A Semester Project to Promote Increased Understanding of Ethical Principles

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Abstract

Ethics and ethical dilemmas are continuing concerns in academia, the workplace and society in general. Consequently, it's important for faculty to teach students about ethical principles to provide them of the ethical understanding they will need to be effective in their future careers. Having taught courses on creative problem solving and ethics for years, the author developed an Ethical Principle Project that required students to use their creativity to promote learning about ethics and develop an increased understanding of ethical principles. This Project was composed of several components, including a requirement for each student to create a physical model of an ethical principle. In the paper, the author described the major components of the Ethical Principle Project. The paper identified the benefits derived from using the Project as a way to promote learning and understanding of ethical principles. Over several semesters, the author evaluated the various components of the Project, along with providing Pretest and Posttest. Also, the paper provided guidelines that can be used by engineering, technology and business faculty to develop similar projects/assignments to facilitate ethical understanding.

Keywords
Ethics Brief, Ethical Principle Project (EPP), Ethical Principle Model (EPM)

1. Introduction

In the twenty-first century, all graduates, including those in engineering, technology and business will encounter ethical dilemmas in the workplace (Trevino and Nelson, 2014; Besterfield and Shuman, 2016; Travris and Aronson, 2007). Therefore, it's important for students, in all majors, to learn about ethics and have an understanding of ethical principles when making decisions and solving problems (Trevino and Nelson, 2014; Besterfield and Shuman, 2016; Travris and Aronson, 2007; Mancusi-Shreve, 2017; Mumford et al., 2010). When interacting with customers, clients, co-workers, and employers, there exist the potential for complex and conflicting ethical dilemmas to develop (De Janasz et al., 2015; Donaldson and Werhane, 2008). Ethical principles, such as honesty, fairness, trust, respect, and justice, need to be considered and evaluated when dealing with different situations.

Students will have a better chance for effectively managing future ethical issues if they are prepared and develop proactive strategies (Mancusi-Shreve, 2017). Fortunately, many workplace ethical issues are predictable and can be managed with proper education and training (Trevino and Nelson, 2014; Hansen, 2019). Table 1 lists why ethical understanding is important for students (Trevino and Nelson, 2014; De Janasz et al., 2015; Mancusi-Shreve, 2017; Mahan, 2019).

Table 1. Why ethical understanding is importance for students

1. Individuals have a moral obligation to behave ethically
2. Society (institutions and government) has a moral obligation to act ethically
3. Organizations need to have a positive public imagine and reputation to be successful
4. Ethical behavior is a defense against violating the law
5. Ethical organizations find it easier to attract and retain the best applicants/employees
6. Employee performance is improved via a trusting, fair and respectful work environment
7. Ethical leaders tend to be more effective at influencing employee behavior
8. Ethical organizations attract customers, can charge premium prices and realize more profits

The Ethical Principle Project (EPP), which is the subject of this paper, will help to empower students with the knowledge they will need to effectively address ethical issues in their future careers. For 3 semesters (Spring 2019, Fall 2019 and Spring 2020) the EPP was implemented in the author's creative problem solving course as a semester project.

2. Benefits derived from the ethical principle project

Having taught courses on creativity and presented refereed papers on the subject, the author has advocated the benefits of creative problem solving for years (Lumsdaine et al., 1999; Isaksen et al., 2011; Ocon, 2019; Black, 1995). The development of the EPP was a logical extension and an effective way to combine creative problem solving and ethics to promote ethical understanding (Ocon, 2019; Mumford et al., 2010). Table 2 list the benefits derived from the Ethical Principle Project (Lumsdaine et al., 1999; Isaksen et al., 2011; Ocon, 2019; Zielinski, 2018).

Table 2. Benefits derived from the ethical principle project

• An effective way to learn about ethics
• Highlights the importance of building a physical model to promote the understanding of ethics
• Encourages students to take personal responsibility for ethical behavior
• Helps students recognize that most problems and solutions to problems have ethical implications
• Promotes the use of incubation, intuition, sketching and visualization for understanding and/or developing ideas for problem solving
• Students recognize that everyone has creative potential/ability
• Promotes the use/familiarity with idea generation techniques for problem solving
• Helps students recognize that good ethical behavior can be learned
• Promotes the importance of developing creative thinking skills for career success
• Students recognize that behaving ethically is important for career success
• Promotes the search for multiple solutions for problems
• Students recognize that creative thinking skills can promote the understanding of ethics
• Allows students to use their imaginations to learn about ethics
• Encourages learning about ethics by making the class environment more interesting
• Students have the opportunity to use and develop their communication skills
• The assignment can be used with most courses

3. Components of the ethical principle project

The EPP was composed of 3 primary components that were designed to complement and reinforce each other to help students develop an understanding of ethical principles. Students were constantly reminded of the Project, since the different components were due at different times during the semester (Merrick, 2019). The due dates for the components followed a familiar pattern for projects the author used in the past (Ocon, 2019). For example:

- During the first 8-10 weeks of the semester, students learned about ethics, creativity and the Creative Problem Solving Process (Trevino and Nelson, 2014; Mumford et al., 2010; Lumsdaine et al., 1999; Isaksen et al., 2011; Yovich, 1997). As the semester progressed, students were required to submit the components of the Project at different times. The Ethics Brief was due in Week 10, photos of the Ethical Principle Model (EPM) in Week 12 and the PowerPoint Presentations on the EPM in Week 13.
- Students evaluated each component (Brief, Model, and Presentation) of the Project, along with giving feedback on the Project in general. Tables 6-10 provide a summary of student responses to selected questions related to the Project (components).

The author provided a list of different ethical principles for students to choose for their ethical project. Table 3 lists ethical principles available to students.

Table 3. List of ethical principles

1. Adaptable	9. Fairness	17. Judicious	25. Responsibility
2. Compassion	10. Family Oriented	18. Justice	26. Risk-taking
3. Civility	11. Fiduciary	19. Loyalty	27. Social Utility
4. Competitive	12. Follow the Rules	20. Perceptive	28. Strong Work Ethics
5. Courage	13. Freedom of Speech	21. Perseverance	29. Team-oriented
6. Equal Employment Opportunity	14. Frugal	22. Proactive	30. Whistleblower
7. Emotional Control	15. Imaginative	23. Professionalism	31. Workforce Diversity
8. Empower	16. Integrity	24. Pursuit of Knowledge	32. Workforce Inclusion

3.1 Ethics brief

A major component of the EPP was for students to develop an Ethics Belief. A brief is problem solving tool the author uses with many of his projects/assignments (Ocon, 2019). The brief encouraged students to think about and incubate their chosen ethical principle, and plan the creation of the model and presentation. The author distributed a handout to students which defined and described the purpose of the Ethics Brief. The handout stated that the brief was a creative thinking tool that problem-solvers use to: (1) begin the process of solving a problem (2) stimulate the imagination for creative ideas, and (3) develop and organize ideas for finding solutions. Putting thoughts/ideas into a written brief is an effective way to improve ideas and follow through on solving problems (Makdisi and Makdisi, 2009). Table 4 lists the 13 components of an Ethics Brief (Ocon, 2019).

Table 4. The 13 components of the ethics brief

1. Provide a creative title for the ethical principle
2. Define the ethical principle using a sentence(s), not just a similar word
3. Create a synonym acronym
4. Origin (background information) of the ethical principle
5. Explain why the ethical principle is important today
6. How can the ethical principle be achieved/implemented in the workplace, society and/or personal life
7. The “Problem as Stated”
8. The “Problem as Understood”
9. A written description of the 3-D Model the student is constructing
10. What was the alternative idea for constructing a model of the ethical principle
11. Identify the main idea generation technique(s) used/to be used to stimulate your imagination for the EPM
12. A sketch of the 3-D Model
13. How can the Brief be improved

3.2 Ethical principle model (EPM)

The second major component of the EPP required students to use their creativity to build a physical model on their chosen principle (Ocon, 2019). Building a model encouraged students to continuously think about their ethical principle throughout the semester (Merrick, 2019). The model reinforced the understanding of the principle, while complementing the other components of the Project. From past experience, the author recognized the importance of providing students with some structure, such as by limiting the size of the model and construction materials to be used when building the model (Ocon, 2019). At the same time, these limitations allowed for consistent criteria that helped the author when grading the Project. The model had to be: (1) constructed (at least 70%) of Play-Doh or modeling dough and (2) limited in size, not to exceed 8 inches (height), by 8 inches (width), by 8 inches (length).

3.3 PowerPoint presentation

The last major component of the EPP was a 5-minute PowerPoint Presentation. Students were required to bring the physical model to class, and describe the ethical principle and model. The presentation component of the Project was

designed to, not only reinforce and complement the understanding of the ethical principle, but to also learn about other ethical principles from fellow students giving their presentations.

4. Methodology and Assessment of the EPP

A variety of assessment tools were used to evaluate the effectiveness of the EPP to ensure ethical understanding. The assessment of the Project primarily involved evaluating its major components. The type of assessment instruments used to evaluate the EPP have been used by the author to evaluate past projects and assignments (Ocon, 2019). Over the course of 3 semesters (Spring 2019, Fall 2019 and Spring 2020) the Project was evaluated on how effective it was in promoting the understanding of ethical principles. In addition to assessing the different components of the Project, students were also given a pretest at the beginning of the semester and posttest at the end of the course.

- Hypothesis: if the Ethical Principle Project is implemented, then there will be an increase in student understanding of ethical principles. The average rating results, over 3 semesters, for the 3 components of the EPP on a scale from 1 (strongly disagree) - 5 (strongly agree) will be ≥ 4 (agree) on selective questions. The test results, over 3 semesters, from the average Pretest scores compared to the average Posttest scores will be ≥ 10% increase on selective questions.

Based on the assessment results, the author concluded that the EPP was effective in promoting ethical understanding. Tables 5-10 shows student responses to selected questions on the major components of the Project and summaries of the assessment results.

4.1 Ethics brief-1 assessments

As is true with previous project/assignments, the author evaluated the Brief using two different assessments (Ocon, 2019). The reason the Ethics Brief was evaluated twice reflected the importance for students getting off to a good start on the Project (Makdisi and Makdisi, 2009). The first Ethics Brief (Brief-1) assessment focused on the different components of the Brief, as they related to promoting ethical understanding and the development of the model. The second Brief (Brief-2) compared the effectiveness of the Brief with the other two components (Model and PowerPoint Presentation) of the Project. Table 5 lists selected questions on the Ethics Brief-1.

Table 5. Selected questions on the ethics brief-1

Question 1: *A creative title for the EPM/problem*- is important in promoting ethical understanding, imagination and/or creative problem solving
Question 2: *Define the ethical principle using a sentence(s), not just a similar word*- is important in promoting ethical understanding, imagination and/or creative problem solving
Question 3: *Origin (background information) on the ethical principle*- is important in promoting ethical understanding, imagination and/or creative problem solving
Question 4: *Create a synonym acronym*- is important in promoting ethical understanding, imagination and/or creative problem solving
Question 5: *Explain why the ethical principle is important today*- is important in promoting ethical understanding, imagination and/or creative problem solving
Question 6: *How can the ethical principle be achieved/implemented in the workplace, society and/or personal life*- is important in promoting ethical understanding, imagination and/or creative problem solving
Question 7: *The written description of the 3-D physical model*- is important in promoting ethical understanding, imagination and/or creative problem solving
Question 8. *A sketch (the best idea) of the 3-D model*- is important in promoting ethical understanding, imagination, and/or creative problem solving.

Table 6 provides a summary and comparison of student responses, over 3 semesters, to selected questions on the components of the Ethics Brief-1 for promoting ethical understanding.

Table 6. 3 semester summary and comparison to selected questions on the components of the ethics brief-1 in promoting ethical understanding

Class XXXX (Spring 2019, Fall 2019 and Spring 2020)	**E-Brief (S19)**	**E-Brief (F19)**	**E-Brief (S20)**	**E-Briefs (S19, F19, S20)**
Scale: 1. Strongly Disagree, 2. Disagree, 3. Neither Agree/Disagree, 4. Agree, 5. Strongly Agree	**Average Score**	**Average Score**	**Average Score**	**3 Semester Average Score**
Question 1-Title	4.40	4.41	4.00	4.27
Question 2-Define	4.64	4.59	4.37	4.53
Question 3-Origin	4.12	4.41	3.90	4.14
Question 4-Synonym	4.32	4.18	3.84	4.11
Question 5-Importance	4.60	4.77	4.33	4.57
Question 6-Implement	4.68	4.59	4.52	4.60
Question 7-Description	4.24	3.82	4.32	4.13
Question 8-Sketch	4.40	3.94	3.84	4.06
Number of Students	22	17	19	19

Table 6 showed that the average score, over 3 semesters, for the 8 selected questions on the Ethics Brief-1 components was over 4.0. Any differences in scores between the 3 semesters were insignificant. Based on the student responses to the Brief's evaluation of its components, the author concluded that the Brief-1 was effective in promoting student understanding of ethical principles.

4.2 Selected questions applied to the brief-2, model and presentation

The author evaluated the Brief-2, Model and Presentation using selected questions listed in Table 7. The questions in Table 7 were applied for the assessments of the Brief-2, Model and Presentation in Tables 8-10.

Table 7. Selected questions applied to the assessments for tables 8-10

1. Allowed me to express my creativity
2. Allowed me to use the sketch to better understand ethical principle(s) and/or generate ideas for the EPM assignment
3. Allowed me to use the steps or phases in the Creative Problem Solving Process
4. Seeing and/or physically examining the EPM, allowed me to better understand the ethical principle(s) and generate ideas for completing the assignment
5. Made it relatively easy for me to understand ethics and generate creative ideas for completing the EPM assignment
6. Allowed me to use my imagination when generating ideas for completing the EPM assignment
7. Allowed the use of visualization to help me to better understand the ethical principle and/or generate ideas for completing the EPM assignment
8. Allowed me to become familiar with different ethical principles
9. Improved my understanding of ethics
10. Provided an interesting way to learn about ethics
11. Improved my understanding of creative problem solving
12. Provided an interesting way to learn about creative problem solving
13. The EPM assignment is relevant for my career

4.3 Evaluation of the ethics brief-2

Table 8 provides a summary and comparison of student responses, over 3 semesters, to selected questions on the Brief-2 in promoting ethical understanding.

Table 8. 3 semester summary and comparison of student responses to selected questions on the b**rief-2** in promoting ethical understanding

Class XXXX (Spring, 2019, Fall 2019 and Spring 2020)	**E-Brief (S19)**	**E-Brief (F19)**	**E-Brief (S20)**	**E-Brief (S19, F19, S20)**
Scale: 1. Strongly Disagree, 2. Disagree, 3. Neither Agree/Disagree, 4. Agree, 5. Strongly Agree	**Average Score**	**Average Score**	**Average Score**	**3 Semester Average Score**
Question 1-Express	4.23	4.0	3.94	4.06
Question 2-Sketch	3.91	4.36	3.63	3.97
Question 3-Phases	4.27	4.51	4.0	4.26
Question 4-See	4.05	4.29	3.88	4.07
Question 5-Understand	4.32	4.71	4.06	4.36
Question 6-Imagination	4.32	4.0	4.13	4.15
Question 7-Visualize	4.00	3.71	3.63	3.78
Question 8-Familiar	4.09	4.43	3.44	3.99
Question 9-Understand	4.50	4.64	3.88	4.34
Question 10-Interesting	4.18	4.57	3.69	4.15
Question 11-Understand	4.45	4.57	3.88	4.30
Question 12-Interesting	4.09	4.29	4.13	4.17
Question 13-Relevant	4.55	4.79	3.50	4.28
Number of students	22	14	16	17

Table 8 showed that for 10 of the 13 selected questions the average score, over 3 semesters, for the Ethics Brief-2 components was over 4.0. Two of the 3 questions that were below 4.0, Question 8 was 3.99, and Question 2 was 3.97- the difference from 4.0 was negligible. Question 7, dealing with visualization, was close to "agree," had an average score of 3.78. However, an average score of 3.78 indicated that students neither agree/disagree with the question asked. Overall, any differences in scores between the 3 semesters was insignificant. Based on student responses, the author concluded that the Ethics Brief-2 was effective in promoting student understanding of ethical principles.

4.4 Ethics model

Table 9 provides a summary and comparison of student responses, over 3 semesters, to selected questions on the Physical Model in promoting ethical understanding.

Table 9. 3 semester summary and comparison to selected questions on the model in promoting ethical understanding

Class XXXX (Spring 2019, Fall 2019 and Spring 2020)	**E-Model (S19)**	**E-Model (F19)**	**E-Model (S20)**	**E-Model (S19, F19, S20)**
Scale: 1. Strongly Disagree, 2. Disagree, 3. Neither Agree/Disagree, 4. Agree, 5. Strongly Agree	**Average Score**	**Average Score**	**Average Score**	**3 Semester Average Score**
Question 1-Express	4.68	4.64	4.56	4.63
Question 2-Sketch	4.45	4.64	4.0	4.36
Question 3-Phrases	4.09	4.21	3.94	4.08
Question 4-See	4.09	4.71	3.88	4.23
Question 5-Understand	4.09	4.43	3.94	4.15
Question 6-Imagination	4.77	4.36	4.50	4.54
Question 7-Visualize	4.59	4.57	4.19	4.45
Question 8-Familiar	4.18	4.29	3.13	3.87
Question 9-Understand	4.45	4.50	3.69	4.21

Question 10-Interesting	4.59	4.71	4.31	4.54
Question 11-Understand	4.14	4.36	3.75	4.08
Question 12-Interesting	4.50	4.79	3.81	4.37
Question 13-Relevant	4.50	4.57	3.50	4.19
Number of students	22	14	16	17

Table 9 showed that the average score, over 3 semesters, for 12 of the 13 selected questions on the Ethics Model components was over 4.0. The average score for Question 8, over 3 semesters, was 3.87, which indicated that students neither agree/disagree with the question asked. Overall, any differences in scores between the 3 semesters was insignificant. Based on the student responses, the author concluded that the Ethics Model component was effective in promoting student understanding of ethical principles.

4.5 PowerPoint ethical presentation

Table 10 provides a summary and comparison of student responses, over 3 semesters, to selected questions on the PowerPoint Presentation in promoting ethical understanding.

Table 10. 3 semester summary and comparison of student responses to selected questions on the presentation in promoting ethical understanding

Class XXXX (Spring 2019, Fall 2019 and Spring 2020)	**Presentation (S19)**	**Presentation (F19)**	**Presentation (S20)**	**Presentation (S19, F19, S20)**
Scale: 1. Strongly Disagree, 2. Disagree, 3. Neither Agree/Disagree, 4. Agree, 5. Strongly Agree	**Average Score**	**Average Score**	**Average Score**	**3 Semester Average Score**
Question 1-Express	4.68	4.14	4.31	4.38
Question 2-Sketch	4.18	3.93	3.75	3.95
Question 3-Phases	4.41	4.43	4.06	4.30
Question 4-See	4.18	4.36	3.75	4.10
Question 5-Understand	4.41	4.43	3.88	4.24
Question 6-Imagine	4.59	4.14	4.06	4.26
Question 7-Visualize	4.55	4.29	4.06	4.30
Question 8-Familiar	4.59	4.71	3.38	4.23
Question 9-Understand	4.59	4.64	3.88	4.37
Question 10 –Interest	4.68	4.64	4.19	4.50
Question 11-Understand	4.55	4.36	4.19	4.37
Question 12-Interest	4.45	4.36	4.25	4.35
Question 13-Relevant	4.64	4.64	4.0	4.43
Number of students	22	14	16	17

Table 10 showed that the average score, over 3 semesters, for 12 of the 13 selected questions on the PowerPoint Presentation component was over 4.0. The average score for Question 3 was 3.95, the difference from 4.0 was negligible. Due to the COVID-19 Pandemic, students (in the Spring 2020 semester) were not able to provide their presentations in class and had to rely on video presentations. Overall, any differences in scores over the 3 semesters was insignificant. Based on the student responses, the author concluded that the PowerPoint Presentation component was effective in promoting student understanding of ethical principles.

5. Pretest and posttest

As previously stated, each semester the author administered a true/false Pretest on ethics and creative problem solving at the beginning of the semester and Posttest at the end of the semester. As is true of most pretest and posttest, these test were intended to measure the before and after situation for student learning. Table 11 lists selected True/False Questions for the Pretest and Posttest.

Table 11. List of selected true/false questions for the pretest and posttest.

1. Most people remember and/or understand what they see better than what they hear
2. Humor and play should be avoided when we are generating ideas to help solve problems
3. Career success is important to me
4. Creative people believe that "if it's not broke-don't fix it"
5. It is easier to turn wild/unusual ideas into practical solutions than to turn routine/obvious ideas into innovative solutions
6. Creativity is a personal characteristic that only a select few possess
7. Sketching is an effective creative problem solving tool
8. Creative thinking skills can promote the understanding of ethics
9. Creativity is a process involving a sequence of several steps or phases
10. Most people understand a problem or situation better if they can physically see and examine or touch it, instead of just thinking about the problem
11. Most problems and solutions to problems have ethical implications
12. Behaving ethically is important for career success
13. People are born with either good or bad ethics, good ethics cannot be taught
14. Incubating an idea is not an effective way to understand and/or develop ideas
15. Visualization is an effective way to understand and solve problems
16. I am familiar with at least 3 idea generation techniques
17. When solving problems or making decisions we should avoid using intuition
18. After finding a good solution to a problem, we should avoid looking for additional solutions for that problem
19. Having creative thinking skills are important for career success
20. Most people will experience an ethical dilemma sometime during their career
21. Most people obey/follow the commands or instructions of authority/authority figure
22. For most people, it is relatively easy to recognize the ethical implications/issues of most ethical situations/problems
23. Taking personal responsibility for our behavior is necessary for behaving ethically
24. Most people tend to look to an external source (outside themselves) for ethical guidance

The Pretest and Posttest scores indicated a consistent pattern of results. The average change, over 3 semesters, from the Pretest to the Posttest was a positive 13 percentage points or 15.9% increase (from 82% to 95%). The percent of correct responses to selected questions from the Pretest and Posttest are shown in Table 12.

Table 12. Results from the pretest and posttest over 3 semesters

Semester	Spring 2019	Fall 2019	Spring 2020	3 Semester Average
Pretest	81% correct	84% correct	82%	82%
# of Students	24 students	13 students	13 students	17 students
Posttest	94%	94% correct	96%	95%
# of Students	23 students	14 students	21 students	19 students

6. Guidelines for faculty on developing similar projects/assignments to facilitate ethical understanding

Recognizing the need for ethical education and training (Mancusi-Shreve, 2017; Petroski, 2016; Agovino, 2018), the author provided the following guidelines to assist faculty in developing ethical projects/assignments.

6.1 Integrate ethical principles as a component of other assignments

Ethics has become a ubiquitous component of decision making and problem solving for all graduates (Mumford et al., 2010; Donaldson and Werhane, 2008). To reflect today's workplace, many class projects/assignments for engineering, technology and business students involve problem solving (Trevino and Nelson, 2014; Besterfield and Shuman, 2016; Puccio et al., 2011). As a result, there exist ample opportunities for faculty to incorporate ethical principles as part of other class assignments. Considering the nature of jobs and job assignments, ethical dilemmas will continue to be common occurrences for future graduates. Consequently, integrating ethics into problem solving projects/assignments should be a relatively straightforward modification for most courses.

6.2 Explain why understanding ethics is important

Sometimes faculty need to explain to students the importance of a given assignment. Some students may not recognize the ubiquity and importance of ethics for their career success (Trevino and Nelson, 2014; Mahan, 2019). Faculty can use the reasons stated in Table 1 (why ethics is important) to explain to students why ethical behavior is important.

6.3 Provide students with a list of ethical principles to choose from

As common as ethical dilemmas are, some students may not be aware of ethical situations and/or what ethical principles are (Trevino and Nelson, 2014; Donaldson and Werhane, 2008). Therefore, providing students with a list of ethical principles to choose from can facilitate the understanding and application of ethical decision making and problem solving. Faculty can use Table 3 (list of ethical principles) to show examples of ethical principles.

6.4 Develop ways to assess the integration of ethical principles

As is true with any change in curriculum, faculty need to assess the success of the integration of ethical principles into a course and make improvements where needed. Examples of assessment instruments can include those that were described in this paper: Pretest and Posttest, and student surveys to evaluation different components of individual projects/assignments.

7. Conclusion

The author developed the EPP to help prepare students to deal with future ethical challenges they will encounter after graduation. Based on the results of the assessments, the overall conclusion was that the Project was an effective teaching method that allowed students to use their imaginations to promote increased understanding of ethical principles. In the paper, the author described the major components of the EPP. The paper identified the benefits derived from using the Project as a way to promote ethical understanding. Also, the author included assessments of the Project's components. Finally, the paper contains guidelines that can be used by other engineering, technology and business faculty to develop similar projects/assignments. The author will continue to include the Ethical Principle Project in his course, and monitor and implement improvements where needed.

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Biography

Ralph Ocon is a Professor in the Department of Construction Science and Organizational Leadership at Purdue University Northwest, Hammond, Indiana, USA. He has a B.A. in Education, M.A. in Teaching Economics., and M.S. in Management from Purdue University in West Lafayette, Indiana, in addition to a law degree from Indiana University in Bloomington, Indiana. Professor Ocon teaches courses in creative problem-solving, leadership, and diversity management. From 1983-1990, Professor Ocon was the Director of the Center for Economic Education, and from 1990- 2002, he served as the university's Equal Employment Opportunity Officer.