DOMESTIC POLITICS GAMES AND SIMULATIONS
An Evaluation

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THE USES OF SIMULATION IN THE SOCIAL SCIENCES

The social science disciplines tend to highlight patterns of human interaction. Sociology focuses on social interrelationships. Economics raises issues of distribution and management of economic activity and production. Geography explores questions of spatial and resource allocations and use. Political science analyzes process and procedures of decision-making behavior.

Simulations and games offer a method for illustrating such complex varieties of human interaction. Simulation models have proven effective in all of the social science disciplines, both as an instructional technique and for research. When an instructor wants students to study some aspect of the complex network of human interactions—whether in family relationships, the lobbying tactics of pressure groups, corporate management, or legislative coalition building—simulation models are one technique available. Simulations permit active student participation in exploring a variety of human behaviors and provide an opportunity for exposure to a wide range of human experiences not necessarily familiar to the student.

Role-Playing Models

One instructional simulation style is the *role-playing* model. Students benefit from the opportunity to place themselves in someone else's shoes and pursue whatever goal the model prescribes as one the role position desires. The model forces students to operate within the capabilities and limitations assigned to the role. Role playing tends to increase student awareness of the dilemmas others often face in attempting to achieve their goals. It can also make more apparent to students the virtual impossibility of attaining goals for those who find themselves in underprivileged role positions in society.

Problem-Solving Models

A second style of instructional model is a *problem-solving* simulation. Almost any problem in the social sciences is amenable to modeling. Problem-solving models afford an instructor the opportunity to introduce students to the background or history of a given social issue or problem. Students can explore the conflicts and divisions among various societal groups that favor or oppose a series of proposed resolutions. Problem-solving models may be included as an exercise in any instructional unit that involves analysis or discussion of issues under debate by society. Students might research an assigned set of materials providing background for the problem before they play the problem-solving model. Or the instructor may prefer to use the simulation to stimulate additional research after it has been played.

A frequent result of participation in a problem-solving simulation is that students undertake additional research on their own to find data they lacked during play or seek to answer questions they may have found perplexing or especially interesting. Use of a problem-solving model not only tends to encourage reading and research, but it is one method for illustrating the conflicts and issues surrounding the resolution of a given problem.

Bargaining Model

A third style of instructional model involves *bargaining-behavior* simulation. Current attention to the "games people play" reflects growing popular awareness of the role of bargaining behavior in societal interrelationships as well as continuing interest in the concept of power. Contemporary literature often describes power as a thing or "object" someone has or can obtain. Eric Hoffer makes the point that "power can't be put in cans." Political science, on the other hand, describes power as a relationship among individuals attempting to achieve whatever their goals or desires dictate. Power in this sense is seen as the ability to get another individual to do as you wish. This may mean getting someone to start an action, cease an action, or just continue an action that fits your interests or goals.

Influence and power sometimes are used synonymously. In other cases, power is often described as a threat-promise relationship, while influence is a process that involves persuasion or instruction. Influence style avoids the threat of sanction by suggesting "what's best for another person."

Editor's Note: All of the simulations discussed in this essay appear in the domestic politics section.

Power and influence are associated with gaining control over some "object of value" desired by interacting individuals. Such "objects" may be tangible—such as money, resources, or military armaments—or they may be intangible—involving approval, love, affection, acceptance, or prestige. Interaction among individuals occurs as they negotiate to obtain, divide, increase their share of, or deny each other the object involved. The possible relationships among individuals struggling over some object of value are frequent subjects for simulation bargaining models.

Objects of value provide players with a potential base for power or influence, but their ability to cause someone to do what they wish depends also on their skill in interaction and in communicating. Without struggle over an object of value, interaction would not occur. With such an object, the result of the power interaction will depend on a large number of additional factors that a bargaining model permits students to explore.

The contemporary domestic and international political scenes provide numerous examples of power interactions occurring over tangible objects of value such as oil, foodstuffs, mineral deposits, unemployment compensation, tax relief, social security benefits, or civic awards and recognition. Politics has been described as the art of "who gets what," or "how you cut the pie." The bargaining model focuses on that "art" and the factors involved in getting the "piece" you desire.

Models may involve a simple two-person bargaining situation involving purchase of a car or a complex multinational conference over nuclear disarmament.

Game theory problems, too, are the subject of bargaining models. The basic purpose of game theory is to study a competitive situation among some number of players when the outcome or payoff from the bargaining for any player depends on the mutual choices made by all players. Game mathematics hypothesizes that rational players will follow a strategy of minimizing their potential losses in relation to what other players may decide to do, rather than attempting to maximize their gain at the risk of total loss. Rational play is seen as minimizing the possible losses, not winning as much as possible. Game models permit analysis of whether actual players will move to a strategy of losing as little as possible or pursue a risk-taking decision in an attempt to win "big." Such bargaining models also explore the function of threats or promises on choices and the importance of communication among players.

Process Models

A final style of instructional model involves analysis of the *structures, processes,* or *procedures* of decision making. Models of legislatures, political parties, congressional committees, or the United Nations are examples. Such models attempt to replicate the formal structures and procedures selected institutions in their decision-making behavior. These models are effective for exposing students to formal decision-making processes, legislative behavior, or parliamentary law. Rather than studying a flow chart of structure and outlines of formal process, students participate in a model that replicates the structure of the real-world institution and from the experience learn the formal channels for decision making and how things get done.

The four styles of instructional model offer the social science teacher effective methods for presenting and exploring a wide variety of social interrelationships and behaviors. Although many other instructional techniques might be employed, simulation or game models directly involve students in a participatory situation rather than a passive "looking" or "listening" experience. When they are included in instructional units, simulations and games give students variety in the style of learning experience. Students should be cautioned, however, that simulations or games are hypothetical models; real-world interactions and behavior may differ significantly from the simulation depending on the reliability of the model.

SIMULATIONS SELECTED FOR ANALYSIS

The simulations discussed here were selected as examples of the four instructional styles of models. They also represent a variety of subject content within a general area of political process.

These simulations and games have as their subject matter (content) a wide variety of local, state, or national interrelationships. They also illustrate the four instructional styles of models discussed above.

INSTRUCTOR'S ROLE

Instructors understandably avoid instructional techniques that require elaborate preparation or complex computation. Simulation models that are not intended as research designs generally attempt to avoid both demands on the instructor.

Preparation

In any simulation exercise the instructor should allow adequate time to introduce students to the purpose of the model or to the problem or situation involved, and to define all the terms and concepts the model employs. After students have read the manual, cards, or foldouts provided, they should have an opportunity to discuss and resolve questions about rules and procedures for play. If the instructor requires additional research, these assignments should be explained and discussed.

Supervision

While the model is being played, the instructor's chief responsibility is to supervise the series of steps modeled and to observe time constraints. For example, the model may prescribe for step one ten minutes to fill out issue position sheets; for step two, a ten-minute negotiation period between players; and for step three, a city council session to vote on a given issue. The instructor as supervisor must be careful that time limits and steps are followed so student players may observe the pressures and procedures the model illustrates.

TABLE 1 Selected Simulations

Simulation	Summary Description
American Government Simulation Series	A series of five exercises about the structure and process of U S government, involving: 1. constitutional convention 2. congressmen at work 3. presidential election campaigning 4 budgetary politics 5. presidential decision making that may be used as a unit or separately
Amnesty	A simulation dealing with Vietnam war issues, the problems of amnesty, and the decisions of the President's Clemency Board
Budget	A simulation illustrating procedures in the formation of the national budget and the conflicting interests involved in budget decisions
City Hall	A simulation focusing on local governmental structures, decision-making procedures, and voter behavior in urban elections
Election	A game providing step-by-step exposure to primary and general election process and structures and modeling individual public office holding and career advancement
Hat in the Ring	A game centering on presidential nominating procedures, the steps involved in becoming a candidate for President of the U S. (campaign planning, presidential primaries, and national convention), and the influence of campaign financing on candidate success or failure
Metropolitics	A simulation exploring four structural styles of urban government: 1. single unified government 2. two-level county approach 3 special district 4. neighborhood governments
Parksburg	A simulation of crisis decision making in a local urban area about garbage service and city financial limitations
Taxes	A simulation of the influence or role of taxation decisions and policies on election results for city council members favoring one or another set of tax policies
Women's Liberation	A role-playing model focusing on the concerns of the women's liberation movement and goals of groups within it

TABLE 2 Types of Models

Simulation	Role Playing	Bargaining	Structural or Process	Problem Solving
American Government	X		X	X
Amnesty				X
Budget	X		X	X
City Hall	X		X	
Election			X	
Hat in the Ring	X	X		
Metropolitics	X	X	X	
Parksburg	X	X	X	
Taxes	X	X		X
Women's Liberation	X			

Debriefing

A very important instructional experience occurs during debriefing. All of the models reviewed in this essay discuss or refer to debriefing activity for students. Discussion questions exploring the issues the simulations raise are listed in the instructor's manual, or at the end of the players' instruction sheets if there is no separate instructor's manual. The *American Government* series provides a detailed discussion and research exercise for debriefing accompanied by an extensive bibliography. *Metropolitics* and *Parksburg* include a series of discussion topics concerning urban politics. *Amnesty* suggests an extensive research project as well as discussion topics. The other models provide one or two discussion items for debriefing.

The debriefing period, in addition to model discussion topics, might profitably explore the following questions:

(1) What strategy did each player adopt in playing the model?
(2) Was this strategy effective, or would another strategy have been more effective?
(3) Did other players follow effective strategies and play the simulation well?
(4) Did any aspects of the model process or interaction behaviors suggest any examples from the local community "real world"?
(5) Were there any aspects of the model that appeared to differ from local community process or behavior?
(6) What did the players feel they learned from the experience of playing the model?

These questions permit the instructor to explore any misunderstandings concerning the model and inaccurate perceptions of the "real world" that may have resulted from the playing experience. Debriefing should involve careful exploration of model accuracy or reliability to avoid false impressions that the model replicates the real world. The instructor may point out that models are intended as reflections of some aspects of the "real world," but that no model claims to replicate it.

PURPOSE OF THE SIMULATION

The simulations discussed here model a wide variety of problems.

American Government

This series of exercises is designed to give students laboratory experiences in the field of American politics. The five issues or exercises are:

TABLE 3 Instructor Role

Simulation	Supervise Steps and Explain Roles	Evaluate Student Work	Check Scoring and Rules	Compute Results	Additional Uses and Revision Possibilities
American Government	X	X	X		X
Amnesty	X	X		X	X
Budget	X	X		X	
City Hall	X				X
Electron	X				
Hat in the Ring	X	X			
Metropolitics	X				
Parksburg	X		X		
Taxes	X			X	
Women's Liberation	X		X		X

(1) *Founding Fathers*, explaining the Constitutional Convention;
(2) *Congress*, illustrating congressional process and the issues of representation of constituent interests,
(3) *Presidential Election*, analyzing the strategy candidates may employ to achieve office;
(4) *Budget*, detailing the steps involved in federal budget making, and
(5) *Congressional Committee*, illustrating behavioral patterns of congressional committees.

Amnesty

This simulation is designed to explore the issues that surrounded the granting of amnesty after the Vietnam war. The model emphasizes research into the history of U.S. involvement in Vietnam, rather than the structure or process of amnesty proceedings.

Budget

This simulation models the steps in the formation of the national budget and the conflicts among various factions and interests over budgeting policy. Final budget decisions are shown to be limited both by the resources of the national economy and by past policy and budgetary decisions.

City Hall

This simulation models the structure of local government and the process and procedures involved in local decision-making behavior and policy decisions.

Election

This simulation leads students through a step-by-step analysis of the structure of primaries and the election process in becoming an office holder at local, state, and national levels in the United States.

Hat in the Ring

This simulation details the steps and strategies involved in becoming nominated for the office of President of the United States and, finally, running as a candidate for that office. The primary emphasis is on financial requirements and strategy, rather than issues or coalition building.

Metropolitics

This simulation explores the issues involved in urban governmental reorganization and the styles of urban governmental structure that are currently functioning in the United States. The model also explores the process of population reorganization at the local level.

Parksburg

This crisis model illustrates the negotiation and bargaining that occur when garbage collection service is curtailed as a result of financial limitations.

Taxes

This simulation exposes students to the effect of taxation policies on individuals with a variety of income, property ownership, and career levels in a community. It explores why individual interests support one style of taxation rather than another.

Women's Liberation

This role-playing model involves students in exposure to and analysis of the goals and desires represented by six of the major groups functioning in the women's liberation movement.

STYLES OF INTERACTION

Related to a simulation's intended or expressed purpose as an instructional technique are the styles of interaction programmed in the model. The interaction most frequently programmed as the first step is the formation of individual or special-interest positions after careful reading of rules and model role statements or background materials. As the second step, the model prescribes some formal device for articulating these individual or special-interest positions. This permits all players to become aware of the conflicting or competing interest positions in the simulation, and identifies the students playing the various role positions that represent the individual or special interests programmed in the model.

Negotiation and bargaining interactions follow this exposure to competing or conflicting interests as players attempt

to achieve the goals specified for their roles and to "win" or gain "high scores." Aggregation of interests may occur as the next step if coalition building, log-rolling, or trade-offs are programmed as interaction styles required to reach individual goals and score well. Many models do not include additional styles of interaction; they intend only to illustrate the interest articulation and aggregation behaviors of society. However, if the model is designed to illustrate system process and structure as well, additional steps may require players, after they form coalitions or aggregates, to learn how to use the modeled structures and the channels for interest input. To win, players must attempt to gain system attention for their position. A final step would be decision making, which ends with the formal structure announcing a decision on the issue modeled. The simulations discussed here vary in the styles of interactions programmed.

PREPARATION BY STUDENTS TO PLAY

Simulations vary in the amount of time and research they require of students to master their role assignments. Formal classroom discussion and explanation is always necessary to assure that everyone in the class understands the rules and operation of the simulation.

Some simulations also recommend or require that students do additional research before they begin to play the model.

BASIC FACTORS

Table 6 summarizes the basic factors of age level, number of players, class time for play, and cost of the simulations.

Age Level

The age level for which a simulation is suitable for use in the classroom is important, because a model at too advanced a level will be ineffective for younger students and an elementary level tends to be boring for the older and adult players.

Number of Players

The flexibility of a model in accommodating class size is an important consideration. Classes may be divided into teams, each playing separately and comparing results at the end. It is unwise to try to add roles to accommodate all student numbers unless an active and meaningful role can result. Students who have little to do learn little during play and are frequently bored. Playing with too few students may force the omission of roles that may be essential for playing the model.

Class Time

The amount of time required in the class schedule to prepare, play, and debrief a model is important in instructional planning. Instructors may not wish to devote a significant amount of class time to a model, or they may wish to make a model a major activity.

Cost

The cost of a model may be an important factor in deciding whether to use it. Library or instructional assistance funds may cover the cost, or students may be asked to pay for the player manuals to cover costs. Costs of virtually all the models discussed here range from $25.00 to $30.00.

PACKAGED MATERIALS

The packaging of a simulation usually influences the ease of its operation as well as its cost. Models generally provide an instructor's sheet or manual that explains the model, requirements for duplicating materials, room arrangements, and any research requirements instructors should prepare before play. Players are provided with a participant's manual, sheet, or background foldout. Roles are detailed on individual role sheets (to keep role data secret) or on role descriptions that are provided for all players. Any scoring sheets, cards, or forms are either provided in quantity or as masters for duplication. Some models also may provide filmstrips, maps, or overheads to assist play.

THE SETTING

These simulations do not require elaborate special facilities, but instructors should be aware that various activities may

TABLE 4 Styles of Interaction

Simulation	Individual or Special-Interest Articulation	Negotiation and Bargaining	Coalition Building, Log-rolling, and Trade-Offs	Process or Structure Exposure and Interest Input	Decision Making	Evaluation of How Well Programmed
American Government	X	X	X	X	X	Well
Amnesty	X				X	Moderate
Budget	X	X	X			Moderate
City Hall	X	X	X			Moderate
Election	X				X	Well
Hat in the Ring	X	X	X			Moderate
Metropolitics	X	X	X	X	X	Well
Parksburg	X	X	X	X		Well
Taxes	X	X	X			Moderate
Women's Liberation	X	X	X			Moderate

TABLE 5 Student Preparation

Simulation	Preparation Time and Research Requirements	Comments
American Government	Time: 1 hour No additional research	The five exercises are intended as illustrations of a variety of political behaviors and processes of American politics. The model is written simply and requires only that students read the manuals for each exercise and make themselves familiar with their roles and the rules of procedure. Forms are included for the various steps that make up the exercises.
Amnesty	Time: 3 to 4 hours Additional research required. Time allotted depends on instructor.	Students take a value orientation questionnaire and class themselves according to simulation identities. Library research is required to make the students familiar with amnesty viewpoints related to the simulation identities. Before the amnesty board hearings, each student must write a paper discussing the consequences of "my action." The time needed for research and development of viewpoints depends on student ability and experience with writing identity and viewpoint papers.
Budget	Time: 3 hours on model Additional research required before play. Time allotted depends on need to train students in library research.	Students have a guide of about 38 pages explaining the model problem, rules of procedure, and roles. Players receive individual identity cards, goal cards, individual score cards, voting power records, and job descriptions. Students may need several hours to become familiar with role goals, constraints, and requirements. Appropriation forms also require class explanation and discussion to ensure understanding. The job description forms require student research of budget materials. Students may need time for training in how to use library materials and research indices.
City Hall	Time: ½ hour No additional research	Student manual provides background detail for 38 role positions and the rules of procedure. Limited class discussion is required to clarify roles.
Election	Time: ½ hour or more No additional research	Players draw opportunity cards and use strategy in attempting to gain a high score in career activity, nomination for President or Vice President, and, finally, success in election. No elaborate explanation is required. The game is suitable for low ability students.
Hat in the Ring	Time: ½ hour No additional research	Students get foldout sheet for roles and positions. Rules are simple, involving random chance using a deck of cards. No computation or strategy selection is necessary. Limited class time is required.
Metropolitics	Time: ½ hour No additional research	Students get role envelopes detailing their marital status, income, social status, residence, and views toward political issues. Chips represent each player's influence. Rules are simple and require no computation or additional class explanation time.
Parksburg	Time: ½ hour No additional research	A manual explains the simulation problem and provides detailed role statements. Little class time is required to discuss role or rules. Problems for further research and an additional bibliography are provided. The instructor may decide whether to require research after the simulation.
Taxes	Time: ½ hour No additional research	Students have an identity chart, and they draw numbers for roles and tax positions. Those with similar positions meet before play to form factions for political action. Rules are simple and require little explanation.
Women's Liberation	Time: ½ hour No additional research	Students get an explanation sheet, a copy of women's liberation proposals, and special instructions explaining rules and procedures. After discussion of these materials, the class is divided into six groups to discuss their priority solutions and strategy for the voting session. Rules are simple and require no computation.

TABLE 6 Basic Factors

Simulation	Age Level	Number of Players	Time	Cost
American Government	Grade 9 to college freshmen	32 to 49 roles provided	If all 5 exercises are used and homework is assigned, unit may last 2 to 3 weeks. Each exercise requires several hours.	$1.95, $1.55 with school discount, per student handbook for each exercise; $1.35, $1.08 with school discount, instructor's guide for each exercise.
Amnesty	High School	15 to 40	Four to five hours, plus extensive library research and instruction.	$10.00
Budget	Grades 7-12	25 to 40 roles provided	Fifteen periods plus research on budgeting issues and background	$14.00
City Hall	Grade 9 to college freshmen	14 to 48	Four to seven 45-minute periods	$10.85
Election	Grades 6-12	4; may have teams	One-half to one hour	$9.95
Hat in the Ring	Grades 5-12	3 to 27 in teams of 3 to 9	Two to four hours in 45-minute periods	$9.95
Metropolitics	Grades 8-12 Adult	18 to 35 roles provided	One to two hours	$25.00
Parksburg	Grades 9-12	38; may be varied	Four to five hours in 45-minute steps	**
Taxes	High School	varies; instructor must adapt	Six hours in a series of opinion-formation and voting steps	$10.00
Women's Liberation	High School	varies with class, but class must provide roles	Three hours, plus time for research and library instruction	$3.00

**Must be purchased as part of Old Cities, New Politics package ($82.00 list, $75.00 school).

TABLE 7 Packaged Materials

Simulation	Instructor Material	Participant Material	Role Descriptions	Scoring Records	Film Strips	Overheads	Additional Bibliography
American Government	Manual	Manual	Sheets	Forms			X
Amnesty	Manual	Foldout	Foldout	Forms			X
Budget	Manual	Manual	In Manual	Forms			X
City Hall	Manual	Manual	In Manual	Forms			
Election	Sheet	Cards	Cards	Cards			
Hat in the Ring	Foldout	Foldout	Foldout				
Metropolitics	X	X	Sheets	Forms			X
Parksburg	Manual	Manual	In Manual	Forms	X	X	X
Taxes	Manual	Foldout	Foldout	Forms			X
Women's Liberation		Manual	In Manual	Form			X

require special classroom arrangements. One style of simulation is played around a table. Generally, this style uses a small number of players (four to six is common) and involves dice or card decks for drawing activities or instructional data.

Another style of model programs a town meeting, United National General Assembly, or a legislative session and requires only one large room with table space for each player. The room may need to be reorganized to give the presiding group a table for this general conference style.

A third, and the most common, style combines the general conference with a series of small-group caucuses, negotiation or bargaining interactions, or group issue sessions. These submeetings require an arrangement that will enable groups to meet privately and with secrecy if the model requires it. The

TABLE 8 The Setting

Simulation	Table	One Large Room	One Large Room with Small Conference Rooms
American Government			X
Amnesty		X	
Budget		X	
City Hall			X
Election	X		
Hat in the Ring	X		
Metropolitics			X
Parksburg			X
Taxes		X	
Women's Liberation		X	

most effective setting is a large room and several small rooms. If additional rooms are not available, the classroom may be arranged to place subgroups in corners or small circles apart from the general conference area, although this arrangement may be less effective if secrecy is required. The noise level in one large room may make it more difficult to negotiate effectively, as well

RULES

Recent simulations for instruction use simplified rules and procedures so students can concentrate on play and interaction rather than on learning complex rules or computation techniques. All the models discussed here have reduced rules to a minimum and use scoring only as a device to encourage students to play roles effectively; the desire to win or do well will influence efforts to play well.

ROLES

Role playing is an important learning experience in a simulation or game. It presents students with problems and capabilities or constraints that are not necessarily part of their own backgrounds or lifestyles. Playing an unemployed, minority urban dweller who is denied city service may be as alien an experience for a middle-class suburban student as playing the chairman of a city council or the President of the United States.

The models discussed here employ three styles of role playing. The first style specifies no role background or identity. Students are assigned issue preferences or are asked to define their own attitudes toward an issue and play the simulation from these perspectives. Because the roles are loosely defined, the potential exists for students to play themselves rather than a "role."

The second style prescribes roles as functions such as voters, council members, party leaders, candidates for office, or citizens. The model provides students with the goals for these groups and their functions. Interpretations of these functions and the ways to play such roles may vary from player to player because the simulation programs flexibility in playing the roles.

The third style involves individual role identities. Individual participants receive names and backgrounds, including residence, career, income, race, religion, family status, educational level, and issue preference. Each role has specific goals and varying capabilities for achieving them. Scoring relates to success in goal achievement.

Individual role statements are the least flexible style and assure "role playing" by students; they require more elaborate

TABLE 9 Rules and Scoring

Simulation	Rules and Criteria of Success	Scoring Style
American Government	Simple process and voting rules. Score by success on issues and votes.	Tables and instructor's evaluation of play.
Amnesty	Simple process rules. No score except success in influencing board decisions.	Whether issues are included.
Budget	Simple process rules. Score by success on issues.	Prescribed votes and totals on score forms
City Hall	Simple process rules. Scoring based on success of candidates and issues	Score sheet for candidate success.
Election	Simple process rules. Scoring derives from opportunity cards and random drawing.	Career score form and nomination
Hat in the Ring	Simple process rules. Score by random drawings from deck of cards.	Score form
Metropolitics	Simple process rules. Scoring based on success of issues and candidates.	Role card, alliance cards, influence chips, and final score total.
Parksburg	Simple process and voting rules. Score by success on issues.	Role and issue strategy forms.
Taxes	Simple process rules. Success based on issues and candidates selected in final vote.	Score sheet for taxes and positions.
Women's Liberation	Simple process rules. Success with issues included in group and final conference.	Whether issues are included.

TABLE 10 Roles

Simulation	Attitude or Issues Role	Functional Roles	Individual Identity Roles	Role Flex bility	Role Activity	Role Reliability	Role Unity
American Government			X	Controlled	Good	Good	X
Amnesty	X			Loose	Medium to low	Medium to low	
Budget			X	Controlled	Medium	Good	X
City Hall		X		Medium	Medium	Medium	X
Election	X			Loose	Medium to low	Low	
Hat in the Ring	X			Loose	Medium to good	Medium	
Metropolitics			X	Con rolled	Good	Good	X
Parksburg			X	Con rolled	Good	Good	X
Taxes			X	Con rolled	Medium	Medium	X
Women's Liberation	X			Loose	Medium	Medium	

modeling by the author and careful analysis of the roles. This style is the most effective, but it is omitted in less complex simulation models. The variety of roles in a model relates to these styles of role programming. More complex models provide greater variety

An important consideration for the instructor is whether the model roles provide activity for every student. Models that leave blocks of time with little activity for some students may be ineffective as class learning experiences. Students with little to do become bored or frustrated and learn less from the experience. Most of the models provide reasonable activity for all players, but the instructor should check those listed as medium or low on activity for class suitability.

MODEL RELIABILITY

Simulation models that are used for research or laboratory experiments seek to model replications of the "real world." Such models are complex and often require computer assistance and programming. Even with elaborate modeling, however, replication is difficult at best. Student-played models generally warn that they should be presented as *illustrations* but not *replications* of the "real world" system they model. The debriefing period is valuable as a time to analyze and discuss the simulation and its variance from the "real world," as well as the results of the simulation play and their similarity or dissimilarity to what has occured in the "real world."

Caution is always required in discussing model reliability. No model claims to be a replication of the real-world situation modeled. Real-world structures, behaviors, processes, and competing interests are complex and often poorly understood or researched, and social science literature reveals wide disagreements among social scientists over any of these factors. Gaps in research and knowledge exist over process, structure, bargaining behavior, and coalition-building tactics. Modelers cannot be expected to replicate the real world when the literature in the field is unsure of what the real world may involve. Two plus two is not difficult to model, but social science affords little opportunity for such precision as a total of four. The problem of reliability should be discussed thoroughly in class to avoid and correct misunderstandings or misleading acceptance of the simulation as a replication of the "real world."

CONCLUSION

Any of these models may be employed usefully when they are appropriate to course content or instructional unit goals. Each involves a different set of roles, processes, and problems.

All of the models provide students with opportunities to play roles and experience the constraints and frustrations of a hypothetical person placed in the model's decision-making setting or problem. All of the models also afford some experience with strategy development and coalition-building tactics as individual players attempt to achieve their goals. *American Government*, *Budget*, *Metropolitics*, *Parksburg*, and *Taxes* give more background information in their exposure to bargaining behavior and the myriad conflicting interests and viewpoints represented by the hypothetical individual roles and by the variety of interest or pressure group positions included in the models. The other models provide players with less detailed information concerning role descriptions and pressure or interest group concerns.

A lack of background material leaves more to students' imaginations or ingenuity in relation to possible coalition-building conflicts and stumbling blocks. Because students are frequently unaware of the competing interests that operate in their local communities and have had limited experience with the political decision-making process, models that specify individual role backgrounds and group interests may be more helpful in introducing them to possible pressures and counter-pressures involved in determining policy or solving problems. Detailed role specifications of the economic, social, educational, and political interests involved in a model require more extensive research and model development by the model designer. Such detail also tends to involve longer manuals, role sheets, and instructions, thus increasing price. However, the additional cost and the additional time students must put into preparing their roles before effective play can begin is more than justified by the controlled experience they receive from

TABLE 11 Summary Analysis of Models

Simulation	Model
American Government	Illustration and partial representation of American political systems. Does not use contemporary issues. Modelers warn that political science has only partially validated hypotheses, and "reality" is difficult to determine.
Amnesty	Analysis of attitude toward amnesty and Vietnam war policy. No coalition building or political skills programmed. Attitude and role loosely controlled and may tend toward students playing "themselves."
Budget	Model of coalition building and voting power. Tends to ignore communication channels or skills of the players. Budget decision-making model not applicable to other areas of decision making.
City Hall	Emphasis on voting issues and coalition building, but not on political philosophy or issue content.
Election	Simple game based on gambling and random chance. Illustrates structure, but not coalition building, problem solving, or issue content.
Hat in the Ring	Illustrates steps in nomination for office. Based on gambling and random chance, not reality.
Metropolitics	Structure and process of urban political styles of government. Illustrates complex urban issues and coalition building. Complex structural problems and not easy for all students to grasp.
Parksburg	Illustrates political bargaining and power bases of various groups. Weak on political concepts. Emphasis on political skill rather than problem resolution.
Taxes	Illustrates the influence and effect of taxation on individuals and why certain tax policies are preferred by some individuals and not by others. Little exploration of coalition building or system process.
Women's Liberation	Illustrates issues involved in women's liberation movement and six groups active in the movement. Illustrates women's concerns. Ignores power, legal positions, or other issues.

playing the detailed model. Greater role detail assures the instructor that students will envision the roles they are playing in relation to certain prescribed factors rather than relying on their imaginations, which may run rampant or land them in confusion with the result that their role play is ineffective or restrained.

Some of the simulations model structure and process. *American Government* focuses upon congressional and elective structures. *Budget* details steps in budget formulation. *City Hall* looks at local decision-making processes. *Metropolitics* centers upon urban structural styles. Finally, *Election* provides primary and general election processes. The others either do not explore structure and formal process or do so only incidentally.

This brief discussion of content, role playing, coalition building or bargaining behavior, and structure and process in the models re-emphasizes the necessity that the instructor select a model designed to give students the experience desired. All of the models have strengths and limitations as instructional units. No single model necessarily provides the subject matter (content) and all the structural bargaining and role-playing experiences one might seek. The instructor may need to decide whether subject matter is more important than exposure to structure, whether exposure to structure is more important than experience with detailed role playing, and so forth.

All of the models require careful debriefing and discussion of the limits of the model and the divergence from the "real world." It might be argued that simulation models are not useful, given both their limitations in modeling replications of the real world and the lack of precision that exists in the data of the social sciences. However, one might as well reach the opposite conclusion. Given the complexity of social and political structures, processes, and behaviors, simulation models permit students to explore some factors of a decision-making experience in a laboratory setting and to analyze the model for player behavior, strategy, and success or failure in achieving goals. Students may compare and contrast this laboratory experience with the local community. Any differing or complementary factors they find between the model and the real world may not only suggest the model's level of reliability, but also may foster greater understanding of the complexities that occur in the real world.

The use of simulations for instruction should be encouraged for this opportunity to provide greater research and analysis of the "real world." Students comment frequently that a simulation experience has been valuable and has promoted their interest, additional research, and an appreciation of real world factors and complexities. If this is a frequent instructional result of the use of simulations as an educational technique, their limitations are more than compensated.

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