

Technology and Policy Analysis

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ESD.10 Meta-Learning Objective: Appreciate the political, social, and institutional context of technological systems

Current issues in technology and policy

Learning to see:

Goals (equity, efficiency, security, liberty) Problem framing (symbols, numbers, causes, interests) Policy solutions (inducements, rules, facts, rights, powers)

Learning to analyze:

Policy analysis toolkit (positions, powers, resources, channels, windows, technology constraints and enablers) Economics (cost-benefit analysis, pareto optimality, utility) Term Project (conceive, design, execute a policy research project)

Historical context of S&T policy

Learning to articulate:

Writing (policy memos, policy research studies) Dialogue (recitations, class discussions) Presentation (term project, group homeworks)

"Real world" experiences of policy practitioners



What the term project should be striving for

• Fair, unbiased analysis of a technology and policy issue

- Address all sides of the issues
- Address pros and cons of all sides
- Let your analysis make your point
- Making a new contribution to the issue
 - Clearly explain what has been done by others in the area, and what your group will do that is new and different, and why it is new and different. Make this explicit in your report.
- Succinct, focused, cohesive report and presentation
 - Quality over quantity
 - Choose every paragraph, every point carefully
 - Organize along logical argument path; not historical sequence of group work



Common term project pitfalls

- Laundry lists / book report
 - Often a result of stovepipe team organization
 - Solutions
 - Integrate team work more
 - Descope the project to a few items
- Recommendations stated without discussion of implementation benefits and challenges
 - Solutions
 - Discuss how to implement each recommendation
 - Raise the practical challenges to actually accomplishing the recommendation
 - Do a channels, powers, and resources analysis for the recommendation



Common term project pitfalls (2)

- Not enough synthesis
 - Often a result of spending too much time gathering data; doing analysis in stovepipes
 - Solutions
 - Stop data collection and analysis early enough to allow appropriate time for synthesis thinking and bringing everything together
 - Think of graphical representations that represent your findings or conclusions
 - Accomplish synthesis as a group, not as individuals
- Uniqueness of project contribution is unclear
 - Solution
 - Explicitly state the contribution; why is it new and different
 - Descope the project to allow time for making a new contribution



Common term project pitfalls (3)

- Report is too long
 - Often a result of not wanting to cut text; feelings that quantity is important; wanting to show everything the group has learned
 - Solutions
 - Decide as a group what important points your report should make, and have discipline in choosing what text to use in making those points
 - Put tables, history, background, etc. in appendices if you really want to include them in the report. Whatever is not strongly associated with supporting your main points doesn't belong in the report



Common term project pitfalls (4)

- Report lacks graphics
 - Often teams leave thinking about graphics til the end when they are making their presentations
 - Solutions
 - Think about graphics throughout the whole project
 - Include graphics in your report; they are synthetic and summarizing; pictures are worth a thousand words
- Too much background and introductory material
 - Solutions
 - Reduce to a minimum; focus instead on what the group has really contributed to the issue – which is the most important part of the report!