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ABSTRACT

A microeconomic simulation game, called Micro-Economy, is discussed. The game approach was developed to provide students and educators an opportunity to express the aspirations, values, and principles of the people living in an environment. By following a microeconomic model, Society School, students create microinstitutions for their society at school. Several uses of the simulation in various schools are reported. Some noted qualities of the model are (1) teachers will find this model attractive because it allows them to bring real world experiences into the classroom and to demonstrate the connection between competency in traditional language and mathematics skills and success in the social system that evolves; (2) the program gives students access to new ways to think about themselves and their own competencies; (3) the model offers grounding in commercial, legal, and political practice; and (4) the central unity of the experience of institution building emerges within the domain of human values. Possible research issues are given for each characteristic. Micro-Economy is available from Harcourt Brace Jovanovich's Center for Curriculum Design for \$39.00. The game and its development are described in "The Micro-Society School: A Real World in Miniature," Harper and Row, 1973, \$7.95 hardcover, \$2.50 paperback. (Author/ND)

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A NEW FRONTIER FOR EDUCATIONAL RESEARCH.

Dr. George H. Richmond

For: The American Educational Research Association

Every classroom, in form and content, is a micro-society. Although the content and the structure of each classroom differs markedly from the content and structure of macro-societies, enough similarity exists between them that the processes that can alter one may well be used to alter the other. More important, if classroom micro-societies appear to resemble or to have clear affiliations with past macro-societies, then every classroom--like every society--can be said to be experiencing within itself a historical process. If that process has its roots in the structure of the school rather than in the content of its prescribed curriculum, then it follows that any real change in the way schools do business must occur on a historical dimension with sufficient power to change the structure of the institution.

--George Richmond  
*The Society School*

During my first year as a teacher in a troubled Brooklyn school, I found myself in a social system in which children were constantly warring among themselves. Through the initial development of a micro-economic simulation, I began in successive interventions to engage students in designing commercial, justice, and political institutions. Through these institutions students generated processes that constantly placed them in the middle of genuine ethical and survival dilemmas. These dilemmas were manipulated to oblige students to define and redefine the environments they lived in and to establish for themselves what it means to be humane in an organization context. While developing social systems with students, I became convinced that the approach promised educators and students alike unusual opportunities to shape the environment to express the aspirations, values and principles of the people living in them. Moreover, I came to believe that the Society School schema held within it the promise of a unique synthesis of behavioral and developmental psychology, and of affective and cognitive development.

Believing that a strong and virile humanism can only emerge out of the realities of economic press, I developed a real estate simulation modeled after Monopoly, called "Micro-Economy." The simulation begins with the introduction of money into the classroom. Behaviorally, the injection of this new instrument into the classroom environment provides students and teachers with an occasion for deliberating over and revamping the reward structure operating in the schoolhouse. To increase the potency of this new currency and to make it competitive with the grading practices and other reward systems (praise, blame) operating there, I decided to back the currency with tangible goods such as toys, books, cake, clothing, records, etc. Periodically, auctions were held so that students could exchange their scrip for these goods. To our scrip I tied the idea of labor. Where Monopoly rewards players through various chance mechanisms, students in my class earned theirs by performing school work, by offering themselves for community service, by accepting employment in our micro-economy, and by selling goods and services produced either at home or in school.

This linkage, between a system of reinforcements and a variety of desired behaviors, produced a number of by-products. Students who were behaving to acquire the tangible benefits the system conferred soon differentiated their behaviors and began responding to combinations of tangible and intangible rewards for action: pleasure in making something, developing and selling a product someone else would exchange, the fruits of their labors for, peer esteem, status, community recognition, etc. More important, I permitted students to assign values to the

reinforcement system and thereby transferred to them a major responsibility for structuring their own environment.

The creation of micro-institutions, called for in the model, conferred another set of important opportunities on students. Organizations dominate modern society the way individuals once dominated the frontier. The dominance is no accident. The titles, remuneration, the status and the security organizations give their members make them a dominant force in the culture of achievement. Paralleling the transfer of control over the payoff system to children, my colleagues and I decided to transfer the right to make organizations to children as well.

The first institution organized was a bank. An auction market for land followed. A construction "company" was formed to create model buildings and properties as classroom shelves became the "game board." Later, credit unions, cooperatives and savings and loans associations were created. The more general significance of these activities should not be missed. More than a mere simulation of a real estate, banking and construction experience had occurred. Simulation had provided the impetus for the beginning of institution-building. Institution-building increased student control over the most important dimensions of the environment. As one might expect, this control often produced inequities, injustice, even exploitation. However, while producing this alienating behavior, micro-society activity also produced opportunities to correct the wrongs, occasions to consider issues of justice and fairness, and opportunities to evolve society through a thousand adjustments and readjustments in the social order. The model made students makers of history in a micro-

environment and assigned them the task of bearing the consequences of their actions.

A second micro-economic effort took place in Public School 122 in Queens. There, the predatory practices of an 11-year-old extortionist led to the formation of a legislative and judicial process to deal with him. The third and fourth micro-economic efforts occurred in Project Broad Jump, a six-week Upward Bound-type program affiliated with the Boys Club of New York. In that setting, boys of intermediate-school age constructed an elaborate city within the framework of the Micro-Economy simulation. This time an older group of boys tried to exploit a younger group, giving rise to the invention of Society School corporation: a real estate cooperative.

The project took a more elaborate form in Public School 126 in Manhattan, a school serving a low-income population of Chinese, Puerto Ricans, blacks and whites. The P.S. 126 model addressed the problems of expansion of the experience to the school at large. A schoolwide economy was piloted as was a schoolwide legislative organization, the latter growing out of a constitutional convention. A series of courts emerged, to handle conflicts that arose. Students assumed new leadership roles, often demonstrating great kindness to their fellows, especially those in distress. They explored genuine work experience, political activity and legal processes, always trying to fix the system where it broke down. The pilot program grew from 1 teacher and 30 students to 15 teachers and 400 students in two years.

The model remains to this day a product of improvisation. My colleagues and I feel strongly the necessity for developing materials that will help students understand the options they have in designing the reward matrices for their environment, in selecting and implementing organizational environments, and in developing ethical precepts based on experience with society in miniature. We also feel a necessity for designing research instruments and methodologies appropriate to the power transfer objectives of the model.

Although these transfer objectives express my own central tendency in terms of research activity, researchers other than myself may choose differently. The research questions and lines of investigation stretch far beyond this narrow personal agenda. The remainder of this paper will be devoted to enumerating the possibilities and to outlining the frontier I think we have reached.

#### Research Issues

First, we believe that teachers will find this model attractive because it allows them to bring real world experiences into the classroom and to demonstrate the connection between competency in traditional language and mathematics skills and success in the social system that evolves. Of necessity students need to perform as readers, writers or computers, as well as decision-makers, in the resolution of conflict confronted in their institution-building experiments.

*Possible Research Issues:*

1. Can the acquisition of language and computation skills be speeded by raising the value of these skills within the student peer culture?
2. Alternatively, can the acquisition of language and computation skills be speeded if children perceive reading and writing and computing as processes essential to their survival within a social system that they devise?
3. Does model activity make teaching more rewarding for adults?

The program also gives students access to new ways to think about themselves and their own competencies. Since the model contains the possibility for the creation of many different institutions including a wide occupational spectrum, students will have the opportunity to interact with a dozen or more different institutions in a single year. The multiplication of student-created institutions inside a class implies an increase in the opportunities for students to perform in management and leadership roles. The Micro-Society idea also carries certain other likelihoods. For instance, most students will probably experience being in superordinate and subordinate roles simultaneously. Students will alternate between producer and consumer roles, between empowered and powerless roles. Such experiences will provide students with new insights into understanding the perspectives of others and the need to exercise skill in negotiation, bargaining, and decision-making.

*Possible Research Issues:*

1. Does student control of the reward structure and of classroom

institutions have any short- or long-term effect on individual requirements for positive and negative reinforcement?

2. Does student control over the reinforcement pattern and the values they assign it have any short- or long-term effect on self-concept?

The Micro-Society model offers grounding in commercial, legal and political practice. Although this grounding should give the student a clear introduction to the basic duties and responsibilities of citizenship, more important are the linkages the model forms between a student and his own culture. By connecting students with the origins of institutions, it is possible to make explicit the reasons, necessities, and limitations underlying those organizations. Understanding of these connections appears to us to be the foundation for the exercise of the rights of citizenship and for the shouldering of the burdens and opportunities those rights imply.

*Possible Research Issues:*

1. Do students, given the opportunity to develop a social system, merely mimic the social system they perceive as adult society or do they innovate and create social agreements that respond to their special needs?
2. If, say, the model is implemented with a special agenda aimed at eliminating sex-stereotyping, will it result in a changed perception of male-female roles?
3. If the model is implemented with a special agenda calling for economic development, will the individuals who leave the model have received adequate training to manage economic development in adult society?

4. What effect will early occupational experience and exposure have on student career choices, on student perceptions of work, on student perception of parents who work?

The central unity of the experience of institution-building emerges within the domain of human values, for students will need to consider human values in connection with the Society School materials and model activity. In building an institution from scratch, they will promulgate the rules that ultimately limit, direct, and shape their actions. They will experience setting priorities and allocating scarce resources in the face of competing claims. They will study the ways other people have arrived at rules for doing this. So, too, they will confront the enduring human dilemmas that engage all people, in and out of school, today and yesterday, when they seek to resolve human problems imposed on them by existing institutional arrangements.

*Possible Research Issues:*

1. What effect will genuine moral dilemmas encountered during implementation of the model have on student capacities to reason morally?
2. What impact, if any, does the model have on need achievement?

In addition to these more traditional research queries, and the listing might be extended considerably, the Society School model will require the invention of certain new research technologies. Because the model purports to establish within schools the reality of the outside world, it follows that indicators traditionally used to evaluate performance and behavior in the outside world will have to be made over to function for student activity connected with the model.

For example, students generate an economy in their school. The economy produces goods and services. The relevant indicators for economic performance in the outside world are indices of employment, unemployment, gross national product, consumption, savings, and wealth distribution. These indicators, made over for application to classroom economic life, will someday be applied to schools and will someday provide us with useful data concerning the health of one school economy compared to others.

From the educator's point of view, it will also be important to keep track of the number and quality of organization experiences each student has. For example, students might be expected to experience living in highly routinized environments and in unstructured environments building up tolerance for both. In the interests of a liberal education, students might be expected to explore their possibilities in profit and nonprofit enterprises, in manufacturing and service industry corporations, in cooperatives, and in other forms of organization. Educators will also want to monitor student income and to break it down into element contributions as a way of assessing the performance of individuals along a variety of dimensions.

Using the accounting and bookkeeping system we propose to design, researchers might be able to reconstruct the transactions between individuals in society and thereby assess the power of economics to overturn racial, ethnic and gender biases and prejudice. Possibly more innovative, researchers may find themselves able and willing to train

students to carry out certain parts of their research and thereby lessen the impact research has on behavior within an intervention.

The legal and political systems developed within the model place children, on the one hand, in the position of devising punitive and rehabilitative systems for criminal elements within their social system, and, on the other, in the position of formulating governing bodies with real powers. The researchable issues raised by one or the other of these systems alone could keep unemployed Ph.D.'s fed and clothed for another fifty years.

If you sense my excitement at these prospects, perhaps I should also acknowledge my frustration. There is so much to do, so much undone, so much room for collaboration and collegueship. But there is also, at this point in time, so little recognition of the potentialities that, if you come aboard, you would have to spend a good deal of your time lobbying for support.