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Using National Public Radio to Jump Start Research Projects in Environmental Biology

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Abstract: During the past three semesters, the presenter has used National Public Radio (NPR) programs to stimulate / jump-start student interest in current environmental issues in a non-majors environmental biology course. The goals of this paper are: (a) to describe how NPR programs are used in student research projects; (b) to discuss the logistics of implementing student research projects in a large-enrollment lecture-only course, and (c) to discuss the evaluation of this activity in terms of enhancing the academic experiences of non-science majors.

Introduction

Several years ago, while attending a *Strategies for Success* Workshop, the author learned, from Scott Brennan (Western Washington University), of some incredible resources available through the National Public Radio (NPR) website. NPR archives all of its radio programs and one can access past programs and listen to them online. The author uses these resources in a non-majors environmental science course in three different ways: (a) to “jump start” a new topic in the classroom; (b) for homework assignments; and (c) as the basis for group research projects. The NPR website can be found at www.npr.org. Searches can be conducted for a particular program (if you know which one you are looking for) or by topic. Once a program has been identified, the audio file can be played using Real Media Player or an equivalent plug-in. One of the advantages of using NPR is that you can access programs that were broadcast only 24 hours earlier. It allows the instructor to bring current issues into the classroom as they are occurring.

Jump Start a New Topic

This is a non-major course in environmental biology that emphasizes the interrelationships of humans with the environment. Throughout the semester, a number of different environmental issues are discussed (world population growth, global warming, water pollution, energy resources, current natural disasters, etc). The author uses selected NPR radio broadcasts to introduce and stimulate interest in each new topic. The only equipment required in the classroom is a computer with an internet connection and a speaker. Many of the NPR programs are short (less than 5 minutes) and so students do not get distracted. The radio program is then used as the starting point in the discussion of a topic.

Homework Assignment

One of the instructional goals for this course is that students will be able to read about or listen to a discussion on an environmental issue, critically summarize that issue and then express a personal opinion on the issue. The NPR homework assignments are designed to address this instructional goal.

Students are directed to listen to particular radio program, and then are asked to summarize the program and express an opinion on the topic. This is also an excellent way to encourage students to think about a topic beyond just learning the “what’s on the exam” facts.

Sample Student Homework Assignment Handout

1. Go to the National Public Radio website at www.npr.org
2. In the SEARCH NPR.ORG box type in “Bhopal” and then click SEARCH
3. On the page that appears...scroll down and then double click on “After 20 Years, Effects of Bhopal Tragedy Linger”
4. On the page there will be an audio icon. Click on the audio icon first and listen to the audio file. On your computer a dialog box may pop-up asking you how you want to play the audio tape (Windows Media Player or Real Player work fine).
5. After the audio has played, click on the back arrow. This will bring you back to the main Bhopal menu. Scroll down and then double click on “Bhopal’s Lingering Toxic Legacy, Two Decades Later”
6. On the page there will be an audio icon. Click on the audio icon first and listen to the audio file. On your computer a dialog box may pop-up asking you how you want to play the audio tape (Windows Media Player or Real Player work fine).

After you have listened to both tapes:

- a. Summarize the content of the stories in approximately 200 words (one paragraph – single spaced).
- b. Write a 150 word (single-spaced) personal opinion of the issue discussed.

Student Group Research Projects

All students in the course participate in a group research project. Students are to imagine that they are a group of newspaper reporters. Their job is to produce an article, in poster format, that discusses/highlights an environmental issue. This past semester the topics included: the use of colton in cell phones, effects of the tsunami, and global warming. Each group is provided with a short case study, based on a NPR program, of their issue and produces a poster that describes the underlying ecological concept and a discussion of the specific issue dealt within the case study. These posters are then displayed in the Biology Building for at least two weeks. Students are expected to read the posters of the other groups as material from the posters is included in the final examination of the course. Groups consist of 5- 6 students.

The grade for the assignment is based on (a) attendance on group project days; (b) individual participation in the project; and (c) on the overall quality of the poster. Individual participation information is recorded on a form handed out by the instructor. Each student must state their contribution to the group project on the form and then **MUST** sign the form. Failure to sign the form results in an automatic score of 0 for individual participation. The completed form must be turned in with the poster. If a group is concerned about the stated contribution and participation of one of its members, that concern must be detailed on the reverse side of the participation form.

Sample Student Handout for Research Posters

BIO 102 – Spring 2005

Group Project (30 Points)

To be submitted at 10am on Monday 4th April 2005 LATE SUBMISSIONS WILL NOT BE ACCEPTED.

Groups must consist of at least five students and no more than six students.

One set of the completed materials to be submitted by the required date. Please make sure the full names of all group members (in alphabetical order) are clearly typed on the front of the completed project.

Assignment

Imagine that you are a group of newspaper reporters. Your job is to produce an article, in poster format, that discusses/ highlights an environmental issue. Each group will be provided with a short case study (based on a NPR program) of their issue and will produce a poster that describes the underlying ecological concept and a discussion of the specific issue dealt with in the case study.

Instructions

1. Form a group of 5-6 students.
2. Once your group has been formed, fill in the attendance sheet and return it to the instructor.
3. Research the case study that you have been given, decide what information should be included in your poster, design and produce the poster.
4. On Monday 4th April 2005, hang your poster in the indicated location on the second floor of the Biological Sciences Building. Pins will be provided (do not use tape of any type). Posters must be hung by 10.50am on the 4th April and must remain in place until April 29th 2005.

Posters

Posters should be tack-board ready (pins will be provided) and no larger than four feet (120 cm) by four feet. Points will be deducted for untidy/sloppy work or for spelling / grammatical errors.

Design your poster so people will want to read it.

Grading

This project will be graded as follows:

- 10 points for attendance on Monday 28th March 2005*
- 5 points for attendance on Wednesday 30 March 2005*
- 15 points for the submitted products (includes 10 points for individual participation***)
- 30 points

Opportunity for bonus points: Each group has the opportunity to earn up to ten bonus points per person (who fully participated in the project***). To earn these points, the group must submit one (and only one) of the following additional products with their poster on the 4th April 2005:

- (a) a PowerPoint presentation (minimum 10 slides) of the information contained in your poster.
- OR
- (b) a 400-word editorial on the issue for your local newspaper.

* NOTE: Attendance will be taken during the first ten minutes of the class period, students that show up more than ten minutes late for class will not receive attendance credit for that day. Problems with parking, traffic, breakdowns, oversleeping, not hearing the alarm etc are not acceptable tardy excuses.

**NOTE: All submitted work must be the original work of the group members. Read the note in your course syllabus regarding plagiarism and cheating. If ANY portion of a submitted group project is plagiarized, the ENTIRE GROUP will be charged with an academic offense.

***NOTE: Individual participation information will be recorded on a form handed out on Wednesday 30 March 2005. Each student must state their contribution to the group project on the form and then MUST sign the form. Failure to sign the form will result in an automatic score of 0 for individual participation. The completed form must be turned in on April 4, 2005. If a group is concerned about the stated contribution and participation of one of its members, that concern must be detailed on the reverse side of the participation form.

Evaluation

One of the big advantages of using NPR materials is that it allows the instructor to bring current, up-to-date information into the classroom. Students tend to be more interested in issues that are in the news and that are relevant to their lives. The quality of student discussion in the classroom and the level of critical thinking when they are expressing opinions has increased since the author began using NPR materials. The students are more engaged in the course and will often identify other NPR programs on a topic. Class performance on application questions on examinations has increased.

About the Author

Ruth Beattie is an associate professor at the University of Kentucky. In 1987 she graduated from Queen's University Belfast, N. Ireland, with a Ph.D. in biochemistry. She completed two postdoctoral fellowships at the Hipple Cancer Research Center and at Wright State University in Dayton, Ohio. She then taught for four years at Ball State University, Muncie Indiana. In fall of 1995 she joined the faculty of the University of Kentucky as an instructional specialist, where her primary responsibility is teaching large enrollment freshman level biology and microbiology classes.