

CONTENTS

<i>Preface</i>	xiii
<i>I. The Reunion of Action and Thought</i>	3
The uses of abstraction. What are games? Games and reality. Games among children; among adults. Warfare. The serious game in industry, education, and government. Games and knowledge. Games as motivation and communication. Role-playing.	
<i>II. Improving Education with Games</i>	15
The gap between education and life. Student motivation. Simulating complex processes. The mathematical theory of games. Conflict strategies. Intuitive problem-solving. How students learn from each other. Developing social behavior. Games as a measure of untested abilities. Involving the student in game design and	

preparation. Selecting topics for classroom games. The teacher as observer, analyst, critic. Post-mortem game analysis. Timing of classroom games. Scoring.

III. Educational Games for the Physical and Social Sciences 35

Differences between games for the social studies and for the sciences. Games for elementary science: "Weather," "Color," "Shape." Mathematical games. The importance of decision-making in social-studies games. Elements common to social studies and to games. War games. "Grand Strategy." "Empire." Moral questions raised by games and discussed by the students. Various "Hunting" games simulating primitive cultures.

IV. Game Learning and Disadvantaged Groups 61

Problems of ghetto children in the educational world. How game dynamics can reduce cultural barriers and student apathy. Tailoring games to particular levels of intelligence and aptitude. Game-playing as an immediate reward. The supportive role of the teacher. "Raid," a classroom game in which students play the roles of police, racketeers, and the city population. "Manchester," a game about the Industrial Revolution in England. "Neighborhood," a game illustrating urban growth.

V. Games for Occupational Choice and Training 79

Guidelines for developing games simulating specific occupations to help students choose careers. "Machinist."

VI. Games for Planning and Problem-Solving in Government and Industry 89

Games as a mode of experimenting with different strategies in solving a problem. The importance of

role-playing. Three games for government: "Corridor," exploring alternative plans for Northeast Corridor transportation; "Politica," portraying a prerevolutionary crisis in Latin America; and "Simpolis," dealing with urban problems. Three games for industry: "Merger," concerning industrial mergers; "Superb," in which players assume the roles of supermarket executives; and "Supra," another supermarket game designed to train players in scientific purchasing.

VII. *How to Think with Games by Designing Them* 103

How games can be developed to clarify personal or domestic problems. Example: Should the family vacation in the mountains or at the sea shore? Identifying the actors' objectives. The importance of empathy in resolving conflicts.

VIII. *How to Evaluate the Cost-Effectiveness of Games* 110

Criteria for assessing the value of games as compared to other instructional and research methods. Active involvement of players. Realism of situation. Clarity of consequences. "Playability" in terms of materials, space, and time required.

IX. *The Future of Serious Games* 119

The uses of games in a technological society. Increased demands on the schools. Making education more effective in the ghettos and rural slums. "Laboratory schools" of the future. The teacher shortage. Education needed for adult dropouts. Games for community-action planning. Training games for police academies. Involving the poor and the disadvantaged in society. A new language of action.

Appendices:

A. Elementary Mathematics Games	135
B. A Game for Planning an Educational System	147
C. "SEPEX": A School Electronics Planning Exercise	157
D. "Colony": A Secondary-School Game	164