Using Simulation to Teach Decision-Making within the Policy Process

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Introduction

Typically, courses on policy formulation, policy adoption, and the dynamics of decision-making first introduce students to the rational comprehensive method, bounded rationality, and incrementalism. Such courses might also discuss factors that influence decision-makers, such as interest group lobbyists, constituents, etc. Lectures could even introduce students to risk and risk taking as well as theories of attention and search. However, seldom are students in such courses actively involved in the decision making inherent in the policy process. Use of simulation within a policy course forces students to become active participants in the decision-making process while re-enforcing lecture on the theories of policy formulation and decision-making. It provides students with a chance to partake in a hypothetical decision-making process, weigh complex alternatives, argue over values, and finally to critically examine their own participation in the process.

The purpose of the exercise is *not* to test any one theory of the policy-making process but rather to provide students with the experience of making a policy decision so as to better assess and evaluate theories of policy-making. However, depending on the strategies utilized by students during the simulation, elements of several theories such as bounded rationality and incrementalism should become evident during the exercise. When the exercise is complete, the instructor can draw on examples from the simulation to illustrate particular elements of a given theory; such personal accounts are of greater value to students than examples from state and national policy makers. The following is a description of such a policy-making simulation and an evaluation of its pedagogical utility.

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The Exercise[1]

The purpose of the assignment is to provide insight into the policymaking process, particularly decision-making (policy adoption), but also policy formulation. The exercise is designed to expose students to the decision making process—one characterized by limited information and time (as imposed by the instructor). The simulation should be scheduled over three to four class periods: 30 to 45 minutes per class (up to the discretion of the instructor). Students are told that "You are policy makers in The City, USA. The students are then informed that the current agenda item before the City Council is the following issue: In and around The City University (TCU—not to be confused with Texas Christian University) an increasing amount of traffic congestion has led to serious parking problems. A serious shortage of parking spaces on campus has forced students to park in no parking zones and in the parking lots of local businesses. The students, as members of the City Council, meet to determine a solution to this problem.

Given the preceding scenario, students are instructed to do the following: 1) develop several alternatives to solve this problem (the students are also informed that, *for the purposes of the simulation, proposing to do nothing is not an option, although that certainly may be the end result*); 2) narrow down the number of alternatives through compromise and debate to two options; and 3) adopt (or block adoption of) one out of the two policy alternatives.

The scenario of a "simple" parking problem provides a number of attractions. First, it is an issue that is familiar and dear to most students. Second, the issue is relatively uncomplicated, but allows for the manipulation of quantitative cost-benefit data. Third, it seems to be a problem that might have a "technical" solution, yet, often unexpectedly to students, questions of equity, environmental impact, and political strategies, to name but a few, come into play. In other words, the scenario provides the dual benefits of allowing students to experience a situation not only of rational choice, but also of value choice.

Students are Provided with the Following Information

From The City's Office of the Financial Analyst

The TCU campus is already suffering a deficit of approximately 755 parking places for its 30,000 full and part-time students, given the number of students on campus during peak hours (an average of 19,000 students on campus between 9:00 AM and 1:00 PM—18,245 available parking spaces). It is expected that this shortage will grow to 1,250 parking places over the next five years if nothing is done (100 per year) given the current and projected enrollment. The amount of available land on or immediately adjacent to The City University would allow for the construction of no more than 300 parking spaces (900 if a parking garage is constructed). Undeveloped city land located between one and two miles from the university, if devoted solely to parking lots, could provide an additional 500 spaces—2,500 if parking garages are constructed. (The City is currently considering selling this land to private developers due to increases in the value of the property (valued at $1,000,000.)) If this land is used for parking purposes, public shuttles/buses would be needed to transport students from the outside parking lots to TCU (costs below). The cost of construction is estimated at $25,000 per 100 parking spaces (the cost is double if a parking garage). The cost is expected to increase by an estimated 5% for each year any project is delayed. The estimated building time for a 300-space parking lot is six months and one month for each additional 100 spaces (double the time for parking garages).

The City's public transportation system is currently unable to accommodate an increase in riders, particularly on those routes in and around TCU. If off-campus land is developed, an additional two to three buses would be needed

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Table 1
Construction and Public Transportation Budgets, Costs, and other Potential Revenue (10 Year Plan)

Construction Budget	$75,000 per year (increase of $5,000 per year)
Costs[1]	$25,000 (per 100 parking spaces)[2]
Tax increase (.05%)[3]	$15,000 (per year)—First five years $21,000 (per year)—Second five years
Public Transportation Budget	$58,000 per year (increase of $3,000 per year)
Costs[1]	$30,000 (per bus) $10,000 (per 100 riders, per year)
Bus fare increase ($.10)	$1,500 (per 150 rider, per year)

Notes: [1]The number of parking spaces and bus seats only available in the prices/quantities listed. [2]Cost double if parking garage. [3]Although listed under the construction budget, the tax increase could be applied to either the construction or public transportation budget.

immediately. For the public transportation system to accommodate additional riders it would cost The City $10,000 per 100 riders, per year to cover labor and maintenance. This does not include the initial investment of $30,000 per bus: each bus seating 50. (Note to students: The number of parking spaces and/or bus seats is available only in the prices/quantities as listed. See Table 1)

The available annual budget for construction of things such as parking lots is $75,000 per year, with an estimated increase of $5,000 per year over the next 10 years. Based on current and projected revenue, the available annual budget for public transportation is $58,000 per year with an estimated increase of $3,000 per year over the next 10 years. The City can only increase taxes, due to mandated tax limitations, for either type of project, without voter approval, by .05% every five years, (which is equal to about $15,000 per year for the first five years and about $21,000 for the second five years) but most get voter approval regarding what projects to apply the additional tax revenue. It can be assumed that you could get voter approval to apply the additional revenue for either construction or public transportation but not both. The City can, with voter approval, raise taxes by as much as 2% every 10 years but local citizens have been reluctant to support tax increases.

Student parking fees are currently $100 per student, of which 40% goes into the budget for future parking lot construction. Given the shortage, The City University sells parking permits (20,000) that are approximately equal to the number of spaces. It is assumed that new revenue cannot be expected until more parking is available and as such new revenue from available new parking would not apply until the year after construction. It is also estimated that The City can also raise bus fares by as much as $.10 without a decline in riders (Bus fares are currently $1). There are approximately 5,000 riders that currently utilize bus routes going to and from the university (about $5,000 per year to the public transportation budget). Each additional 150 riders per year would lead to an increase in bus revenue of $1,500 per year in addition to the amount listed above.

The instructor may provide any other information that he/she deems important. The information should be presented as described above and the students instructed to each formulate a policy alternative based on the preceding scenario. By only providing necessary instructions, the instructor minimizes the chances of influencing how each student organizes the information and formulates their own individual policy alternative. In other words, it allows students to organize the data as they see fit, whether a student desires to base their policy alternative on cost-benefit analysis, ideological bias, or current policy preferences.

The Assignment

Each student is responsible for keeping a written record of the entire process, beginning with his or her policy proposal. The proposal is to be based on the above information (encourage them to be creative), their own political views, etc. Each student should also provide an ideological and/or pragmatic justification for their proposal, in other words, why do they think The City Council should undertake what they propose. Students present these proposals and include in their record a *summary* of the process and the debates that take place in which the number of alternatives is narrowed down.

In particular, students should focus on their part in the process, as well as the influence (or lack of influence) of any outside forces on the decisions made. One of the instructor's roles in the process is to play the part of outside forces such as lobbyists, business interests, etc. For example, the instructor can notify individual council members about how their constituents feel about the issue or whether or not environmental or business interests are lobbying for or against a particular solution. Students can then comment on how these outside pressures influenced, or did not influence, their decision-making and why.



Free Parking? A simulated city council debate over university parking allows students to experience a situation of both rational and value choice. Photo: istockphoto.com/Rafal Dudziec.

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After two to three rounds, the number of proposals is narrowed down to two policy alternatives. The students, prior to the final vote on the two alternatives, write up their opinion of the two proposed alternatives. This should include whether the student thinks either of the two (or neither) policy alternatives will work and why. This discussion could also include ideological as well as pragmatic reasons for the student's support or lack of support of the proposals. The students present their arguments and the final vote is taken. After the final vote, the instructor should lead a discussion focusing on what the students observed and learned from the simulation. Based on the discussion of the process and the circumstances of the final vote, the students will include in their record:

1) How he or she voted (the instructor breaks any ties on the final vote and will vote "NO" on any proposal);

2) The overall results of the vote;

3) Which theoretical model the student thinks best depicts the policy process as experienced in this simulation; and

4) Lastly, the student's perception of the process and evaluation of the strengths and weaknesses of the policy-making process as simulated in this exercise.

The assignment can be graded based, for example, on student participation and on their ability to critically evaluate theories of policy-making. The simulation exercise is also quite useful for the instructor to gauge how well students understand theories of policy formulation and adoption. Instructors can draw on the simulation and incorporate the students' experience into lecture. This allows the instructor the added benefit of revisiting those aspects of theories that students are having difficulty with or still do not understand.

The Experience of the Simulation and Concluding Remarks

The entire class of 10 students participated in this simulation's initial run. Proposals presented during the first part could be grouped into two types. The first proposal, varying only in the construction schedule, focused exclusively on building parking lots. The second proposal contained some combination of parking lot construction and expansion of public transportation varying only in the amount of emphasis placed on the amount of public transportation. Some of the proposals were examples of rational choice while others were more incremental in approach. All of the proposals were very well thought out; some included intricate cost-benefit analyses. Others were more ideological, particularly those emphasizing public transportation.

It took little time to reduce the number of alternatives to two main policy alternatives—one of each of the types of proposals discussed above. A policy alternative focusing exclusively on building parking lots was initially more popular. The debate prior to the final vote ranged from fiscal to value issues. Some believed the solution was quite simply: build the lots. Other students contended that this would increase traffic congestion and that there should be more emphasis on public transportation. Others then wondered, "who gets to use these lots?" Are freshmen and commuter students to be delegated to the lots farthest from campus? Are seniors, graduate students, and faculty going to get to park in the lots of their choice? Should the distribution of parking lots be on a first come, first serve basis?

It was a rather heated debate. The students noted that they did not expect values and differing interpretations of equity to play such a large role in a decision dealing with a parking problem. The final vote was split five votes in favor of each proposal (plus, as noted above, my "No" vote for each proposal). So, due to the defeat of both proposals, the final decision was to do nothing. A number of students were unhappy about this decision and wanted to try the simulation again, but, as part of the simulation, they were informed that the City Council had other pressing business and it was time to move on to other agenda items.

This exercise provides students with insight into theories of policy formulation and decision making by providing them with a situation by which they could examine their own style of decision-making as well as that of others. In essence, students were put in a situation where they experienced what it was like to formulate and adopt policy. Through this experience, students were better able to understand how problem definition and the strategies they utilized to approach the problem influenced how they attempted to solve the problem. The importance of values in the policy process, even in an issue that students considered quite value-free, was also brought to their attention.

Most of the students found this to be a useful exercise, and some felt that this exercise was one of the best learning experiences they had ever had, because they were learning by doing. All of the students believed that they had a better understanding of policy formulation and adoption as discussed in lecture because of the simulation. Lecture provided the theoretical foundation by which students could critically evaluate themselves, the actions of their fellow students that took place during the simulation, and the theories themselves. The discussion at the end of the simulation then allowed the class to reflect on what was learned about policy formulation and decision making and the strengths and weaknesses of theories of decision making.

Notes

*I would like to thank *PS*'s anonymous reviewers. Their useful comments made this exercise more beneficial to both instructors and students than it was in its original form.

1. The simulation presented here has been modified to account for problems encountered during the simulation's initial runs.

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