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## Johns Hopkins Games Program

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*This memoir describes the author's participation in one of the first funded projects for the development and testing of educational games with simulated social environments. It concludes with some speculations on the current status and future possibilities of this mode of learning.*

**KEYWORDS:** *applied sociology; educational games; evaluation; Hopkins Games Program; learning from game creation; learning from simulations; LIFE CAREER.*

When I arrived at Johns Hopkins University in the fall of 1962, I joined a small group of social scientists headed by James Coleman, who had just been awarded a grant by the Carnegie Corporation to explore the use of simulation gaming as a teaching tool at the secondary level. Coleman's (1961) rationale for this project was based on findings from his *The Adolescent Society*, a study of 10 American Midwest high schools, which documented depressingly low levels of academic motivation and achievement in all of the schools in the sample. Coleman concluded that some of the major impediments to effective learning were built into the social structure of high schools, in particular, "a focus upon future needs which are not made real to students, a rigid system of assignments and grading which does not reward high levels of achievement or effort, and emphasis upon the 'judging' aspects of the teacher's role" (Boocock & Coleman, 1966, p. 235). Coleman proposed that these defects might be corrected by classroom activities that incorporated certain characteristics of games and contests.

### The Boom Years

The first year of the Hopkins Games Program, as it came to be known, was devoted to the design and testing of a computer-based game simulating a national presidential campaign. Students in two Baltimore high schools were divided into campaign teams, whose purpose was to see their candidate voted into office. At each stage of the campaign, team members had to decide what position their candidate would take on several issues and how to spend a campaign fund allotted to the team. Each day's decisions were rushed back to the university, where they were fed into the Hopkins computer, which had

been programmed with the results of polls taken in Baltimore in a previous election. We held our breath, hoping that there would not be a major computer malfunction or that we would not have to spend the night debugging programming or coding errors. (On more than one occasion, the results given to the students were based more on creative guesswork by program staff members than on the electronic calculations of the Hopkins computer.) At the end of a week, final votes were calculated, and winners were announced in each participating classroom.

Despite the many flaws in this first game, the students participated with gusto—"problem" students, in particular, often surprised their teachers by their involvement in the game, their good behavior, and their shrewd moves. It was also clear, however, that the difficulties of using the computer far outweighed its advantages. Students' exploration of the simulated environment and their resultant learning from the game experience were severely restricted by the slow turnaround time. (Developments in computer technology since the 1960s, and their ubiquitousness in schools, have of course eliminated most of the purely technical problems we encountered in 1962-1963.) In any case, we turned to developing games with greatly simplified social and economic environments that did not require elaborate equipment and could be packaged very much like commercial board games.

New games were tried out in informal meetings that eventually evolved into a weekly seminar of the project staff and other games enthusiasts. Games that survived repeated play by the fiercely critical seminar members were then tested in schools and other educational organizations. For example, a particularly fruitful collaborative relationship was established with the National 4-H Clubs, which made simulation games an integral part of their programs and provided access to large numbers of young people at national and local conferences.

The Hopkins Games Program was supported for the first 6 years (1962-1968) by a pair of generous grants from the Carnegie Foundation. In 1966 it became one of the five programs of the Johns Hopkins Center for Social Organization of Schools, a research and development center supported by the U.S. National Institute of Education. Eventually, the demands for game demonstrations and for copies of the games themselves grew to the point that Coleman and three partners (of which I was one) founded Academic Games Associates (AGA), a nonprofit corporation for the licensing, production, and marketing of Hopkins games, and royalties from the sale of games provided additional support for the program. During the approximately 10 years of AGA's existence, the following seven games were published (originally by Western Publishing Company, with the publication rights later transferred to Bobbs-Merrill):

DEMOCRACY, which simulates the legislative process, in which players negotiate to get bills passed or defeated in accordance with their own beliefs and their constituents' interests.

LIFE CAREER, which simulates certain features of the labor market, the education market, and the marriage market, and players plot the life of an imaginary individual with specified personal qualities.

CONSUMER, which simulates the problems and economics of installment buying, and players take roles of credit and loan managers as well as consumers.

DISASTER, a civil defense exercise, in which players in the roles of public officials and citizens of a simulated community hit by a hurricane, tornado, earthquake, or other natural disaster must balance the demands of saving themselves and their families against general social responsibilities for helping the community respond to the emergency.

GENERATION GAP, which simulates the interaction between a parent and an adolescent son or daughter with respect to certain issues on which they may have opposing attitudes.

GHETTO, which simulates the pressures experienced by the urban poor, and the choices open to them as they seek to improve their life situations.

ECONOMIC SYSTEM, in which players in the roles of workers, farmers, and manufacturers attempt to maximize their welfare as they move through the stages of producing, marketing, and consuming food and manufactured goods.

Although I was involved to some degree in all of the games developed between 1962 and 1968, when I left Johns Hopkins, my pet project was the LIFE CAREER game. The idea for LIFE CAREER grew out of some research I had done, while an M.A. student at Rutgers University, on the value systems and aspirations of adolescent girls. Although the girls I interviewed claimed to be doing a lot of thinking about their futures, about all they were really planning for was their weddings. Most could not project themselves beyond the day they landed a husband or, at most, beyond the birth of "lots of kids." My objective was to shake them out of this mind-set through vicarious experience in making the kinds of decisions about marriage, children, education, and jobs that they were likely to face in their own later lives. (Although LIFE CAREER was originally designed for girls, I discovered early that the need for practice in these skills was just as great for boys, and the final version included equal numbers of female and male profiles.) The game thus simulated certain features of the American labor, education, and marriage "markets," showing the way in which a typical life cycle is patterned, what kinds of opportunities are available to individuals with varying sets of personal characteristics, what factors affect a person's success and satisfaction with his or her education, occupation, marriage, and use of leisure time, and how decisions about various sectors of one's life are interrelated (for example, how the education a person attains relates to the kind of person one marries as well as one's later job opportunities; also how

the decisions made at any point in one's life shape, and often severely limit, one's options at later points).

Play of the game involved competition among pairs or teams, each of which was given a profile or case study of a person about the age of the players themselves. The goal was to set general life goals for this fictitious person and to make a series of specific decisions (for example, whether to accept an opportunity to marry, to have a child, to get a job, to get some additional education). Playing the game also required the players to learn how to locate and use reference materials (e.g., occupational handbooks and college catalogs) and to fill out college or job application forms. After each decision period or round, results were calculated in the form of (a) a set of satisfaction scores indicating how well the profile person was doing at reaching his or her goals, and (b) the occurrence of specific events in one's life, such as the birth of a child or the loss of a job. (We eventually designed a series of tables and spinners, based on available data sources, ranging from census data to the Havemann and West "They Went to College" surveys, that enabled students to calculate the game results themselves.) A complete game, consisting of about 10 rounds, took the profile person up to age 50, and the winner was the team whose person reached his or her goals with the highest total satisfaction score.

From the more constricted perspective of the 1990s, it is difficult to conjure up the heady combination of enthusiasm and idealism, the commitment to social reform, and the spirit of improvisation that fueled a project like the Hopkins Games Program. Certainly for me (and I suspect for most of my colleagues), working on this project was a first real encounter with applied sociology—and with the world of lawyers, accountants, expense account lunches, designers, marketing experts, and the mass media. (During 1966-1967 alone, the Hopkins Games Program was the subject of two television specials and of articles in *Newsweek*, *Time*, *Saturday Review*, *The New Republic*, and *Readers' Digest*.)

The Hopkins program paralleled the development of other educational innovations, including programmed learning, team teaching, the open classroom, and free schools. Many social scientists at the time believed that American society was on the threshold of a major societal transformation, one in which they would play an important role. Interviewed for a 1966 *Newsweek* article (which also described the Hopkins Games Program), Orville Brim, then president of the Russell Sage Foundation, predicted that social science knowledge would change the world "as drastically as did nuclear weapons," and that in 30 years' time, Americans would have the know-how to produce the kind of individuals and societies that they chose (August 15, 1966, p. 82). Naive as such predictions sound in the current era

of diminished expectations, Brim's views were widely shared at the time, and they reflect the intellectual and moral climate in which the Hopkins Games Program was born and operated.

### Educational Gaming in the 1990s

Regarding the status of educational gaming today, I would describe the field as in a stage of partial but not full eclipse. For all the excitement generated by the projects initiated in the 1960s and into the 1970s, gaming as a method of teaching still remains outside of the educational mainstream. Games have certainly not replaced textbooks or teachers, as some early enthusiasts predicted; most schools do not use them at all. (At present, all of the Hopkins games are out of print.)

I see a number of reasons why educational gaming has failed to fulfill its earlier promise. A major unresolved problem is that the effects of games have always been difficult to document, and most evaluation research is still of poor quality. During the first few years of the Hopkins program, most of our efforts went into developing the games themselves—although even at that early stage we tried to field-test the games in a wide variety of settings and to gather some preliminary data on their effects. After the establishment of the Center for Social Organization of Schools (CSOS) in 1967, the evaluation component of the program was greatly expanded. We could nearly always obtain empirical evidence that the games elicited players' interest (although not all students enjoyed them and there was little evidence that interest aroused by a particular game had any spill-over effects resulting in increased interest in other academic activities).

Cognitive gains were harder to gauge. It is probably fair to say that neither the Hopkins Games Program nor any comparable program has ever demonstrated consistent significant advantages of simulation games over other teaching methods in the acquisition of factual knowledge, general principles, or learning skills. The overall situation can perhaps be summed up in Greenblat's (1975) conclusion that

Although there is little evidence that students learn more when taught by games than by conventional methods, there is no evidence that they learn *less*. . . . games seem to be at least as effective as other modes of teaching, and further studies may show yet more significant results. (p. 282)

Similarly, we were never able to obtain clear evidence for our belief that academic gaming would have special value for students who did not perform well in the conventional classroom setting and would thereby narrow the gap between high- and low-achieving students. Although we often observed

students who had generally poor academic records making shrewd moves in the game—and making them repeatedly enough to indicate that they were not simply random or lucky moves—these students were rarely able to say what they had learned, either verbally or on a written test or questionnaire, and we never succeeded in developing satisfactory ways to measure their learning.

The effects of games on players' attitudes have also been difficult to document. Although players generally found the simulated environments realistic, claims that they would gain greater understanding and empathy for the real-life persons and situations simulated in the game, or that their feelings of personal or political efficacy would be enhanced, have not been consistently supported. From the beginning, some thoughtful critics also worried about unintended consequences of the games' verisimilitude. Because the game experiences were so realistic, might they not encourage quiescent and conformist attitudes rather than critical thinking with regard to the problems simulated (Carlson, 1967); might they not glamorize war and the wielding of economic power, and encourage stereotypical thinking about the problems of the poor or racial minorities (Shirts, 1970)?

In sum, simulation games are hard to sell to educational decision makers because we have not produced solid evidence for their effectiveness as instructional devices. As Greenblat has repeatedly pointed out, most claims are still based on anecdotal rather than solid empirical evidence, and most evaluations are seriously inadequate with regard to sampling, operationalizing, and measuring concepts, and even defining the appropriate goal of a particular game (Greenblat, 1975, 1989). Although the need to develop tests that measure accurately the kinds of learning that occur in games is widely acknowledged, few game designers have the inclination or the resources to produce the appropriate evaluation instruments as well.

Finally, simulation games may be out of fashion simply because the current intellectual atmosphere is so very different from that in which the Hopkins Games Program was launched. What brought an end to enthusiasm and support for many promising educational innovations, including simulation games, was perhaps not so much a lack of conclusive evidence about their effectiveness (what body of research has, after all, ever established the benefits of textbooks or the lecture method?), but a change of social climate. In American schools, periods in which experimentation flourishes alternate with "back to basics" periods in which maintaining discipline and academic standards is the central issue. The straitened economic circumstances of the 1990s, as well as an abiding uneasiness about any mode of instruction that involves fun, also explain the lack of interest in simulation games among most educators today.

Still, the repertoire of games with simulated environments and the body of knowledge regarding their construction and their effects continues to accumulate. The more grandiose early claims are gradually being replaced by more realistic expectations. Sooner or later the current intellectual climate will yield to one more receptive to experimentation and reform. Some recent projects on the educational applications of computers, based on principles that are very congruent with Coleman's (1961) model of learning, suggest promising avenues for future exploration. Dissatisfied with most so-called computer-assisted instruction, in which the computer teaches—or programs—the students, researchers like Papert (1980) are turning the process around so that

The child programs the computer and in doing so, both acquires a sense of mastery over a piece of the most modern and powerful technology and establishes an intimate contact with some of the deepest ideas from science, from mathematics, and from the art of intellectual model building. (p. 5)

Similarly, almost all game designers agree that they learn a great deal about social processes through their efforts to simulate them, regardless of what the players do or do not learn. The pedagogical implication is that for students as well as professional researchers, the maximum benefits of simulation games are likely to occur when one takes an active role in their creation. In the future, I would like to see more students learning the language of simulation gaming in order to create their own social worlds as well as to experience social environments designed for them by others.

*I was one of the first students in the Ph.D. program in Social Relations at Johns Hopkins University, where I was also a Research Associate and subsequently co-investigator for several of the projects comprising the Johns Hopkins Games Program. I was a founding partner of Academic Games Associates, a cofounder of this journal (member of the Editorial Board 1970-1979, coeditor 1973-1976), and a founding member of the National Gaming Council. My two published simulation games are LIFE CAREER and GENERATION GAP (the latter co-designed with E. O. Schild). I am the author or coauthor of Simulation Games in Learning (with E. O. Schild), An Introduction to the Sociology of Learning, Turning Points: Historical and Sociological Essays on the Family (with John Demos), and The Sociology of Education. My current work focuses on the sociology of children, cross-cultural studies of childhood and child care, and policy research on early childhood care and education.*

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