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The Futility of Testing: Simulations as a "Test" Case

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IN ORDER to appear more scientific and obviously obtain the legitimacy that only science can confer, educators over the past two decades have been obsessed with scientific testing. For some, testing itself has become more significant than results, for others the results often have confirmed what could have easily been deduced from observation, and for still others testing has led to the premature termination of projects that had obvious but "untestable" qualities.

Before this author is charged with having an anti-scientific bias, it should be noted at the outset that testing itself is not being denounced, only the way in which some tests have been used by educators, the obsession which some educators have with tests, and the inability, or unwillingness, of some educators to recognize the limitations of tests.

Simulations¹ represent one technique that has been subject to a battery of tests in order to legitimate their use as a teaching method in the social studies. For some years educators have been trying to prove that simulations either improve scores on critical

thinking and cognitive tests or they do not. Richard Wing reported that in an experimental group taught through computer games there was no real way of determining increased understanding among those in the experimental group.² In a comparison of simulation and case study techniques conducted by Margaret Hermann, Lee Anderson, Richard Snyder, and James Robinson, the reported results indicated that students who preferred the case method did better on fact mastery, while those who preferred simulation "seemed to do better" on principles.³ Three other educators examining simulations as a method of developing general problem-solving skills reached the conclusion that there was "a highly significant" difference in favor of the experimental group.⁴ A student

² Richard Wing. "A Report on an Experiment with Computer Based Games." In: Ellis B. Page, editor. *American Educational Research Association Paper Abstracts*. Washington, D.C.: American Educational Research Association, 1967. p. 61.

³ James Robinson and others. "Teaching with Inter-Nation Simulation and Case Studies." *The American Political Science Review*, 1966. p. 57.

⁴ L. E. Allen, R. W. Allen, and J. C. Miller. "Programed Games and the Learning of Problem Solving Skills: The Wf'N Proof Example." *The Journal of Educational Research* 60 (1): 22-26; September 1966.

¹ Simulations will be defined as teaching methods that attempt to recreate "real life" situations through games, scenarios, role playing, socio-dramas, and decision-making experiences.

at New York University conducting a similar research project concluded, "Simulation did not prove superior to lecture-discussion treatment as a teaching activity in this situation. . . ."⁵

What these data suggest is that the tests conducted thus far are inconclusive. One still does not know whether simulations have an effect on critical thinking faculties. The results also seem to suggest that the researchers conducted tests that ignored the real values of simulations, values that may not be conducive to measurement.

If in fact simulations have a high degree of verisimilitude, which should be true by definition, their classroom usefulness is demonstrated by their reflection of the real world. The Rand Corporation, Hudson Institute, and other "think-tanks" use simulations, not because tests suggest improved critical thinking scores, but because participants involved in the exercise gain insights into the pressures, uncertainties, and moral and intellectual complexities that characterize most social policy decisions. It stands to reason, perhaps as a postulated truth, that if one recreates a situation he will be better prepared to understand it. Moreover, re-creation in an institutional setting implies careful analysis and dissection. And these values represent the presumed purpose of most social science courses.

After a simulation of the Berlin Crisis conducted at the Massachusetts Institute of Technology in 1959, two professors concluded that simulation "can produce tangible results over and above what can be taught and learned about politics by more usual methods of instruction."⁶ The reasons for this kind of statement are obvious: simulations can reflect the world as seen and experienced by the decision makers; they can provide a miniature, easily dissected world that may mitigate the difficulties in compre-

hending complex institutions; and they may point out the relative costs, benefits, risks, and rewards of alternative strategies of decision making.

But the clearest advantage of all is probably increased student motivation. This is particularly the case where students, because of sociocultural factors or boredom with a conventional lecture-discussion approach, perceive the curriculum as irrelevant to their life experiences. James Coleman and Sarane Boocock, who investigated the effects of simulated environments in high school classes, found that student interest remained consistently high during the playing of a game.⁷ In another evaluation of simulation techniques, students at La Jolla, California, junior and senior high schools were asked about their impressions of the method. In the junior high school 93 percent rated simulation favorably; while 75 percent of the senior high school students expressed similar views.⁸ The reason for greater student enthusiasm is inherent in the method. Simulation, by design, focuses attention, requires activity (passive observation is often impossible), and abstracts simple elements from the confusion of reality. By this very combination of properties, simulation's effect on students should be favorable.

Another possible ramification of increased student interest is a positive change in the teacher-student relationship. According to one teacher, "the payoff for role-playing is a wholesome change of classroom climate in which students drop their artificial facades and meet teachers in more authentic relationships."⁹ This observed behavior alone should serve as sufficient testimony for the technique.

Yet, aside from personal inquiries, how

⁷ Sarane Boocock. "Effects of Election Campaign Game in Four High School Classes." Baltimore, Maryland: Department of Social Relations, Johns Hopkins University, 1963. (Mimeographed.)

⁸ H. T. Sprague and R. G. Shirts. *Exploring Classroom Uses of Simulation*. La Jolla, California: Project Simile, Western Behavioral Sciences Institute, 1966. pp. 9, 18.

⁹ Carolyn Guss. "Role-Playing Simulation in Instruction." *Audiovisual Instruction* 11 (6): 443-44; June-July 1966.

⁵ Terry K. Riegel. "A Comparative Study of Two Approaches to the Teaching of Economics in Suburban New Jersey Twelfth Grade Economics Classrooms." Ed.D. thesis (unpublished), New York University, 1969. p. 70.

⁶ L. Bloomfield and N. Padelford. "Three Experiments in Political Gaming." *American Political Science Review* 53: 1112; 1959.

can student interest and revised relationships be tested? And even if they were tested and the results showed increased enthusiasm but no appreciable change in student critical thinking skills or reasoning ability, would the simulation method be retained? These are the questions that get directly to the core of the issue.

The tests administered to students until now have either ignored or are incapable of gauging certain ramifications of simulation techniques. And as long as this remains true, testing accomplished to prove or disprove the effectiveness of simulation as a teaching device will prove nothing at all.

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Student Unrest: Threat or Promise?

Edited by RICHARD L. HART and J. GALEN SAYLOR
for the ASCD Council on Secondary Education

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