ACADEMIC INTEGRITY: DEVELOPING PROFESSIONAL AND ETHICAL RESPONSIBILITY IN THE CLASSROOM

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ABSTRACT

The vast majority of technology programs are working to prepare for their first accreditation visit under the Technology Accreditation Commission, 2003 TC2K accreditation criteria. Similarly, engineering programs are undergoing a second iteration under the Engineering Accreditation Commission's EC2000 accreditation criteria. Both sets of general criteria require that programs demonstrate that graduates have an understanding of professional and ethical responsibilities. This paper discusses building a culture to support professional and ethical behavior at Purdue University Calumet and resources used by the authors in their technical classes to teach and assess that ABET outcome.

1. BUILDING A CULTURE OF ACADEMIC INTEGRITY

In his popular book, "The Cheating Culture," David Callahan suggests that "An increase in cheating reflects deep anxiety and insecurity in America nowadays, desperation even, as well as arrogance among the rich and cynicism among ordinary people." (Callahan, 2004)   A full segment of ABC's 20/20 television program on student cheating contained the following quotes:

- "They're basically decent kids whose values are being totally corrupted by a world which is sanctioning stuff that even they know is wrong. But they can't understand why everybody allows it."
- "Even if the world were more ethical, students still have reasons for cheating. Some said they cheat because they're graded on a curve — so that their score is directly affected by how other students do."
- "There's other people getting better grades than me and they're cheating. Why am I not going to cheat? It's kind of almost stupid if you don't."   The pressure for good grades is high.
- "Grades can determine your future, and if you fail this then you're not going on to college, you're going to work at McDonald's and live out of a car." (ABC, 2004)

To address these problems in higher education, the Center for Academic Integrity was established in 1992. Now located at Duke University, the Center has grown to include over 320 colleges and universities across the United States and Canada.

In the fall of 2003, Purdue University Calumet created an Academic Integrity Task Force to explore the development of a campus-wide Honor Code and establish criteria for its implementation and stewardship. The Task Force researched honor systems from colleges and universities around the country and found the Center for Academic Integrity to be an excellent resource. An Honor Pledge, an Honor Code, see Figure 1, and an Academic Integrity Handbook were created by the Task Force and have been approved by the Faculty Senate. Realizing that the student's initial experience with academic integrity takes place in the classroom, seminars have been developed to help the faculty to develop a culture of honesty.

PLEDGE
In accordance with the Honor code, I will not engage in dishonesty in my academic activities, and I will not tolerate such dishonesty by other students.

HONOR CODE
I understand that academic dishonesty will not be tolerated at Purdue University Calumet. I am here to learn. Through learning, I will strive to become a better person and a more valuable contributor to society. I understand that dishonesty in the classroom, through cheating, plagiarism or other dishonest acts, defeats this purpose and disgraces the mission and quality of a Purdue University Calumet education. Therefore, I make the following pledge: in accordance with the Honor Code, I will not engage in dishonesty in my academic activities, and I will not tolerate such dishonesty by other students.
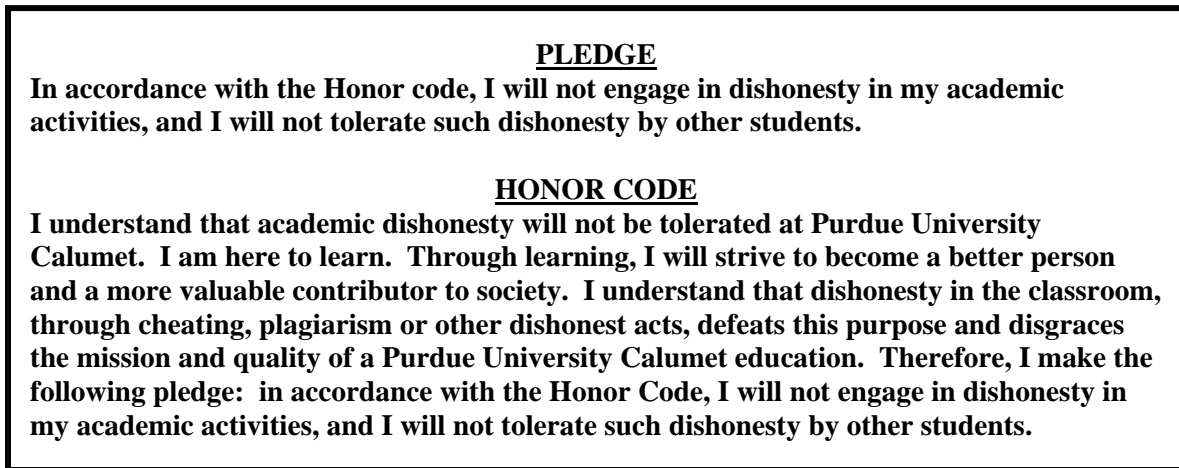

Figure 1: Purdue University Calumet honor pledge and code.

Studies of colleges and universities with honor codes indicate that less cheating exists than at schools without such codes. (McCabe and Trevino, 2002). Along with honor codes, the establishment of an environment of integrity is essential. Many schools report a two or three year time frame to begin implementing an honor system. In December of 2003, Purdue University Calumet (PUC) convened an Academic Integrity Task Force to deal with an increase in the number of cases of cheating dealt with by the Dean of Students office. The goals of the Task Force were (1) to develop a program to reduce or eliminate student cheating on Campus and (2) consistent with the strategic plan of the Campus, to help raise student commitment to integrity to the next level by changing the climate of the campus in a way that encourages integrity as a significant part of the education of all Purdue University Calumet students.

As the Academic Integrity Task Force (AITF) began its work, they examined a wide range of honor codes from around the United States. Guest speakers were invited to campus to share their thoughts on academic integrity and work with the AITF to evaluate possible alternative programs and honor codes. As work on our own code was undertaken by the Task Force, reports were made to the faculty Senate of PUC. The members of the Task Force believed that the ultimate responsibility for Academic Integrity should reside with a Student Honor Council. The administration of the honor code and procedures would be administered through a permanent sub-committee of the Faculty Senate. A framed copy of the Pledge will appear prominently in

each classroom and laboratory on the PUC campus. The Pledge will also appear on other pertinent University documents including applications for admission.

The Handbook addresses the value of integrity and has a line-by-line explanation of the Code to reduce any misunderstandings of intent and purpose. It also gives definitions and examples of cheating. The rights and responsibilities of students, faculty, administration, Faculty Senate, and the Honor Council are outlined, as well as procedures for enforcement. A key element, discussed in the Handbook, is the need for a series of workshops for faculty. Students come to PUC to fulfill the requirements of the classroom and laboratory. It is in the classroom and laboratory in which academic integrity must be sustained. Moreover, professors across campus must be consistent in their stewardship of the Honor Code.

On September 26, 2004, the work of the Task Force was presented to the Faculty Convocation and on October 6, 2004, the Faculty Senate unanimously approved a resolution adopting the Pledge, the Honor Code, and the concept of a Handbook. The resolution further established a permanent subordinate committee under the Student Affairs Committee. This subordinate committee will address the updating of the code and the continuous improvement of its administration. Its membership will include a representative from the Dean of Students Office, and other members of the subcommittee. A workshop is being developed to assist faculty in implementing the honor system.

The purposes for the workshop include informing the faculty of appropriate procedures to follow in cases of academic dishonesty and to establish consistency in enforcement. According to McCabe and Trevino (2002), many students who cheat blame professors for failing to enforce academic integrity policies in their classrooms. Some students who would not be disposed to cheat are tempted to level the playing field when the guilty ones get away with it. The professors must be clear in their instructions regarding team vs. individual work and be certain that students understand how to properly cite the work of others. Professors who typically would avoid confrontation by turning away from obvious transgressions must be encouraged to put aside reticence and assist in strengthening the campus-wide effort.

2. TEACHING ETHICS IN A FRESHMAN EXPERIENCE COURSE

The engineering programs at Purdue University Calumet require a senior level "Ethics for the Professions" course taught by the philosophy department to satisfy the Engineering Accreditation Commission (EAC) of ABET EC2000 outcome that their graduates have "(f) an understanding of professional and ethical responsibility." The technology programs at Purdue University Calumet, however, are configured to be 2 + 2 programs. Each discipline has an associate's as well as a bachelor's degree. To satisfy the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET) TC2K general criteria, each degree program must demonstrate that graduates have "(i) an ability to understand professional, ethical and social responsibilities." A senior level philosophy course would be useless for our AS degree program. We also had to accommodate a new added general education graduation requirement of a freshman experience course that our university adopted at about the same time in order to promote retention.

The MET program modified an existing required freshman level computer skills course to create an "Introduction to Engineering Technology" course with ethics as one of the course objectives. The textbook by Stephen Cheshier (1998) that was chosen, includes material on student conduct and academic dishonesty. It is natural to cover personal and professional ethics at the same time. Bekir, *et al.*, 2004 and Sorby, *et al.*, 2001 recommend the Dilbert Game (an Ethics Challenge) developed by Lockheed Martin which they use in their freshman experience courses. We were not able to find this resource commercially. Other authors such as Catalano (2004) use video case studies such as *Gilbane Gold,* (NSPE, 1989) and *Incident at Morales,* (NIEE, 2003) to get student interest and discussion started. We are instead planning to use the free American Society of Civil Engineers PowerPoint, "Guidance on Licensing and Ethical Responsibilities," which has related PDF student material and an instructor's guide on-line (NIEE, 2001). Another set of resources on ethics that can be readily moved to the class room has been developed at the University of Alabama for the Foundation Coalition (Stern, 2000) under the sponsorship of the NSF.

We used the ethics module from the American Society of Mechanical Engineers (ASME, 2003) Professional Practice Curriculum (PPC) available free on the Internet during the fall, 2004 semester. This is an excellent set of materials which includes a multiple choice quiz, glossary, resource list, and link to the ASME Ethics Center as part of the material. After reading the text material on the site, students took a multiple choice test consisting of questions drawn from the PPC text material, quiz, and some local content developed by the Academic Integrity Task Force. Another source of quiz questions might be from the true and false "NSPE Code of Ethics Examination" (NSPE, 2005). Vista, our course management system by WebCT was used to deliver and grade the quiz as well as provide feedback to the students. Vista also posted the grade to an on-line grade book and calculated statistics on student performance for each question. At the end of the semester students fill out an on-line Vista survey asking how well they mastered the course objectives as well as asking them to evaluate the course and instructor. This gives a second assessment measure to demonstrate the extent the ethics outcome is being met. The average grade on the ethics test was 84.5%. The average rating given by students for the survey question: "A specific objective of this course is to develop an understanding of professional and ethical responsibilities. How well did the course meet this objective?" was 4.21 on a standard Likert five point scale.

3. USING TECHNOLOGY TO PREVENT PLAGIARISM

In its capstone course, in the Department of Construction Management & Engineering Technologies (CMET) at PUC, general management theory is presented in the context of the basic management functions. (Evans, 1995). In "The Tempest," Shakespeare suggests that history is prologue, thus current management theory is seen as developing from the Industrial Revolution. Students are required to submit a one page commentary on the Industrial Revolution answering the fundamental who, what, where, when, and why questions. In the past, this exercise allowed rampant cutting and pasting from internet sources. Recently, however, the students were told that their work would be submitted to Turnitin.com for review. This software compares a student's paper with a vast number of previously submitted papers and internet sites to search for plagiarism.

Not only does the program tally the percentage of the paper that was plagiarized, but will go to the internet site, display the original publication, and highlight the text in its original format. All this can be printed out as evidence of cheating. In the recent exercise, there were only minor infractions and most of those were due to misplaced quotation marks. All citations were properly acknowledged and students thought critically in their analyses. WebCT's Vista, is planning to incorporate a seamless connection with Turnitin so that student papers will be reviewed for plagiarism before being assessed for content.

As the technology of memory calculators, PDAs, and cell phones make "cribbing" hard to detect, it can only be hoped that other technologies will render them ineffective as cheating tools. Creating an environment of trust and respect should not be based solely on catching transgressors, but rather on instilling a set of values that should be associated with academe's historic pursuit of truth.

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