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## **FOSTERING CREATIVITY IN THE ENVIRONMENTAL CLASSROOM: SEEKING CREATIVE SOLUTIONS THROUGH ACTIVE PARTICIPATION**

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**ABSTRACT:** Complex environmental issues and constant change call for creative and innovative solutions. We believe critical thinking in the area of environmental studies is imperative both in and out of the classroom. Exercise: “Creatively Controlling Campus Crud: Design a Better Pizza Box.” This is a multifaceted exercise that we created and currently use in the core environmental studies class in the Department of Resource Develop-

ment at Michigan State University. This exercise provides space for creative approaches to the complex environmental issue of waste on the campus. Discarded pizza boxes are the number one cause of waste on the MSU campus. Their volume and the contamination of the cardboard with food waste cause the problem. We have created this exercise to show how students contribute to a significant environmental problem, yet we provide them the space to offer their own solutions to the problem. They then quickly present their designs and thoughts to their colleagues in the class. This exercise provides space for lateral thinking: The worldview of students is represented in how they frame the problem from actually designing a new pizza box to questioning consumerism (concrete to abstract). Students begin to understand how they contribute to environmental degradation by their own worldviews and behaviors. Students also discover how they can have impact and develop innovative solutions. This exercise also gives students practice in first critically examining their own worldviews and values, observing creativity in action, working with others to frame the issue, and thinking of creative ways to address complex environmental issues in a safe space.

### INTRODUCTION

Complex environmental issues and constant change call for creative and innovative environmental solutions. We believe critical thinking in the area of environmental studies is imperative both in and out of the classroom. Therefore, we designed an exercise around the concept of “Controlling Campus Crud Creatively: Can You Design a Better Pizza Box?”

This is a multifaceted exercise that we created and currently use in the core environmental studies class in the Department of Resource Development at Michigan State University. This exercise provides space for creative approaches to the complex environmental issue of waste on the campus. Discarded pizza boxes are one of the biggest causes of waste on the MSU campus. Their volume and the contamination of the cardboard with food waste present a problem.

We have created this exercise to show how students contribute to a significant environmental problem, yet we provide them the space to offer their own solutions to the problem. They then quickly present their designs and thoughts to their colleagues in the class. This exercise provides space for lateral thinking. The worldview of students is represented in how they frame the problem from actually designing a new pizza box to questioning consumerism (concrete to abstract). Students begin to understand how they contribute to environmental degradation with something as familiar as a pizza box. Students also discover how they can have impact and develop innovative solutions. This exercise also gives students practice in critically examining their own worldviews and values while observing creativity in action. They work with others to frame the issue and think of creative ways to lessen or resolve complex environmental issues in a safe academic space. Plus, it’s fun.

Our assumptions about creativity are that

- Everyone is creative—some more than others;
- As a result, instructors need to create a time and space for creativity to emerge in the classroom; and
- Natural resource problems are complex, so the need for creative solutions is great.

Designing a Better Pizza Box is one activity we’ve used to foster creativity.

### STEPS OF A CREATIVE PROCESS

1. To start the pizza box activity, we divide students into teams of three or four students. Our class generally has 25 to 35 students, so we end up with eight to ten teams.
2. Our pitch is that we have a 20-minute video on the creative process. So, it’s a movie day and they should sit back and enjoy. To help relax, we’ve ordered pizza and soft drinks as a treat.

3. The video is called *The Deep Dive*, a recent “Nightline” program with Ted Koppel. It explores the creative design process that has been developed by IDEO, the California design firm. (IDEO’s approach and the making of the “Nightline” program have been described in Kelley, 2001.)
4. Students watch as the IDEO team (a dozen professionals from diverse backgrounds) playfully goes through the creative process of redesigning a grocery-shopping cart. The IDEO teams first identify significant problem areas with existing carts including safety, theft, and limited mobility. One participant also noted, “They are ugly.”
5. Next, the IDEO team brainstormed new design ideas with encouragement from the “boss” to think of “far out” solutions so that they might recognize the range of ideas and adjust to what might be more realistic.
6. Then, after the brainstorming session, the IDEO group split into teams and went out into the real world to talk to the “experts”—people who frequently use shopping carts and who know about problems with safety and design. Some have called this “doing the truth,” field work, or talking to the “Buzzes” of the world. In short, it is seeking out the experts who may have spent years learning about the problem firsthand.
7. Finally, the IDEO teams returned to their home base, shared their newfound knowledge about how shopping carts are actually used—and misused—and began to design their own shopping cart. The whole process took five days. The process was playful; it incorporated wild ideas, and was extremely creative. The teams’ mock-up later won a design award. Their innovative process has been showcased many times.

### OUR PIZZA BOX DESIGNS

The students in our class seem to be inspired by the video, and they enjoy the pizza. This is natural because our class is conducted in the late afternoon, and they are hungry, pizza-loving college students. So, 20 minutes into class, they find themselves sitting in small teams smiling at an empty pizza box.

We say, rather quickly, creative design can also help the environment. One of the biggest waste management problems on our campus at Michigan State University is pizza boxes—lots and lots of them. They currently can’t be recycled because pizza remains contaminate the cardboard. “Your team’s assignment for the next 15 minutes,” we challenge them, “is to design a better pizza box.”

We have them draw their ideas on an overhead transparency. In the last 15 minutes of class, each team stands and makes a brief presentation of their creative solutions—wild, wacky, and wonderful.

We give students “permission” to be creative, provide some “how-to” tips on creative processing, give them the opportunity to present their ideas to the rest of the class, and foster the beginning of teamwork skills within our class. Over the past few years, we have collected some fantastic ideas about improving the box, eliminating the box, or changing our Western ways of consumerism.

Some instructors may find creativity to be one of those grandiose topics that can be rather intimidating, like belief systems or ethics. As instructors, we generally appreciate it when we see creative papers or projects, but we seldom specifically address creativity. Through our “Design a Better Pizza Box” exercise, we provide the time and the space for students to creatively solve complex environmental problems. Plus, it’s fun!

### **CONCLUSIONS**

Officially our course is entitled “RD 200: “Issues and Applications in Resource Development.” It is intended to introduce students to the conceptual nature of resource management. It also offers an opportunity to think in a multidisciplinary way about complex, real-world issues.

Course work in RD 200 involves writing, reflecting, and class participation. Students write individual weekly papers and reports for assigned group projects. The class is an active learning experience for the students, and class participation is strongly encouraged. Students’ contribution to the course is an essential part of their individual and our collective learning process.

The main goal of the course is to improve students’ environmental and natural resource problem-framing and problem-solving skills. Overall, we believe that

1. People are part of the solutions to environmental problems;
2. Understanding other people’s views is important; and
3. Creativity is critical in finding new solutions.

The pizza box exercise fosters the creative process and allows students to share their creative solutions. Our class time is interactive and learner-centered. We also try to make learning fun.

As Bob Samples (1976, p.102) once said, “If I criticize others for re-inventing the wheel, I am probably more interested in wheels . . . than inventions.” In our class, we applaud the inventions and the inventors.

### **LITERATURE CITED**

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