

Title: Exploring Environmental Justice through Listening: An Environmental Design Case Study in Camden, NJ

Keywords:

Environmental justice
Environmental history
Environmental gentrification
Active listening
Historical empathy
Oral history
Community planning
Combined Sewage Overflows
Brownfield Redevelopment
Blue/Green infrastructure

Module Overview:

This learning module is designed to introduce humanities questions into environmental engineering, planning, technology, and science courses. This module simulates cooperative and interdisciplinary environmental problem solving in an urban, industrial neighborhood which faced environmental injustice in the past. Using a neighborhood case study, students consider the historical context, five different stakeholder perspectives, and environmental justice dimensions of this community as integral to their technical design proposals related to one or more of the following topics: urban park development, waste and stormwater management, brownfield redevelopment and living shorelines.

Through exposing students to research data obtained through humanities methods, such as environmental history, community planning, and oral history, this learning module tasks students with twinning social and technical objectives in environmental design and engineering solutions. Active listening activities using audio files are assigned to meaningfully engage students with the lived experiences and perspectives of environmental professionals, government agencies, and community members in the past and present as part of proposing sustainable (future) solutions.

Goals:

Upon completion of this module students will be able to:

- Identify social and technical design objectives in environmental design and engineering solutions
- Apply active listening techniques (passive oral history) in social and professional situations
- Articulate perspectives of diverse stakeholder groups as the basis for environmental design solutions
- Utilize past land-use and community experiences in shaping present decision-making (historical empathy)
- Simulate interdisciplinary problem-solving among environmental professionals government agencies, and community stakeholders
- Reflect upon their own values, responsibilities, and impacts as environmental professionals working within communities

User Guide:

Depending upon scheduling availability and course goals, this module might utilize as few as two, 75 minute class periods (1 week of class time) or as many as six class periods (3 weeks of class time). Both a shorter and longer version are outlined below in the Sample Implementation section.

For faculty, little preparation or advanced knowledge of the case study site is needed to utilize this learning module, which is designed as an independent investigative research experience for students. This assignment is framed as an environmental design consulting project. Students are hired, in teams, to research, design, and propose park enhancements which incorporate the goals and desires of their assigned stakeholder community. In doing so, they must complete background research on the site, understand the environmental history of the site, and propose appropriate social and environmental design solutions within their contract budget.

Materials:

This Module Guide

Glossary (below)

Resource Bank

Assignment Sheet

Slides

Audio files

Sample Implementation:

This module is designed to be used in either a one-week version or three-week version, although something in-between those two lengths is also possible.

For the one-week version, which would take 120-180 minutes of class time, students will work in teams to research the neighborhood and park, listening to audio files and reading environmental history. After conducting research, the student groups collaborate to produce a website using [Google Sites](#), an intuitive web software that enables students to quickly produce visually appealing web pages. ([See here for an example of a student-created page](#)). For this assignment, the instructor should create and act as owner of a single Google Site, giving every student in the class editing privileges and asking each student group to create one page on the site. If you choose to use this version, the website will be the main deliverable that students produce. Students could also deliver informal presentations in which they show their web page to the class and discuss their topic in more depth.

For the three-week version, students create web pages and then proceed to write, again as a group, a formal Project Proposal, which is a common real-world genre in engineering and planning. The Project Proposal is defined on the Assignment Sheet and the accompanying slides. In this longer version, students should be given time in class to work with their groups to craft to the Proposal, which requires considerable brainstorming, drafting, and writing time. One benefit of the longer version of the module is that the first, website, portion feeds directly into the proposal portion, with each group in the class acting as experts educating their peers about the ins and outs of the case study.

In addition to the in-class activity found in the slides, consider incorporating these additional in-class activities at the early stages of the module:

- Optional 15 minute in-class StoryCorps active listening activity in preparation for listening to audio clips and oral histories. Use links below.
 - [Lesson: The Power of Active Listening](#)
 - [Student Handout: Definition of Active Listening](#)
- Optional 5 minute empathy and creative problem-solving activity which can be used prior to group discussion about their assigned stakeholder community. Ask students to close their eyes for one minute and imagine someone from their assigned stakeholder community. Ask them to imagine how this person feels about Phoenix Park now. Have them open their eyes and brainstorm about park design solutions for this user groups needs. See the short article "[The 30-second trick that can make anyone more creative](#)".

Glossary

Active listening: Listening to understand, rather than to respond (see StoryCorps website)

<https://storycorps.org/discover/education/lesson-the-power-of-active-listening/>

Blue/Green infrastructure: the use of ecological systems, both natural and engineered, for stormwater management and other social, economic, and environmental benefits (see EPA website)

<https://www.epa.gov/green-infrastructure/what-green-infrastructure>

Brownfield Redevelopment: environmental mitigation and reuse of a contaminated site (see EPA website)

<https://www.epa.gov/brownfields/overview-epas-brownfields-program>

Combined Sewer Overflows (CSOs): combined sewer systems collect rainwater runoff, residential sewage, and industrial wastewater in the same pipe and transport it to a single sewage treatment plant. Rain events can cause this shared system to overflow and discharge untreated wastewater into a water body. (see EPA)

<https://www3.epa.gov/region1/eco/uep/cso.html>

Community planning: process of participatory and inclusive organized social change which increases community member capacities to shape the place where they live (see Planners Network)

<https://www.plannersnetwork.org/case-studies-and-working-papers/transformative-community-planning-empowerment-through-community-development/>

Environmental gentrification: the exclusion or displacement of long-term residents resulting from environmental amenities (pollution removal, park redevelopment, new recreation, etc) (see Pearsall and Anguelovski 2016 or Juliana and Maroko 2018)

<https://journals.sagepub.com/doi/abs/10.5153/sro.3979>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6210586/>

Environmental history: the study of the interaction between humans and the environment in the past (see Dr. Jan Oosthoek's website)

<https://www.eh-resources.org/what-is-environmental-history/>

Environmental justice: fair treatment of and meaningful involvement of all people with respect to the development, implementation and enforcement of environmental laws, regulations, and policies (see EPA website)

<https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

Historical empathy: understanding how people from the past thought, or acted within a specific historical and social context (see Endacott and Brooks 2013)

http://www.socstrpr.org/wp-content/uploads/2013/04/MS_06482_no3.pdf

Oral history: method of gathering, preserving and interpreting the voices and memories of people, communities, and participants in past events (see Oral History Assoc. website)

<https://www.oralhistory.org/about/do-oral-history/>