

Activity name: Environmental Risk–Not In My Back Yard–A Risk Assessment Role Play

Goals

- to build students' knowledge and skills about releases of polluting materials into the environment
- to apply knowledge and skill in the community context.

Activity	Objectives
Not In My Back Yard –A Risk Assessment Role Play	<ul style="list-style-type: none"> • Participate in a role play which provides a real-world application of risk assessment experiences • Evaluate a project • Formulate an idea based on information from role play

This activity demonstrates to students the process whereby an investigator can work with someone who is proposing a new development in the area can gather information and assess potential risks. The process is based on evaluating a project, conducting a town meeting role play with the "experts" representing different areas of thought and opposing views, and formulating an idea based on the information provided. At the end on the town meeting role play the delegation should vote for or against the proposed project. It can be a real or imaginary scenario. The teacher can base the interview with the "client" on an historical situation so the students can research actual data and then see what the rest of the story was in real life. It provides a real-world application of the risk assessment experiences identified by ATEEC Fellows as necessary preparation for environmental technology occupations.

Appropriate for which course(s):

High school and community college technology, communications, science, speech, environmental science, risk assessment.

Concept/skill learned (i.e. from K/S Tables):

- Demonstrate technical writing skills
- Develop and use active listening skills
- Draw graphic communications
- Use photographic means to communicate/document information

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- Demonstrate appropriate, tactful communication skills
- Use computers, peripherals, and software programs
- Possibly design, develop, conduct, and evaluate risks in a proposed project

SCANS skills addressed:

- Mental visualization
- Listening, interpreting and communicating information
- Participating as member of a team
- Monitoring and correcting performance
- Reasoning
- Responsibility
- Self-management
- Uses information (entire category)
- Serves clients/customers
- Works with cultural diversity
- Understands systems
- Monitors and corrects performance
- Applies technology to task

Cognitive Level: Comprehension, analysis, and evaluation

Learning objectives- Students will be able to:

1. Ask questions and orally clarify what a proposed project is for the area.
2. Use a word processing program (and other office equipment for visual aids) to write an opening convincing speech for the intended town meeting.
3. Follow the formatting recommendations in a technical writing textbook.
4. Perfect the written expression through editing and proofreading.
5. Enhance the set of instructions by incorporating appropriate graphics. These can be used as visual aids for the presentation.
6. Review the proposed project area with the intended investor to clarify an understanding of the project.
7. Revise the instructions and review again with the expert, repeating until perfected.
8. Present the speech in a town meeting role play format and provide for a question and answer time from the audience. (See suggestions for roles below.)
9. Prepare the town with pre-assigned roles to encourage the debate.
10. Help fellow students understand various points of view and the value of individual concerns.

Approximate time to complete activity: At least two separate in - class periods of 50 minutes. They will require out-of-class time for student "homework" to prepare documents; computer lab time, if needed. The formatted town meeting and role play can be completed in one class period. Recommendation: allow two weeks of self-regulated time for students to prepare the finished speech with visual aids.

Source of idea or activity: ATEEC Fellows Institute 2000

Materials/resources needed (equipment, print media, electronic media, videos, supplies, etc.):

- Computers and other office machines, as needed for preparing the speech.
- Camera equipment or drawing materials for visual aids.
- A "client" who can provide an expert resource for the proposed project that the student may interview. The project works well as an integrated activity between the English teacher and vocational-technical teachers. Depending on the setting (school or industry), the expert may be real workers or a student role playing as the project engineer.

Teaching and Learning Procedure:

1. Teacher: Demonstrate, discuss, and practice models of task analysis and instructions development.
2. Teacher: Arrange ahead several proposed projects for the students' technical communications groups. The projects may be real or imaginary. The example given in this scenario is based on a true story clients may be vocational-technical education faculty in your school. Provide enough information so that the client can select a limited so the students can see the rest of the story as the project was either implemented or failed based on the communities input.
3. Teacher: Photocopy the sample town meeting role playing titles and create new ones as needed for the risk assessment.
4. Students: Contact proposed project "client" for interview. Abide by any professionalism criteria set by the teacher as determined by classmates.
5. Students: Take notes, sketch, photograph, and create flow diagrams as necessary for the presentation. Identify the environmental health and safety risk assessments that will be included in the instructions.
6. Students: Prepare a written speech to present to the Town Role Play. Research the project thoroughly and apply the risk assessment steps of (1) Hazard Identification, (2) Dose needed/Dose Response, (3) Exposure to Dose, (4) Characterizing the risk - how risky is it? And additional scientific facts covered in the class. The student should produce this work with a computer if possible.
7. Teacher: Be available for coaching (on logic, risk assessment, flow, editing, proofreading, formatting, etc.) anytime during the project.
8. Students: Revise the instructions. If necessary, arrange to take revision back to "client" for approval.
9. Teacher and Students: meet for the "Town Role Play" role play.
10. Students: Present the prepared speech trying to motivate the audience to accept the idea of the proposed project.
11. Classroom Students: Debate and affirm the proposed project based on their roles in the town's society.
12. Teacher and students: Debrief the entire process.

13. Teacher: If this was based on an actual event study the history of what actually occurred and share with the class the results.

Contextual Learning Principles:

- *Problem-based:* How does the writer develop a proposal about a process that they have not studied before?
- *Multiple contexts:* Client's interview site, computer room, town meeting presentation
- *Student diversity:* Form groups that represent a variety of talents: e.g., computer skill, writing ability, artistic ability, good observers, good listeners and questioners.
- *Self-regulated learning:* After introducing task analysis, development of written instructions, the client and technical communicator's professional relationship, and after providing parameters and criteria for completing the project, the teacher promotes students' self-regulated learning. In a professional way, students carry out all aspects of the project, from making arrangements to offering the town meeting the final document. The teacher is available as a coach at all times.
- *Interdependent learning groups:* The class work groups are encouraged to continually share experiences so that they may learn from each other's approaches. The "expert" client not only teaches the process but also encourages the student to seek additional resources.
- *Authentic assessment:* Throughout the technical communication group's editing and revision process, the teacher shares feedback about formatting. A rubric could be developed so that all the players - teacher, students, expert - may assess a final document as objectively as possible. Components of the assessment process have an emphasis on (1) achievement and opportunity to learn (2) Students engaged in ongoing assessment of their work and others, (3) Understanding scientific inquiry. Useful suggestions of report analysis, data use, data, collection, interviews, performances, observing programs, and students in contextual environments.

Town meeting role play suggestions:

- Townspeople
- Special interest group
- Teacher or college professor
- Professional outside the community
- Professional business person in the community
- Chamber of Commerce

Expert "Client" project proposal suggestions:

1. You are a fluorescent light manufacturer seeking to produce a disposal facility for used fluorescent lights in the community due to concerns about mercury contained in the bulbs. To learn more about fluorescent lighting you may want to

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- look at the National Electrical Manufacturers' site:
<http://www.nema.org/lamprecycle/nemafluorfinal.pdf>
2. You are a computer manufacturer seeking to produce an alternative to disposal of antiquated computer equipment based on concerns about hazardous materials contained in the cathode ray tubes and CPUs. To learn more about computer disposal you may want to look at
www.greenbiz.com/gbl/editions/07gbl98/feature.cfm
 3. You are a coffee manufacturer seeking to convince people to use only coffee with caffeine due the prevalence of acetone use to decaffeinated coffee beans. To learn more about coffee and environmental issues like pesticides and biodiversity you may want to look at <http://globalexchange.org/>
 4. You are a major contractor with the Federal Government proposing to dig a new harbor (Alaska, Project Chariot). There were concerns about the nuclear waste and fallout that would be generated by using nuclear blasts to excavate a harbor at Point Hope. To learn more about Project Chariot, read the transcript from a "Living on Earth" radio broadcast: www.loe.org/archives/921009.htm
 5. You are proposing a nuclear waste disposal facility in a remote corner of a state due to concerns about long term storage of nuclear waste (completed in New Mexico 1999). To learn more about the Nuclear Regulatory Commission you may want to look at <http://www.nrc.gov/>

Go to [Teacher Resources](#) for more information

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