas are just that—dilemmas, where individuals are faced with seemingly “no win” situations, and the strictly ethical course of action may jeopardize an examiner’s or a colleague’s employment or standing in the professional community.

Education and Training

Formal degree programs in forensic science have devoted little attention to the teaching or discussion of ethics. As the field has become more scientifically sophisticated and specialized, there has been growing pressure to minimize coursework which does not advance the technical skills of students. Instructors in these programs lack formal training in ethics and may be hesitant to use the lecturn as a vehicle for projecting their own values onto their students.

As students graduate and enter operating laboratories, we find few structured training programs that give trainees much more than superficial exposure to these concepts and conflicts. Students are introduced to some of the more obvious standards of honesty, technical procedures, report writing, and courtroom demeanor, but this instruction largely reflects the philosophy of the particular laboratory or employing agency, and seldom exposes employees to the individual and systemic conflicts one faces in the course of a professional career.

Study Design and Results

This paper reports on the results of a small study intended to capture the attitudes of undergraduate forensic science students toward conditions which might be categorized as potential ethical problems. Students in an introductory course in forensic science were asked (anonymously) how strongly they agreed or disagreed with a series of statements regarding

the competency of forensic scientists, the suitability of the adversary system of criminal justice to find truth and render just decisions, and the appropriateness of having forensic science laboratories function within law enforcement agencies.

After an initial survey of student attitudes, they were presented with information in lectures and readings that described codes of professional conduct and results of research studies describing the performance of laboratories on proficiency tests, conditions which exist within police crime laboratories, and the functioning of the adversary process and how evidence is typically presented in criminal courts. After this material was presented and discussed in the classroom, students were asked to complete a streamlined version of the initial survey instrument. This "after" survey was administered to determine if the material presented in the classroom modified any of the students' attitudes toward the issues of concern.

With respect to competency levels, students are in strong agreement that even qualified forensic scientists will make occasional mistakes and should be required to demonstrate their competencies on proficiency tests. They believe scientists who recognize they are incompetent and fail to take steps to improve their skills are unethical, and that professional associations have a major responsibility to see that its members possess a minimal level of competence. Students strongly *disagree* with statements (1) suggesting quality of results may occasionally have to be sacrificed to keep up with caseload demands or (2) that judges are qualified to evaluate the competency of scientists who may testify in their courtrooms.

Concerning the adversary system of justice, students agree that careful cross-examination of scientific experts is desirable. They take issue with statements that suggest scientists may sometimes have to inflate their qualifications to be credible, and that full laboratory reports should be prepared only in cases where defendants refuse to plead guilty and demand a trial. They also disagree with suggestions that scientists owe their primary allegiance to their employer and that their fees should ever be contingent upon the side for which they testify winning the case.

When presented with statements concerning scientists working within police agencies, students believe that nonsworn scientists can remain objective working in a police organization, and that police evidence technicians can be expected to conduct complete, objective searches for evidence at scenes of crimes. They do not think it good idea for scientists to be sworn police officers, however. They also strongly disagree with the suggestion that police supervisors are entitled to ask scientists to write reports in such a way to increase the chances a defendant will be convicted.

By and large, the attitudes of students are consistent with the profession's views as to what does and does not constitute acceptable professional behavior. There are few surprises with respect to their basic beliefs. Secondly, it was found that the attitudes of students changed very little as a result of the exposure to the literature in this area. The changes that did occur might be best summarized as either an increase or decrease in intensity of conviction about an issue; in no case was there a reversal of opinion.

Two examples illustrate these findings. Students are initially reluctant to agree with statements calling on a scientist to reject evidence submitted by a police officer where the scientist suspects the evidence has been tampered with. Nor are students in agreement with a statement calling on a scientist to notify the judge when learning a prosecutor does not intend to use a scientific report that might exonerate a defendant. Similarly, students disagree that scientists should notify a professional association when learning that a fellow scientist has falsified his credentials. After exposure to lectures, readings, and discussion, students are not as inclined to disagree with such actions, although they still do not agree that such steps are warranted. Another area in which there is a significant difference in before and after assessments concerns the practice of judges assessing the qualifications of scientists and the advisability of examiners being sworn police officers. Students think both to be poor practices to begin with, but are stronger in their beliefs after reviewing some of the literature on the subject.

Discussion

The above inventory and discussion with students prompted me to think more about the desirability of offering such instruction in an academic program, the goals and content of such instruction, and the qualifications of one who should teach it. Publications of the Hastings Center, an institute devoted to the study of professional ethics and the teaching of ethics in undergraduate and professional schools, proved helpful in this review. One of its publications, *The Teaching of Ethics in Higher Education* [5], was of particular assistance. The following is a brief overview of several of the key areas identified in this publication.

Terms and Concepts

There is a need to expose students to the official ethical codes of the field and to familiarize students with such key terms and concepts in the forensic sciences as scientific truth, objectivity, justice, and professionalism. Forensic scientists employ such terms on a routine basis, but it would be helpful to expose students to what various scholars and experts have written about such concepts. Similarly, students should be exposed to differing views as to what constitutes a "balanced" presentation of scientific results or the "strengths and weaknesses" of the evidence, what it means not to "exceed the limits of their data," "reasonable scientific certainty," or the difference between such terms as "consistent with" and a "match." The fact that our field lacks a common understanding of such concepts partly explains the problems it has experienced in attaining true professional status.

Analytical Skills

Students should develop a sensitivity to and skills in recognizing ethical problems and how to articulate them. They need to be introduced to the broad range of moral and ethical problems they are likely to encounter in their professional careers. Students also need to learn how to go about analyzing and resolving moral and ethical problems and how to defend (or critique) a position taken by another. Important, too, is for instructors to be careful not to indoctrinate students exclusively with their own values, but present a full range of alternatives. Consequently, the purpose of such instruction should not be to change the beliefs or values of students, but to expose them to the best sources of literature and to provide them with the skills to identify, articulate, and hopefully, resolve such problems.

Evaluation

The literature suggests that in lieu of indoctrination, educators need to (1) teach students to discriminate, recognize, and describe (verbally and in writing) problems; (2) increase student understanding of the reasons underlying basic moral and ethical principles; (3) cultivate the ability in students to analyze problem situations and arrive at rational, defensible decisions; and, finally, (4) develop within students the necessary skills and self-confidence so they are equipped to resolve ethical problems.

Teaching Qualifications

Are traditionally trained forensic science academics qualified to teach this material? Probably not. It appears that instructors should receive some formal training in ethics in addition to preparation in their basic and applied science specialties. Team teaching is an alternative whereby an instructor in forensic science teams with a faculty member knowledgeable in ethics to design and teach a course in applied forensic science ethics.

Curricular Concerns

Professional associations of forensic science have taken the major responsibility to date to develop codes of ethics and to organize scientific paper sessions and panel discussions of various ethical concerns. Operating agencies have also attempted to offer basic training to new employees. Educational institutions have done very little in the way of formalized instruction. As we all know, however, instructors do discuss such matters in their classes, usually via stories of actual cases, anecdotes, and other ad hoc discussions. This so-called pervasive approach, where the individual values of instructors are imparted throughout all the courses of a curriculum, is probably insufficient since there is little formal preparation or theoretical basis to the instruction, an absence of literature, and no way to review or evaluate what is taught.

There is a need to offer at least one formal course in ethical and professional matters to students pursuing a degree in forensic science. If we examine allied disciplines of law, medicine, journalism, and public health, they have all developed such courses in recent years. The ethics material might be made part of a broader course addressing the history, goals, structure, and responsibilities of the profession. Providing this basic background to students should assist them in appreciating the context in which these difficult moral and professional choices are encountered. The course should contain a balance of material focusing on case studies, theory, and methods for recognizing and analyzing problems. Students should be taught the skills to generalize beyond the individual case studies, to recognize and articulate the principle at issue, and to arrive at a fair and defensible solution.

As stated in the Hastings Center's *Teaching of Ethics* report, the goals should be to develop "the ability to recognize and identify ethical and value issues in various contexts, the development of analytical skills, the mastery of a certain amount of ethical and value theory, and the ability to apply such theory and methods to specific problems or matters of moral and value dispute." I hope forensic science educators will work to advance our thinking and teaching in this most important area.

References

- [1] Starrs, J. E., "The Ethical Obligations of the Forensic Scientist in the Criminal Justice System," *Journal of the AOAC*, Vol. 54, No. 4, 1971, pp. 906-914.
- [2] Curran, W. J., "Ethical Standards," in *Modern Legal Medicine, Psychiatry and Forensic Science*, W. J. Curran, A. L. McGarry, and C. S. Petty, Eds., F. A. Davis Co., Philadelphia, 1980.
- [3] Schroeder, O. C., Jr., "Ethical and Moral Dimensions in Forensic Science," in *Forensic Science*, 2nd ed., G. Davies, Ed., American Chemical Society, Washington, DC, 1986.
- [4] Peterson, J. L., "Ethical Issues in the Collection, Examination, and Use of Physical Evidence," in *Forensic Science*, 2nd ed., G. Davies, Ed., American Chemical Society, Washington, DC, 1986.
- [5] *The Teaching of Ethics in Higher Education*, A Report by the Hastings Center, Hastings-on-the-Hudson, NY, 1980.

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