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Human Capital Resources Strategy for the 1990s: Asia

Seminar Proceedings on Lessons from State Education Reform Initiatives

1990

U.S. Agency
for International
Development

NATIONAL
GOVERNORS'
ASSOCIATION

The National Governors' Association, founded in 1908 as the National Governors' Conference, is the instrument through which the nation's Governors collectively influence the development and implementation of national policy and apply creative leadership to state issues. The association's members are the Governors of the fifty states, the commonwealths of the Northern Mariana Islands and Puerto Rico, and the territories of American Samoa, Guam, and the Virgin Islands. The association has seven standing committees on major issues: Agriculture and Rural Development; Economic Development and Technological Innovation; Energy and Environment; Human Resources; International Trade and Foreign Relations; Justice and Public Safety; and Transportation, Commerce, and Communications. Subcommittees and task forces that focus on principal concerns of the Governors operate within this framework.

The association works closely with the administration and Congress on state-federal policy issues through its offices in the Hall of the States in Washington, D.C. The association serves as a vehicle for sharing knowledge of innovative programs among the states and provides technical assistance and consultant services to Governors on a wide range of management and policy issues.

The Center for Policy Research is the research and development arm of NGA. The center is a vehicle for sharing knowledge about innovative state activities, exploring the impact of federal initiatives on state government, and providing techical assistance to states. The center works in a number of policy fields, including agriculture, economic development, education, environment, health, social services, training and employment, trade, and transportation.

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Table of Contents

v Foreword

vii Preface

ix Acknowledgements

1 Introduction

- 1 *The Purpose*
- 1 *The Process*
- 1 *The Seminar*

3 Background

- 3 *The Context for American Education Reform*
- 6 *New Directions for the 1990s*

9 The Issues

- 9 *Setting Goals and Priorities*
- 10 *Education and the Economy*
- 11 *Education Financing*
- 12 *Outcomes and Accountability*
- 13 *Curriculum and Instructional Methodology*
- 14 *Education Structures and Management*

17 Conclusion: Consensus on an Action Agenda

- 17 *National Strategies*
- 18 *The Agenda: The Bureau for Asia and Private Enterprise*

21 Appendices

- 23 *Appendix A: Synopses of the Commissioned Papers on Education Reform, and Remarks by Expert Respondents*
- 37 *Appendix B: Seminar Presenters, Respondents, and Other Participants*
- 45 *Appendix C: Seminar Agenda*
- 49 *Appendix D: Seminar Sponsors*

Foreword

National Governors' Association

The nation's Governors have committed their energies and resources to meeting the challenge of developing internationally competitive economies. This has included a new emphasis on infrastructure investment, technology transfer, and most important, the historic task of setting national goals for education.

At the state level, Governors have led the way in promoting increased public and private investment in education and training, coupled with strengthened accountability systems to achieve greater returns on these investments. Throughout the nation, states have pursued major new initiatives to reform education. Governors have raised standards, devoted additional funds to education, and increased teacher training. Although every Governor can point with pride to new programs and promising initiatives, they now recognize that simply more of the same will not achieve the results we need. The entire education system must be fundamentally restructured to meet the demands of the twenty-first century.

We hope that some aspects of the American experience might be useful to other nations equally concerned with their human resource investment. By sharing what works and what does not and why, we hope to develop our own knowledge base as well as broaden the perspectives of others on subjects of universal concern.

Nothing is more central to democracy and freedom than education. We are pleased to be working with the U.S. Agency for International Development on issues of mutual interest here and abroad—human capital development, economic development, and sustained economic growth. As a result of this project, and the process of examining U.S. experience in education reform in a global context, we have learned many lessons that will be helpful here at home. At this time in history, as democracy takes hold in many other nations, we take great pleasure in participating in such a venture.

Raymond C. Scheppach
Executive Director

Preface

The Bureau for Asia and Private Enterprise (APRE) is developing a Human Capital Resources Strategy for the 1990s to respond to a profoundly different and more complex development challenge than one faced just a few years ago. The mix of high value-added agriculture- and technology-driven export economies that are fueling today's economic growth requires a trained and trainable human resource base for continued expansion. Qualified human resource bases are essential to attracting and maintaining investments. The APRE Human Capital Resources Strategy therefore will be woven around the challenge of expanding educational quality while maintaining educational access.

To respond to this challenge we have enlisted the experience and judgment of the National Governors' Association (NGA). Through its Human Resources Committee, NGA has provided strong domestic leadership to American Governors and has championed innovative educational reform linked to economic development and public-private alliances in more than 3,000 U.S. school districts.

The APRE/NGA partnership will determine if and how the U.S. educational reform experience can guide and give substance to our strategy. The two-day April workshop was the initial phase in the internationalization of the U.S. domestic educational reform experience. The workshop coalesced around six issues: setting goals and priorities; education and the economy; education financing; outcomes and accountability; curriculum and instructional methodology; and education structures and management.

The final phase of this partnership will take place in the spring of 1991 when teams of NGA officials travel to Asia to meet with U.S. AID personnel, private sector representatives, local education reform groups, and ministry officials to determine firsthand the applicability of our domestic agenda to a wide array of local economic and education issues. The result of these interventions will be a conceptually sound and experienced-based Human Capital Resources Strategy for the 1990s.

Thomas Nicastro
Chief, Technical Resources
Bureau for Asia and Private Enterprise

Acknowledgements

The National Governors' Association and the Bureau for Asia and Private Enterprise of the U.S. Agency for International Development wish to thank the authors and presenters of the six working papers—Chester Finn Jr., Richard Elmore, Gary Natriello, Senta Raizen, Morgan Lewis, and Allan Odden—as well as each of the expert respondents, for helping to simplify and synthesize the issues in American education reform experience. We would particularly like to thank Chester Finn for his assistance as moderator and facilitator for the two-day seminar.

Several dedicated professionals worked on this project, on behalf of both NGA and A.I.D. Evelyn Ganzglass and Susan Traiman at NGA, and Thomas Nicastro and Charles Aanenson at A.I.D., deserve special thanks for designing and managing the effort.

Special thanks are also extended to Janet R. Reingold, J.R. Reingold and Associates, Inc., for preparing this report.

Introduction

"[Education] is at the heart of our economic strength and security, our creativity . . . our invention . . . , and . . . our cultural values. Education is the key to America's international competitiveness."
National Education Goals Statement

The Purpose

The Bureau for Asia and Private Enterprise (APRE) Human Capital Resources Strategy for the 1990s will provide rationale and guidance for the bureau's human resource development activities. The initial steps in the development of the strategy, in coordination with the National Governors' Association (NGA), draw upon the U.S. educational reform movement to identify strategies and experiences appropriate to strengthening educational systems and to making them more responsive to economic development needs.

In April 1990, NGA brought together domestic and international education development leaders for a two-day seminar in Washington, D.C., to share ideas, exchange information, and compare lessons learned to determine those U.S. reform experiences applicable in other cultures and contexts. The group explored three primary questions:

- How far have we come with education reform in the United States, where are we headed, and what have we learned?
- What general policy ideas, insights, and recommendations from the American experience might be of some assistance to APRE countries?
- What policies and approaches might be transferable, replicable, or exportable?

The Process

The two-day seminar coalesced around six issues that focused primarily on elementary and secondary issues and provided a useful framework for follow-up: setting goals and priorities; education and the economy; education financing; outcomes and accountability; curriculum and instructional methodology; and education structures and management. For each issue, commissioned background papers by well-known U.S. education researchers were presented and responded to by international human resource experts. The release of the seminar proceedings will be followed up by team visits to A.I.D. missions to gather further information and refine recommendations prior to the preparation of the final draft of the "Human Capital Resources Strategy" in late 1990.

The Seminar

The April 25–26, 1990, seminar at the National Press Club brought together 100 educators and business executives involved in education reform in the United States and those involved in human resource development issues. Participants included the six commissioned authors, two luncheon speakers, fourteen expert respondents, multilateral donor and A.I.D. officers, and NGA staff. These proceedings synthesize the papers presented, formal and informal discussions, and final recommendations.

Background

The Context for American Education Reform

(Adapted from "The Political Process of Education Reform," presented by Chester Finn Jr.)

The Shape of American Education. Primary/secondary education in the United States, generally defined as the thirteen years of schooling from about age five to eighteen, enrolled 45.4 million youngsters in 1988. One in ten attended private schools, mostly church-affiliated. The other 90 percent of the children study in our 83,248 public schools. These schools vary enormously in size, condition, and student population. Virtually all the public schools are governed by a two-tier system with constitutional responsibility for education resting with the fifty states, and the actual operations governed by the 16,000 local education agencies (LEAs). In this regard, individually the American states have more in common with the A.I.D. countries than the United States as a whole. The interaction of the individual school with its LEA, and the interaction of the LEA with the state, comprises the major structural and fiscal dynamics of American public education. About 50 cents on the dollar comes from state sources, about 44 cents is drawn from local sources, and only 6 percent of all funding comes from the federal government, whose primary roles are protecting individual civil rights, overseeing education research, assessment and statistics, fostering innovation, and promulgating ideas through its "bully pulpit."

State-to-state differences in four categories are particularly significant: 1) financing (the state share of the school dollar); 2) organization (number and size of LEAs); 3) the degree of state regulation of local public schools; and 4) the configuration of state education governance. In every state there is a chief education officer (variously called commissioner, superintendent, or director), who heads the state education agency (SEA). In nearly every state, there is also a board of education, some popularly elected, some appointed.

Similarly, there are variations in local education governance. Regardless of formal structure, the "general purpose government" has substantial say over education through its legislative and fiscal powers. And despite its partial immunity from ordinary party politics, education has always been highly political. There are countless interest groups, including "employees" of the system—teacher unions, associations of school principals—some governing units (e.g., associations of school boards), some "consumers" of education services (usually parents), and some vendors of goods and services.

To insulate school governance from conventional politics, a parallel structure of education governance has arisen that is heavily reliant on disinterested, apolitical (or at least nonpartisan), civic-minded laymen for policymaking and on expert professional educators for management, leadership, and technical knowledge. With respect to higher education, the public sector "owns" about half the institutions of higher education in the United States, and Washington furnishes only about 13 percent of the income of the higher education system.

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Major Trends, 1950–1980. The principal direction of change in American education from World War II until the late 1970s was to expand access for individuals and population groups. First, the United States endeavored to provide the entire population with secondary as well as primary education—the ethos of universal secondary education has been internalized even though the reality has gaps. Then, the United States constructed the largest, most varied, and most accessible higher education system in the world. Next, an important step toward reducing racial and ethnic barriers within the education system was the 1954 Supreme Court school desegregation ruling. In addition to race, the United States has sought to provide extra educational opportunities for children from impoverished and deprived circumstances. And finally, this country has strengthened the educational opportunities of handicapped children and immigrants, and has tried to eliminate discrimination and segregation on the basis of physical and mental disability, and limited English speaking ability.

The Advent of the "Excellence Movement." By the late 1970s, the United States saw its educational achievement declining, and there was a "back to basics" movement to focus on educational quality and results. A spate of new state laws required high school students to pass "minimum competency" tests, gauging cognitive learning outcomes rather than measuring resources, intentions, effort, time, or services.

A Nation At Risk. In April 1983, the National Commission on Excellence in Education informed the nation that its well-being as a country was menaced by the mediocrity of the school system. For American education, this was a era defining event—a symbol of the growing reservoir of concern and dissatisfaction. Public anxiety about the quality of education meant that elected officials at the state and local levels sensed a new political imperative, as education was by then the largest single item in the budget of every state government. The link between the quality of schooling and the vitality of the economy also surfaced, with the commonly held belief that improvements in American economic competitiveness hinged on higher quality "human capital," which was dependent upon a more rigorous and effective education system. This was viewed as both a problem and an opportunity, particularly in the South, with talk about an economic renaissance through improved education. Other studies and reports also asserted that American youngsters were leaving school without sufficient skills and knowledge, that the country was weakened by this situation, and that rectifying matters was going to require basic changes in long-established assumptions and practices. The data kept accumulating, with SAT declines continuing from 1965 to 1980.

Education Reform, 1980s Style. Education in this era was characterized by four important general features. First, there was a preoccupation with cognitive learning outcomes, and an understanding of the need for suitable "accountability" measures. Second, education reform was state-centered, with states becoming proactive agents of change, taking a leadership role, boldly revising long-established practices, and overturning cherished assumptions. Third, this 1980s movement was lay-led—with a shift in leadership and influence from the education profession to the elected leaders of "general purpose" government, and other laymen. Governors, legislators, and mayors injected themselves into matters of curriculum and school organization, the norms by which students (and teachers) would be judged, the principles by which licenses and diplomas would be awarded, the criteria by which school employees were compensated, the prerequisites for moving from one level of education to the next, the indicators by which progress would be judged, and much more. Fourth, education reform was both top-down and bottom-up, with decentralized, painstaking, school-specific, educator-led changes taking place as well as top-down mandates.

The Excellence Movement: Ten Reform Strategies. Ten types of reform have characterized the excellence movement of the 1980s:

1. Standards for students, including new or higher achievement norms, minimum competency tests, increases in required academic courses, "promotional gates" for proceeding to the next level, "no pass, no play" rules, etc.

2. Standards for teachers, where, by decade's end, forty-four states were requiring new teachers to pass a written test before being certified, and many were developing teacher "career ladders," mentor or master programs, or differentiated roles.

3. Changes in teacher recruitment, education, and licensure, to attract able people, especially minorities, by offering high status programs, special scholarships, forgivable loans, and other inducements; to elevate the intellectual standards of teacher education programs through higher entrance or exit requirements, or changes in curriculum; to increase the quantity of "subject matter knowledge" acquired by future teachers; and to create alternative paths into teaching, redefining, and enlarging the potential teacher pool.

4. Curriculum change, a complex, tedious, and technical, but sound approach to education reform, where the curriculum content is reformulated to yield desired learning outcomes.

5. Testing and assessment, installing accountability at six levels—the individual child, the classroom, the school, the LEA, the state, and the nation—tracking progress over time, and comparing kindred units.

6. Other accountability mechanisms, creating rewards for success (prizes, recognition programs, bonuses, and awards for students, teachers, principals, and entire schools) and interventions in response to failures (including educational "bankruptcy" procedures that empower the state to intervene, and removal of unsuccessful local officials).

7. Business and university "involvement" efforts, through which individual companies, corporate CEOs, and the myriad "roundtables," "chambers," and "alliances" of business opt to participate directly in the school reform effort as well as to influence state and local policy.

8. School restructuring, including re-allocation of roles, power relationships, decisionmaking arrangements, and levels of responsibility within individual schools, especially in local school systems. Characteristic of the "restructuring" strategy are decentralized decisionmaking, more collegial governance relationships, greater deference to the "professional" judgment of educators, changes in the "technology of instruction," the organization of the school day or year, and the role of parents within the school.

9. Parental choice, empowering parents to select the school their child will attend, instituting "accountability via the marketplace," offering poor and minority youngsters a route out of inferior, racially homogeneous inner-city schools, and reinforcing the primary role of parents. Choice programs may include statewide choice (as provided for in six states by 1990), magnet school programs, schools within schools, alternative schools, academic specialty schools, and other variations.

10. Goal setting, through which, in February 1990, the President and Governors developed a set of national goals for the year 2000, and states and localities are in the process of doing the same.

Where We Stand in 1990s. The United States has made a number of sweeping changes in time-honored assumptions and practices about the mission, content, and nature of schooling. American education is now appraised in terms of the quality of its outcomes and results rather than its intentions, the quantity of its inputs, or the extent of its services. Alterations have been made in public school governance and control, primarily in transferring the dominant role from locality to state and in moving major decisions from education professionals and specialized governing structures to laymen and the general purpose government.

Yet, as of 1988, there was little evidence of actual improvement in average student achievement levels or in cognitive learning. There is also dismaying evidence that American children, parents, teachers, and school administrators are reasonably content with their own educational attainment and the performance of their own schools, even while acknowledging that there are serious problems with education in general. Notwithstanding, education quality has proven to be a more durable political and policy issue than anyone expected. As yet the excellence movement shows no signs of abating.

New Directions for the 1990s

National Education Goals. The President and the nation's Governors recognized that Americans would have to embrace a radically new vision of American education before student performance could be raised to the level required for a high wage, high productivity economy, and maintenance of democratic institutions. As a result, in September 1989, the President and the Governors met at a historic education summit and established a comprehensive set of national education goals that clearly articulate the results needed from the education system. These ambitious goals state that by the year 2000:

- All children in America will start school ready to learn;
- The high school graduation rate will increase to at least 90 percent;
- American students will leave grades four, eight, and twelve having demonstrated competency over challenging subject matter including English, mathematics, science, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy;
- U.S. students will be first in the world in mathematics and science achievement;
- Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship; and
- Every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

State Strategies for Achieving the National Education Goals. Reaching the goals will entail inventing a new education system for the twenty-first century. In developing strategies for achieving the national goals, Governors were guided by seven basic principles:

- *The education system must be lifelong,* recognizing that learning begins at birth, not at school, and does not end at graduation but continues throughout life.

- *The system must focus on prevention,* avoiding damage to young children and removing barriers to learning for all, rather than paying the higher price of compensating for preventable learning difficulties after they develop.

- *The system must be performance-oriented,* with an unwavering commitment to achieving results, rather than to maintaining existing procedures, practices, or institutions.

- *The system must be flexible.* Professionals should decide how best to help each individual achieve at high levels, rather than being told what to do and how to do it by distant authorities.

- *The system and those who work in it must be accountable for the results they achieve.* There must be real rewards for high performance and significant consequences for failure.

- *The system must attract and retain talented professionals* and ensure that they receive continued support and professional development.

- *The system must provide meaningful choices to students, parents, and adult learners* by recognizing and accommodating their varying learning needs and styles.

Governors are recommending changes at all levels of the system:

- Greater and more effective investments in early intervention and prevention to ensure that children arrive at school ready to learn.

- Fundamental restructuring of the elementary and secondary education system, to provide accountability for results, flexibility in the means of achieving them, and enhanced incentives and capacities for schools and educators.

- Creation of a comprehensive higher education and adult training system that can respond to the needs of adults and employers, provide training, and support lifelong learning.

Building National Partnerships. Meeting these challenges is too big a task to be addressed exclusively by the school system. Therefore, the Governors and the President are calling upon a broad range of individuals and organizations including parents and communities; early childhood, health, social service, welfare, and law enforcement agencies; business and labor; and colleges and universities to work closely with one another and with the schools to accomplish the goals. The Business Roundtable, a national coalition of 200 of our nation's largest corporations, have committed to work with the fifty states in a decade-long initiative in which individual roundtable chief executive officers (CEOs) and the Governors of the fifty states will form partnerships to achieve the nation's education goals.

The Issues

The discussions on the applicability of the American education reform experience to Asian and Near East countries centered on several key issues that have been the focus of attention among policymakers within the United States. Seminar participants felt that these issues—setting goals and priorities, outcomes and accountability, curriculum and instructional methodology, education structures and management, education and the economy, and education financing—as well as the lessons learned within the United States in attempting to address these issues, are relevant to Asian and Near East countries and any others attempting to improve the quality of their education systems. The synthesis of discussions and recommendations that emerged from the seminar and the research papers commissioned for this project are organized according to these issue areas.

Each section contains a brief discussion of the identified issue and implications for Asian and Near East countries that emerge from the American experience. The report concludes with a brief synopsis of the major points of consensus reached by seminar participants.

Setting Goals and Priorities

"The first step in restructuring our education system is to build a broad-based consensus around a defined set of national education goals. . . . The time for rhetoric is past; the time for performance is now."

Joint statement, the President's Education Summit with Governors, September 1989

National education goals focus citizens' and policymakers' attention on a common mission and a target for determining what is expected from the education system. Measurable performance goals can assist in planning, determining priorities, making resource allocation decisions, and establishing clear lines of accountability and authority. In each nation the impetus for change may differ, but sources of external pressure are needed to alter the status quo. The goal-setting process provides an opportunity to engage leaders at the highest levels and other key stakeholders in developing a consensus about education outcomes and the systemic changes needed to reach the goals.

Performance goals provide a central reference point for education reform initiatives. Policymakers cannot, and should not, mandate all the necessary reforms from the top. But national and state policy can provide the incentives and build the capacity for improvement at the bottom. Reform requires local level political support and must be responsive to local needs. National goals also provide a framework for setting goals at the subnational level that reflect these local concerns. Reform is most effective when a strategic combination of top-down and bottom-up strategies are used.

Implications for Asian and Near East Countries

Set broad national performance goals. The goals should be outcome- and results-oriented, rather than focused on resources, programs, or processes. They should be measurable and describe the distribution of desired performance, not just the average level of performance. Goals are most effective when they are high but attainable.

Use national goals to stimulate goal setting at subnational levels. Provide assistance at the subnational (e.g., provincial, state, district) and local level in the development of action plans to achieve the goals.

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Build a constituency for change and improvement. In the United States, lay political and business leaders provided both the initial and continuing pressure for making the education system more competitive and responsive. Involve companies, corporate CEOs, and the "chambers" of business so they can participate in the reform effort as well as influence national and local policy. Long-term commitment is needed to promote lasting reform.

Explore restructuring roles and responsibilities at the local level, decentralizing authority and holding educators accountable for their performance. Broaden decisionmaking arrangements to include parents as well as professionals in determining how to reach desired goals and outcomes

Determine where investments in the system have the highest payoff. Consider the tradeoffs of different investment decisions in setting priorities. Proponents of primary education argue that the rate of return is higher in primary education than in higher education and that it is impossible to have long-term development without a broadly educated populace. Proponents of higher education argue that the system must be built from the top in order to get the best people into planning, managing, and teaching in the education system. Involve key leaders from outside the education system in making these decisions.

Place a high priority on prevention strategies. Invest in programs that prevent school failure, such as maternal and child health and preschool. Recognize that although early intervention approaches play an important role in promoting early academic success, many students need follow-up support and assistance.

Determine which reform initiatives are best centralized and which are best decentralized. For example, national goals provide centralized direction for the system, but decisions about how to achieve the goals should be decentralized. Schools should have the discretion and flexibility to make these decisions. A deliberate tension between the two can be used to create greater impetus for systemic change and improved outcomes.

Education and the Economy

"Better schools mean better jobs . . . . To meet stiff competition from workers in the rest of the world, we must educate ourselves and our children as we never have before."

Lamar Alexander, *Time for Results*, National Governors' Association

Economic growth requires a workforce with essential literacy, reasoning, and interpersonal skills to work with others to solve problems and perform required functions in the workplace. A strong basic education system can serve as a tool for attracting investment and stimulating employment growth. Because the demands of the labor market continually change over time, it is important to provide education and training opportunities for adults so that they can upgrade their skills throughout their working lives. These programs can best be provided through partnership arrangements with the private sector

A vital economy also needs a steady stream of new workers able to apply what they have learned in school to the problems of the workplace. This suggests that education programs, especially at the secondary level, should include experiential components including community and work experience. Vocational education and apprenticeship programs that combine instruction in necessary academic and occupational skills can serve the needs of many young people as they prepare to enter the workforce. In addition, students who plan to enter work directly from elementary or secondary education will benefit from school-to-work transition programs that provide information, counseling, and exposure to the world of work.

Implications for Asian and Near East Countries

Determine what workforce skills are needed now and in the future by talking with employers and conducting labor market studies. Determine the gap between these demands and the skills of new entrants and members of the current workforce.

Promote partnerships with the private sector to upgrade the skills of the current workforce, possibly using tax policy and other incentives to stimulate private sector investment and provision of services. Develop financing strategies to enable workers at every level, not just top management, to obtain necessary education and training.

Ensure that curriculum is appropriate in preparatory programs at the elementary, secondary, and postsecondary levels and includes relevant content at a sufficient level of complexity to meet the needs of the economy and that graduates achieve the necessary knowledge and skills.

Provide school-supervised work experience and other opportunities for students to apply academic skills and theoretical concepts to the solution of practical problems of work and everyday life.

Build linkages with the private sector to provide vocational education that is workplace-based to improve the transition from school to work, to broaden opportunities for entrepreneurial training, and to ensure that skills needed in the workplace are imparted during the education process. Ask employers to assist with career guidance and mentoring programs as well as the use of equipment and facilities.

Examine and strengthen apprenticeship and similar work-based training programs to the extent possible.

Provide vocational guidance and career exploration programs at the elementary, middle, and secondary school levels to help students explore career opportunities, plan their preparation for work, and make a smooth transition between school and work.

Review the missions of higher education institutions to ensure appropriate emphasis on research, technology transfer, and human resource development in support of economic development.

Education Financing

"A sound public education system is the most important investment this nation can make in its future. The right investment decisions can yield handsome returns both for the individual and for the economy; the wrong ones may jeopardize efforts to redesign an education system that is productive for all children."

Investing in our Children: Business and the Public Schools, Committee for Economic Development

In the United States, only 6 percent of the funds for education come from the national government, with subnational governments providing the bulk of the funding (states provide 50 percent and local governments provide 44 percent). Funding structures and sources of revenues vary greatly across the fifty states.

Although U.S. education funding is very different from that of many Asian and Near Eastern countries, a key finding from the United States has important ramifications for other nations: The health of education funding is determined primarily by the health of the national economy. Thus, the key strategy for producing funds for education and education reform at all levels is a growing and strong national economy.

Education in the United States is viewed as a good public investment. Research shows that both individual and social rates of return to investments in education are sizeable. In the 1980s, policymakers, the business community, and the general public have been willing to support increased expenditures for education contingent upon the promise that additional dollars would buy improved performance, not just "more of the same." U.S. experience suggests a number of strategies for diversifying finance mechanisms, for raising revenues for education reform, and for using the revenues productively and efficiently.

Implications for Asian and Near East Countries

Create and/or adjust current tax structures and tax-raising authority for subnational governments. Authorize subnational governments to raise funds for local school purposes with the per pupil yield schedule determined by the national government to ensure that all schools receive the same additional per pupil revenue from such taxes.

Involve the private sector. Business can supplement government resources by providing loaned executives or funding for capital investments, textbooks, and supplies. The private sector also can contribute its expertise to assist in financial management, strategic planning, and training.

Target public and private resources according to the level of the system. Focus new public investments at the primary level. Consider charging an income-contingent tuition at the high school level as a mechanism to infuse the system with more private money. Also consider charging higher tuition at postsecondary institutions, combined with income-contingent financial aid mechanisms.

Avoid overinvesting in physical facilities. Consider year-round and "double or triple shift" school schedules to reduce per pupil facilities costs for building and operating expenditures.

Structure teacher compensation toward merit increments and base promotions on professional expertise rather than education and experience.

Use finance as a tool to stimulate improved outcomes. Provide small amounts of discretionary funds for schools to develop and implement reform strategies. Provide cash incentives for schools that show improvements over time.

Base funding decisions on national priorities. Different levels of education have competing interests and differing resource needs that must be balanced. Involve those outside the education system in making these hard decisions.

Outcomes and Accountability

"Too often the question that is asked of educators is, 'Did you do what you were told?' The right question is, 'Did it work?' Trying hard must no longer be sufficient. What students actually know and can do is what counts."

David Hombeck, seminar presentation

One of the most important characteristics of recent education reforms in the states is a focus on student learning outcomes as the central measure of the success of the education system. This emphasis on results, rather than on inputs or processes, requires new forms of assessment and accountability.

Assessment programs can have a powerful effect on curriculum and instruction, since teachers frequently "teach to the test." Most standardized tests now in widespread use narrowly focus on paper and pencil multiple-choice items, limited to factual information. They measure student achievement against the average achievement of other students rather than against the real demands of society. A number of states are developing new assessment tools that more accurately reflect the skills and knowledge students will need for the future.

Assessment systems provide information about student progress. Public disclosure of this information is an important component of accountability. However, other accountability mechanisms are necessary to hold the system and those who work in it responsible for student outcomes. A variety of approaches are being used to hold schools accountable for results. These include rewards and sanctions based on performance and market mechanisms such as choice that enable parents and students to select the public schools they wish to attend. Accountability and local authority should be linked; if educators are to be accountable for performance, they must have the authority and discretion to determine how best to achieve desired outcomes.

Implications for Asian and Near East Countries

Determine what students need to know and be able to do in a modern democratic society. Learning outcomes should reflect the skills, knowledge, and attitudes students need to prepare them for employment, further education, and responsible citizenship. Get input from key players, including educators, community leaders, and employers, to determine necessary skills.

Ensure that assessment and examination systems are linked to the education goals of the nation. Test what's important to know, not just what's easy to measure.

Build on new forms of assessment now being developed that require students to synthesize, integrate, and apply knowledge and skills to complex problems. In addition to improving multiple-choice tests, use essays, open-ended problems, portfolios, and other forms of performance assessment.

Consider different accountability mechanisms, including reporting performance data to policymakers and the public and the us of rewards and sanctions. Develop a range of rewards for success (e.g., financial incentives, recognition) and sanctions for failure (e.g., assistance and intervention, academic bankruptcy) that create incentives for improvement.

Explore empowering parents to select the schools their children will attend. Increase the range of schooling options available to students, including magnet schools, alternative schools, and academic specialty schools. Recognize that increased provisions for parents and students to select schools will require the availability of extensive consumer information that describes the different choices.

Focus on achieving quality outcomes for women and minority groups as well as increasing access for these groups. Access and completion are important outcomes when linked to the quality of learning and actual achievement. They are not ends in themselves.

Improve measurement, data, and reporting systems at the national and subnational levels. Different types of performance data are needed to track performance over time at six levels—the individual student, the classroom, the school, the local education agency, the state, and the nation.

Curriculum and Instructional Methodology

"*The focus of schooling must shift from teaching to learning, from the passive acquisition of facts and routines to the active application of ideas to problems. That transition makes the role of the teacher more important, not less.*"

A Nation Prepared: Teachers for the 21st Century, Carnegie Forum on Education and the Economy

State education reform efforts to improve the teaching profession have focused on two parallel needs: one to attract and retain qualified teachers and another to upgrade the quality of teaching. States have raised standards for teacher training and licensing. State policymakers led successful efforts to raise teacher salaries and to provide a variety of incentives to reward and recognize outstanding teachers. However, recent studies indicate that these policies have had a marginal impact on the actual quality of classroom instruction, particularly teaching higher level skills and content. Additionally, although it is recognized that technology can transform the way students are taught and actively engage them in higher levels of thinking, technology's potential to make dramatic improvements in teaching and learning remains largely untapped. Those schools that have effectively used technology have found that planning and training are essential to integrating technology with other instructional tools to improve learner outcomes.

Policymakers are beginning to address the systemic changes required to improve instruction. They recognize that efforts to improve classroom teaching cannot be isolated from efforts to improve curriculum, student assessment, teacher training and staff development, and school organization.

Implications for Asian and Near East Countries

Establish national curriculum frameworks, particularly in language arts, history, mathematics, and science, that indicate clearly the topics, concepts, and issues to which all students should be exposed. Develop the frameworks in consultation with the best experts in each field. Focus all curriculum areas on problemsolving and application of knowledge in real situations.

Remove the distinctions between teaching basic skills and teaching higher level skills that require thinking, reasoning, problemsolving, and integration of knowledge. Basic skills are best learned in meaningful contexts rather than through drill and practice on isolated facts. Similarly, academic and vocational curriculum should be integrated, enabling students to achieve high levels of theoretical and applied knowledge and skills. Apprenticeship and other options for combining work and learning should be widely available to youth and adults.

Build on viable practices already in existence. Many activities in rural schools provide excellent opportunities for science and mathematics instruction if teachers are trained to turn everyday experiences into learning opportunities. These practical learning experiences should be taken advantage of, rather than abandoned to adopt more "academic" seeming practices.

Set standards for what teachers need to know and be able to do. Connect teacher education and staff development programs with the nation's goals for primary and secondary education. Teachers need to understand and experientially learn both the content of the subjects they will be teaching and the pedagogy needed to teach the content to students. Training should include proven instructional practices such as peer tutoring and cooperative learning. Recognize that even the most exemplary teacher preparation program will not be sufficient and that continuing inservice education for teachers is necessary.

Consider policies to raise standards for entry into the teaching profession. Offer a variety of incentives to attract talented teacher candidates, including scholarships, loans, and high quality preparation programs. Develop alternative paths into teaching as a recruitment strategy to attract professionals with needed knowledge and skills.

Explore the use of computers and information technology in teaching. Although costs are high, they are continuing to decrease. Recognize that in addition to costs for hardware and software, effective use of technology will require a major investment in teacher training. Despite these difficulties, the potential for motivating and improving student learning is enormous and consideration should be given to experimentation with different applications in different settings.

Education Structures and Management

"*We cannot continue to tinker with an educational machine whose fundamental design is defective . . . . Instead, fundamental and dramatic changes in the very design and structure of the education system must be made.*"

Educating America: State Strategies for Achieving the National Education Goals, National Governors' Association

Calls to restructure the education system in the United States emerge from the conclusion that the traditional organization and structure of the elementary and secondary system imposes constraints on changing education practices and improving learning outcomes. The way students are assigned and grouped in schools, the use of time, the structure of the curriculum, the organization of staff roles, the relationship between education and other agencies that serve children, and the distribution of authority across levels of educational governance are among many basic structural impediments.

Restructuring the system will require fundamental changes at the classroom, school, district, and state levels. Restructuring also requires new forms of leadership and management at all levels of the system. School-site leaders will need different types of skills and knowledge, such as the ability to manage change and to lead teachers who make critical decisions collaboratively, rather than simply implement decisions made elsewhere.

States, districts, and schools are experimenting with various approaches to restructuring, including decentralization and site-based management, new roles for teachers, new incentive systems, and parent and student choice. Research is inconclusive on many of these approaches, largely because they are new, but also because different reforms have been more effective in some places than others. These reforms are not necessarily ends in and of themselves, but instrumental considerations to achieve improved outcomes.

Implications for Asian and Near East Countries

Construct management and structural reforms based on an analysis of the conditions that are most likely to enhance the success of teachers and students. For example, design incentive systems that motivate teachers to improve practice and assume responsibility for student outcomes. Structure the use of time in school and the transitions between levels of schooling to enhance and support student access and completion.

Be willing to experiment with and evaluate different structural reforms because the effectiveness of particular structural and management reforms is likely to vary from setting to setting. Recognize that there will be wide local variation because schools may take very different approaches. Monitor the outcomes rather than the processes.

Create a range of leadership training activities and networks for professional and lay school leaders that prepare them to assume more authority and to be held accountable for student learning.

Decentralize authority and develop a local governance structure for schools. Encourage local initiatives by enabling parents, school boards, and school staff to determine how best to achieve desired outcomes.

Implement planning and information systems at the national and community levels that encourage and support linkages between education and other agencies.

Develop partnerships with the private sector and implement labor market and other sensing mechanisms and strategic planning processes that enhance the ability and flexibility of schools to alter structures and management to respond to changing demands.

Conclusion: Consensus on an Action Agenda

National Strategies

Achieving improvements in education requires concerted action on a number of fronts simultaneously. All parts of the education system are inextricably intertwined so that one part of the system cannot be changed without changing the others. For example, classroom teaching will not change substantially without changes in the system for teacher preparation. In strengthening their human capital resource systems, the countries of the Asia and Near East region, and the American states themselves, should:

- *Link education and the economy.* Broad-based economic growth is essential for financing education. A strong education system for children and adults is key to a nation's economic competitiveness. Direct involvement of the private sector is important in maximizing the benefits of on-the-job training and shaping what skills are taught, and how.

- *Build a constituency for change.* Reform needs to meet the needs of the consumers of education—parents, employers, communities, and the students themselves. Reform requires local-level political support and must provide a range of choices to be responsive to local needs.

- *Build linkages between the education system and other systems that help address the multiple needs of individuals.* Strong cooperative relationships between education, social service, health, housing, employment, and other authorities can support the learning process.

- *Diversify the financial base.* Diversified funding broadens the base of support and creates a dynamic tension among competing interests that strengthens accountability and responsiveness.

- *Balance centralization and decentralization* of decisionmaking authority and responsibility. Reform is not top-down or bottom-up but a strategic combination of both, using mandates, incentives, and capacity building to accomplish multiple policy purposes.

- *Build management structures to support teaching and learning.* Center reforms at the school and classroom levels where major impact on student performance can be achieved.

- *Set student-focused education goals that clearly state the results to be achieved.* With national consensus on what is to be accomplished, decisions on how to achieve these goals can be decentralized, capitalizing on the energy and imagination of parents, teachers, employers, and others.

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- *Emphasize learning outcomes and accountability.* The system must be performance-oriented. Assessment of student performance should allow students to demonstrate higher-order reasoning and problemsolving skills. There must be real rewards for high performance and significant consequences for failure.

- *Provide opportunities for active learning* within classrooms and communities. More learning takes place when instruction is set in a meaningful context and students are given an opportunity to apply the knowledge and skills they are taught. As costs continue to decline, experiment with the use of computers and other information technology as instructional tools that can engage students in active learning.

- *Invest in prevention.* It is more cost-effective to intervene early in the life of the child to avoid problems and remove barriers to learning rather than compensate for preventable learning difficulties after they develop. Maternal and child health and early childhood programs that enable children to develop their full potential are therefore important elements of educational improvement strategies.

Seminar participants agreed that there are no easy answers, no quick solutions. The process of education reform is complex, and requires persistence and experimentation. Timing is crucial as is the existence of enough pressure from outside the school system to bring about the desired reforms. In the United States, the impetus for change has variously come because of the leadership of a Governor or other strong leader, state legislative action, collective bargaining agreements, and lawsuits. Legal imperatives seem to be particularly effective in capturing the attention, and sustaining the involvement, of critical stakeholders in the process of education reform. Sources of external pressure and political mechanisms for change will vary in different political environments in different nations.

The greatest lesson from American education reform may be the ability to solve problems in a variety of settings. There is skepticism about whether discrete program models or models of education reform can be readily exported and adopted elsewhere. However, while much of what works in education is locally determined, many issues are universal struggles--the trade-off between equity versus efficiency, diversification of financing, maintaining the relevance of what is taught in a time of rapid change in the workplace and society. It is the questions, discussions, and thought processes that are the transferable commodity.

The Agenda: The Bureau for Asia and Private Enterprise

From its inception, the Agency for International Development has viewed development of human resources as essential to strengthening individual freedoms and as basic building blocks for national growth. A.I.D. provided extensive public sector investments to Ministries of Education to expand basic primary, secondary, and higher education services and professionalize officials at the teaching and management levels.

The Bureau for Asia and Private Enterprise (APRE) is developing an APRE Human Resource Strategy for the 1990s for its next generation of human resources and educational activities. The forthcoming strategy will restate and refocus the traditional humna resources commitment to respond to a profoundly different and more complex development agenda than the United States and Asian countries faced just a few years ago. The focus links education with economic and democratic growth, or the development of human capital resources. APRE's partner in the strategy process, the National Governors'

Association, is committed to sharing U.S. state-based educational reform experiences that serve as the basis for this strategy. These seminar proceedings are the result of only the first step in the APRE/NGA information sharing process.

Seminar participants urged that APRE promote and support human resources goal setting and strategy development engaging representatives from governments and the private sector in setting natioal goals and designing activities, joint programs, and research. APRE should serve as a catalyst and a broker of resources, bringing information and experts to the decisionmaking process. Further, the participants suggested that in brokering resources, information, and experts, APRE should recognize country differences and the countries' "readiness for change." The final APRE Human Capital Strategy for the 1990s will closely mirror these recommendations.

Appendices

A. Synopses of the Commissioned Papers on Education Reform, and Remarks by Expert Respondents

B. Seminar Presenters, Respondents, and Other Participants

C. Seminar Agenda

D. Seminar Sponsors

Previous Page Blank

Appendix A

Synopses of the Commissioned Papers on Education Reform, and Remarks by Expert Respondents

In this appendix, each of the six commissioned papers is summarized briefly, with an emphasis on key issues, strategies and recommendations. Each paper summary is followed by a summary of the respondents' remarks. Full texts of the six papers and selected respondents' remarks are available from the U.S. Agency for International Development.

"The Political Process of Education Reform"
Chester Finn Jr.
Professor of Education
Vanderbilt University

"Education and the Economy: Efforts to Improve the Linkage"
Morgan V. Lewis
Research Scientist
Center on Education and Training for Employment
Ohio State University

"Financing U.S. Education Reform: Implications for U.S. A.I.D. Countries"
Allan Odden
Director
Southern California PACE Center
University of Southern California

"Supporting Cognitive Development Through Educational Programs"
Senta A. Raizen
Director
National Center for Improving Science Education

"Access and Completion in U.S. Schools"
Gary Natriello
Professor
Teacher's College, Columbia University

"Structural Reforms in Education"
Richard F. Elmore
Professor of Education
Harvard Graduate School of Education

Previous Page Blank

The Political Process of Education Reform

"The Political Process of Education Reform," by Chester Finn Jr., professor of education at Vanderbilt University, is summarized on pages 3–7 of this report.

Summary of Respondents' Remarks on the Process of Reform

Stephen Heyneman, division chief of the Economic Development Institute of the World Bank, commented that this meeting could not have taken place ten years ago. Education was assumed to be a parochial activity, culture bound, and only local. Now it is known that this is both true and not true. While much of education is local, many issues are universal struggles—diversification of financing, privatization of vocational and technical education, the trade-off between equity versus efficiency, etc. However, the connection between A.I.D. agencies and domestic debate has been peripheral, idiosyncratic, and weak. The implications are that care must be taken not to generalize U.S. experience. The United States must be open to learning lessons from other countries.

There are five issues that other countries can learn from the United States: First, the emphasis on learning outcomes, second, the role of educational governance as separate from general purpose government as a facilitator, not a dictator of reform; third, the proactive stance taken by the noneducation community, including the private sector, in leading education reform initiatives; fourth, the diversification of finance, which may inadvertently breed inequalities, but is key to maximizing resources; and fifth, the changing way in which teachers are rewarded, not based on longevity or the amount of education, but based on excellence.

There are four domestic issues in the United States that are not relevant to Asian and Near East countries. They are the lack of success of schools in raising the achievement of many minority youth; prevalent disrespect for schooling and problems with class discipline; the heavy reliance on the SAT test, which doesn't test diligence or hard work; and the American fear of religious and moral education. It is time for American foreign aid to maximize the lessons from its own country. In sum, the United States must concentrate upon the first five issues, not the latter four.

Clifford Lewis, then deputy assistant administrator in the A.I.D. Bureau for Policy and Program Coordination, offered a few caveats about the degree to which current American experience is relevant to lesser developed countries (LDCs). On the whole, he expressed skepticism about the relevance of American educational experience for LDCs.

First, the federal government is a modest player in education within the United States and foreign aid is even less of a factor in education overseas. Second, education in LDCs is a success story, perhaps more so than in the United States. He suggested that the ability of LDCs to cope with change and to acquire skills has more to do with on-the-job training than formal education. Third, the most important skills American industry gave to the Western world are middle management skills—the ability to manage people. These are largely produced in on-the-job training through mid-career education in American companies. Fourth, reform in LDCs will require adjusting to the reality that they have been living beyond their means. Lastly, he questioned the ability of outside advisers to help effect change within countries, especially in areas like it because education is so closely linked to the ideological and political culture of the country.

Education and the Economy: Efforts to Improve the Linkage

Morgan V. Lewis
Research Scientist
Center on Education and Training for Employment
The Ohio State University

In his paper, Dr. Lewis focused on three main topics—increasing the relevance of education to the economy, improving the transitions, and upgrading the workforce. Reviewing the history of vocational education, Dr. Lewis pointed out that the early decision to place vocational education into public education under the control of general educational governance structure was a function of the labor unions, who feared less the ineptness of the educators than the selfseeking interests of the businessmen.

Increasing the relevance of education to the needs of the economy has been a continuing theme in public education in the United States throughout the twentieth century. The century began with efforts to include occupational skill training as part of the curriculum. In the last decade of the century, relevance to the economy is being redefined to mean the ability to use information, including basic academic skills. Dr. Lewis points out that the methods that exist today can hardly be cited as models of efficiency, but they do provide a wide variety of options to individuals as they seek to match their own interests and abilities to the needs of employers.

How well has this seventy-three-year-old attempt to reconcile the conflicting roles of education succeeded? If measured by continued public support—as reflected in enrollments, budget appropriations, and public opinion polls—it has been an unqualified success. Vocational education is an educational reform that has not only endured, it has expanded, and affected the broader educational context, providing the framework for the system of curriculum tracking. With regard to the ability of vocational education to provide the motivation and relevancy needed to teach those students "who do not respond to book instruction alone," the evidence is scanty and mixed.

One of the most frequent criticisms of school-based vocational programs in the United States is that they are slow to respond to changes in labor market demand. An elaborate system for trying to project labor market demand has been developed. However, it projects in a very general way. Vocational educators tend to be conservative and to wait until a technology has created a demand for significant numbers of workers before offering programs to teach the skills required by the technology. The level of employer involvement has increased steadily in the last decade, not so much for specific vocational education, but in general, working on broader basic academic skills to improve the workforce readiness of students. Career education has untapped potential to help attain occupational goals.

Public education in the United States does not, for the most part, accept the responsibility to assist young people in making the transition from education to employment. With a few exceptions, America lacks a widely available approach for assisting the transition process. Despite the benefits and the long history of cooperative education, it has never been a major training mode for most vocational programs. A large percentage of high school students work, but these employment opportunities are not coordinated by the school system. The United States can hardly offer itself as a model of clearly defined transitions from education to employment. The approach is more to make a lot of education and training opportunities available, at varying levels of ability requirements and costs, with the hope that individuals in their exploration of career possibilities find a suitable match. This system does not work well for "the forgotten half," the noncollege bound students.

In the United States, upgrading the existing workforce is essentially a function of the private sector, although public educational institutions are frequently used as providers of the training.

Dr. Lewis made the following suggestions for developing a human resource investment strategy based on the assumptions that increasing the occupational relevance of curriculum materials can contribute to the attainment of general educational goals, and the most cost-effective way to teach occupationally specific skills is on the job:

- Increase career awareness at the elementary and junior/middle school level.
- Use in-school occupational programs to teach broad transferable skills.
- Provide opportunities for school-supervised work experience.
- Develop transitional plans for all students during their final year of formal education.
- Provide incentives for employers to assume an active role in training activities.

Summary of Respondents' Remarks on Education and the Economy

Albert Colville, program manager for public affairs for IBM's Governmental Programs Office, indicated that such career-oriented educational programs are ever-changing, based on the desires of citizens for the education of their children and by the requirements of the marketplace. Because of the diversity of Asian and Near East countries, no "formula" approach to education will fit. These programs must be based on the local conditions that exist in each country, thus the major responsibility rests with the local governments in cooperation with agencies such as A.I.D. and the private sector, especially multinational corporations. Dr. Colville points out that multinational corporations are an excellent bridge, having indigenous staff who understand local needs and cultures, and the support of worldwide resources. Of course, while A.I.D. focuses its effort on countries based on need, corporations select countries based on their local business presence. However, as a good corporate citizen, as an employer needing a skilled workforce, as a taxpayer, and as a company needing a marketplace for their products, private employers could be good partners in improving the linkage of education and the economy.

Nancy Frame, deputy director of the U.S. Program, Trade and Development contended that U.S. vocational education, primarily provided by the public sector, is rooted in the tradition of egalitarianism. She questioned the relevance of the American experience because unlike in Asia and Near East, vocational education in the United States is a testing ground for young people to identify possible careers. It is seen as a respectable way to prepare for a job. She pointed out that developing countries with successful vocational education generally have expanding economies, well-developed general education systems, links between training and employment, incentive systems to ensure quality training, and agencies to manage job training. Her concluding observations were that countries need basic education skills as a prerequisite and that the effectiveness of vocational education is related to the level of industrialization. She stated that vocational skills can be acquired by informal means and that private vocational education may therefore be more appropriate to teach high tech skills. She emphasized that vocational education is only effective when linked to real business and societal needs.

Lee Nehrt, former professor of international business at Ohio State University, commented that the role of the business school in preparing people for the workplace also needs to be considered as does the role of the community colleges in easing the transition between school and the workplace. He also

suggested that in the LDCs, too many college students graduate with liberal arts, and too few in sciences and engineering, and that foreign aid should be aimed at this set of problems. With regard to entrepreneurship, there are various policies that governments can and have followed, for example, teaching more entrepreneurship courses. One of the major problems in offering courses in entrepreneurship is the lack of textbooks. The real essence of human resource development is the lengthening of people's time horizons. The country with the highest percentage of people with long time horizons is likely to be the most advanced. If we can succeed with that aspect of education, the economy will take care of itself.

Financing U.S. Education Reform: Implications for U.S. A.I.D. Countries

Allan Odden
Director, Southern California PACE Center
University of Southern California

In his paper, Dr. Odden described the U.S. structure of education funding from preschool through higher education, and reviewed the sources of new dollars for U.S. education reforms of the last decade. He also discussed several new topics on the finance agenda including choice, performance incentives, and teacher professionalism proposals. The paper reviewed findings on educational productivity, and suggested strategies for countries in the Asia and Near East region to invest new education dollars to produce large system improvements.

He indicated that in the United States $200 billion a year is spent on public education K-12, about $15 billion on private schools, $125 billion on postsecondary education, $5-10 billion on second-chance programs, and about $150-200 billion on workplace education and training. About $.50 of every dollar comes from the states, $.44 from local governments, and $.06 of every dollar from the federal level. Dr. Odden pointed out that the United States has a well-developed technology for developing formulas to design equity-based funding, but that problems caused by fiscal capacity differences across states have not been addressed. He suggested that the countries in the Asia and Near East region might tap the subnational tax structures as a means to raise revenues for education, as well as nonincome, and property taxes.

Dr. Odden also recommended the following revenue-raising strategies:

- Focus on economic growth, which has generated most of our new education money in the past decades;
- Consider creating tax structures and tax-raising authority for subnational governments;
- Consider letting schools enact some type of income tax surcharge;
- Consider charging an income-contingent tuition at the high school level;
- Provide tax credits for contributions to private schools and universities, and
- Consider charging higher tuition at postsecondary institutions, with income-contingent financial aid mechanisms. He suggested that there are no easy ways to get new money for education. In the United States lotteries have proven to be inefficient strategies for raising revenues.

Dr. Odden also recommended a number of priority areas in which countries in the Asia and Near East region should invest the resources available for education. These include to:

- Set national student performance goals and create national curriculum frameworks.
- Invest in programs that prevent school failure, such as preschool and extended day kindergarten.
- Focus new education investments at the K-8 level.
- Provide classrooms but do not overinvest in physical facilities.
- Concentrate teacher recruitment on individuals with liberal arts training, and recruit in rural areas, using fellowships with service payback provisions.
- Restructure teacher compensation structures toward merit increments and promotions based on professional expertise.
- Don't aim for great economies of scale—bigger is not better.
- Fund remediation programs for students at risk of not completing school.

Summary of Respondents' Remarks on Financing Education Reform

Shigeko Asher, senior operations officer at the World Bank, commented on the implications of Dr. Odden's suggestions for financing education reforms by using the Philippines as an example. She indicated that the countries face two major challenges: how to increase efficiency and protect the resources for primary education from being redirected to secondary and postsecondary education, and how to generate additional resources to finance secondary and postsecondary education by identifying other sources of funds from local governments and the private sector. With regard to improving primary education efficiency, preventive and remedial measures would be effective, including preschooling in language and socializing skills; school feeding; closer parent-teacher relationships; and improved teacher skills in diagnosing and remediating failing students. In secondary education, diversification of funding sources is increasingly important, and the U.S. experience in cost-sharing among federal, state, and local governments would be useful. The challenge for Philippine postsecondary education is how to target public assistance to rationalize the system, particularly helping to define the role of the government in developing public and private institutions.

Meredith Scovill, policy analyst at A.I.D., suggested that not only will Asian and Near East countries identify with the lack of discretionary money at the school level, they lack even basic funds for pencils and books. She indicated that many of these countries have very low levels of per capita income and education budgets often have a low priority. Since existing financing comes almost exclusively from the central government, she felt that property taxes used to finance education in the United States would not be applicable. Since illiteracy rates are extremely high, and there is an acute gender gap, funding priorities should include basic literacy; and a narrowing of the gender, rural-urban, and poverty gaps so that more of people can go to school. The central government has more revenue sources than local government, but both sources should be tapped.

Supporting Cognitive Development Through Educational Programs

Senta A. Raizen
Director
National Center for Improving Science Education

In her paper, Ms. Raizen reviewed her underlying assumptions, definitions of competent performance in and out of school, current understanding of learning, what those understandings imply for curriculum and instruction, and the role of assessment she concluded with some recommendations.

A first assumption is that some of the changing requirements of the workplace in the United States forecast what may be coming in Asian and Near East countries. These changes include the introduction of computers and information technology, with requirements changing from routine, mass production tasks, to nonroutine, flexible processes.

A second assumption is that the cognitive science research in this country is of interest elsewhere. Essentially, human beings develop in certain ways that are comparable across cultures; therefore, we can derive lessons about effective teaching and learning, and can identify characteristics of effective performance. What cognitive research says about competent performance is that there is a difference between experts and novices in terms of organization and structuring of knowledge; representation of a problem in depth rather than categorization by surface features; recognition of what specialized knowledge and skills are applicable in a given situation; automated procedures for lower level tasks embedded in a problem; and management of one's learning and performance (general skills).

Effective workers tend to simplify the tasks and find shortcuts; redefine externally defined problems into personally constituted problems; use flexible strategies to "fit" available social, symbolic, technical, and material sources; develop tentative "gap closing" or intermediate solutions; collaborate to develop alternative solutions; produce accurate solutions that lead to the efficient completion of tasks; and continue to develop competence.

The fact is that assumptions that underly the pedogogy found in most U.S. schools and training programs are not true. We know that:

- Skills are not like building blocks, it is not necessary that people learn "the basics" before they can learn specific technical or problem-solving skills;
- Decomposing skills into subskills and practicing each subskill separately rarely produces competence in the skill itself;
- Knowledge and skills taught in isolation are unlikely to be used outside the classroom. Appropriate application of knowledge and skills is not automatic;
- Separating "learning to know" (declarative knowledge) and "learning to do" (procedural knowledge), and their application (strategic knowledge) is dysfunctional;
- Ignoring the experiential knowledge that individuals bring to the classroom leads to ineffective learning;
- Teaching knowledge and skills in a school context unlike contexts encountered at work or in real life impedes the transfer of school learning to settings outside the classroom.

Principles of effective learning, therefore, stress that:

- No learning takes place unless the learner is actively engaged.
- Learning of basic skills should, from the beginning, be set in a meaningful context.
- Instruction must intermix context specificity, attention to domain-specific knowledge and skills, with generality, including the development of self-regulatory skills.
- Shared performance in an environment that encourages social interaction and the use of physical and information resources makes a powerful setting for learning.
- Progressing from novice to expert takes time as individuals achieve increasing levels of understanding.
- The symbol manipulation and abstract thinking skills required in many technical jobs today are learned effectively through a combination of practice and explicit teaching.

According to Ms. Raizen, an understanding of these principles implies that there is a need for a systemic approach to change that incorporates necessary changes in curriculum and instruction, assessment of student learning and performance, teacher training and staff development, and school organization in an interrelated manner.

Ms. Raizen argued that computers and associated information technology together with innovative software probably offer the greatest promise for increasing students' learning. Computers allow instruction to be tailored to the individual needs and learning style of the student and they can be used to create new learning environments.

She also argued that new assessment approaches should be developed. In particular, she suggested that multiple choice tests must be improved. Furthermore, essay questions should be used to allow students to demonstrate independent thinking, and performance tasks should be used to assess students' ability to solve nonroutine problems. In addition, portfolios containing samples of a student's work as well as systematic observations by teachers might be developed. Students should be given the opportunity to carry out long-term projects, individually and in groups.

The recommendations that can be made for possible A.I.D. strategies include the following:

- Countries in Asia and the Near East should be encouraged to build on viable practice already in existence.
- Learning of basic skills should be integrated with the learning of higher-order thinking skills.
- The role of apprenticeships and related learning opportunities based on experience should be examined and strengthened in each country.
- Great care must be taken with the introduction of assessment and examination systems to ensure that they correspond to the educational goals of the country.

- The potential role of computer and information technology to increase educational productivity should be explored.

- Teacher education must be integrated closely with reform goals for K-12 education.

Summary of Respondents' Remarks on Supporting Cognitive Development Through Educational Programs

Marlaine Lockheed, senior education sociologist at the World Bank, commented that the type of education envisioned by Ms. Raizen would require significant shifts in national priorities, combined with a range of resource generation strategies because the countries in this region spend only a small percentage of their GNP on education.

She suggested that the ideas presented would require a revolution in teaching, not merely building on current practice. For example, integrating problem-solving skills into the curriculum is a departure from present practice. In addition to the suggested uses of assessment, it is important to recognize the use of examinations in selection for the next higher level of education or training. The role of computers and information technology is key, if a system has multiple computers and well-trained teachers. Costs are high, due to hardware, software, infrastructure, and teacher training. Integrating teacher education and reform goals for primary and secondary education, with a focus on problem solving, will require governments to develop policies, programs, and incentives, which is particularly difficult in low-income countries.

In summary, Dr. Lockheed noted that while she was an enthusiastic supporter of the goals proposed, the implied changes would be both revolutionary and expensive. To change from a rote learning system to a problem-solving system would require gigantic leaps forward and more than small bits of technical assistance and teacher training. She questioned the likelihood that developing countries in this or any other region could reach them in the near future.

Kerri-Ann Jones, science and technology officer at A.I.D., reviewed the lessons in the paper, looking at education as more than simply an information transfer system. Dr. Jones suggested that in order to apply the lessons learned in the United States to countries in the Asia and Near East region, more data, some models, and some numbers would be needed. She indicated that the practical base from which translation takes place differs significantly. There is a formality in many of these cultures that is different. They are hierarchical societies, and interactive teacher-student relationships are difficult to establish. It is important to value learning to do, rather than learning to know. This is difficult for the United States, and even more difficult in Asian and Near East countries. Another obstacle is bridging the gap from urban to rural, which in some cases can be a century in technology. There must be very detailed matches between approaches in the United States and approaches in each specific Asian and Near East country. Information must get more site specific.

Access and Completion in U.S. Schools

Gary Natriello
Professor
Teacher's College, Columbia University

In his paper, Dr. Natriello considered the problems of access to and completion of formal schooling in the United States, reviewed the basic structural features of formal schooling, and examined three groups of programmatic attempts to enhance access and completion by improving preschool education, improving elementary and secondary education, and reducing the negative influence of factors external to the schooling process. Finally, he concluded with a discussion of the limitations of current approaches.

Five features of formal schooling have direct implications for issues of access and completion. These include: the bureaucratic organization of schools, which is equivalent to batch processing in industry; the time arrangements for schooling that deal with age cohorts rather than the individual needs of students; the

standardized curriculum or content of the school program, which does not have the flexibility to address different learner needs; the system for evaluating student performance in which some students seldom experience success; and the structure of transitions from one grade or stage of schooling to the next, which serve as hurdles to students. His assertion is that the ways in which U.S. schools are structured and organized do much to extend educational opportunities to large numbers of individuals; but that these same organizational forms and structures operate to limit access and inhibit completion among substantial numbers of other students. The traditional organization of schooling should not be viewed as the only appropriate model because certain practices, that may have developed for good reasons, often serve as barriers to access or completion. Thinking about the development of educational services should begin with an analysis of the conditions and needs of the potential student population.

Pre-school strategies to deliver health and educational services to children prior to entry to elementary school increase the chances that they will do well in school and complete their education. These include maternal and child health programs, which have proven to be cost beneficial, as have pre-school compensatory education programs such as Head Start. These programs have an important role to play in promoting early school success, but they are not a total solution. They must be followed by equally effective school programs.

School-based strategies to enhance access and completion generally fall into two broad classes—programs to foster academic success such as Chapter I and the Summer Training and Education Program (STEP); and programs to provide positive social relationships in school such as mentoring, peer networks, and programs to develop a bond between the student and the school institution. The many approaches to enhancing access and completion in elementary and secondary schools reflects, the large number and complex combinations of factors that cause students to leave school early. The multiple causes of early school leaving present a special challenge in identifying the reasons that particular students or groups of students drop out and then matching them with programs that address those reasons. Thus, the place to begin is with a careful and systematic assessment of the causes of early school leaving in a school or community.

External strategies to enhance access and completion include programs to better relate schooling to future opportunities in life, programs to strengthen families, and strategies to make entire communities more supportive of students. Efforts of this type include updated vocational education programs, school/business partnerships, and part-time employment. A key element in the design and implementation of efforts to reduce external barriers to, and mobilize external support for school completion, is the early and continuing involvement of the local population, including community leaders, parents, and neighborhood youth.

The lesson one might take from these programmatic strategies is not that there is one tried and true approach or formula that will work in any and all situations. There are a variety of approaches that can be used—most of them seem to produce, at best, modest results. Thus the approaches outlined in this paper should be viewed as worthy of further investigation and modification rather than as proven solutions to the problem of enhancing access and completion.

Summary of Respondents' Remarks on Access and Completion

William Cummings, director of the Office of International Education at the Harvard Graduate School of Education, noted that Asia's diverse topography and population, financial circumstances, cultures, political traditions, and educational traditions require a focus on more than just cognitive outcomes. In

Asia, the noncognitive outcomes are high priorities. Education for democratizing society should be advanced more forthrightly. Access issues should be a priority because of regional, ethnic, religious, and gender differences. Access should also be a priority as it relates to nonformal schooling and higher education. Cost must be considered in all cases.

The most promising American ideas include maternal and child health programs, compensatory education, and programs that help at-risk youth complete school and achieve academic success. Finally, Dr. Cummings urged A.I.D. to take care to draw on insights of other actors in the region. For example, he suggested that Asia offers useful models to strengthen families.

Lynellyn Long, an AAAS Fellow in the A.I.D. Africa Bureau, argued that if the United States is to export its experience to the Asian and Near East context, analysis must be extended beyond school-based factors to consideration of the larger socio-political and economic context. Household and community characteristics can and should be incorporated in this analysis. Dr. Long suggested that within Asia and Near East countries various conditions such as war, natural disasters, and underfunded systems with significant gender, regional, class, caste, and ethnic disparities have affected access to education. Other countries have strong universal basic education with access for the majority, high literacy rates, and strong schooling traditions.

Dr. Long outlined the elements of a revised theoretical framework to inform A.I.D.'s involvement in the region. She indicated that the socio-political and economic context must first be considered to determine the functioning of the formal school system. Political will and the willingness to make investments in education determine the supply of schooling and establish the parameters for access and completion rates. The state may also reinforce or resist prevailing cultural norms that influence decisions about enrollment and completion. School factors may then enhance or impede the access of different groups in society. Determining the relevancy of the five features of schooling to a given situation requires analyzing the decisionmaking process of households and communities at the local level. The interaction of the household or community, the school, and the state explains the differential rates of access and completion across and within countries in the region.

Structural Reforms in Education

Richard F. Elmore
Professor of Education
Harvard Graduate School of Education

In his paper, Dr. Elmore reviewed the major evidence on three types of structural reforms—performance controls, decentralization, and client choice—in an effort to draw a few broad lessons for the design of future reforms in the United States and in other countries.

Performance controls consist of creating performance standards for teachers and schools, measuring performance on a regular basis, and calibrating the rewards and sanctions that accrue to schools and teachers on the basis of whether they meet the performance standards. Three main examples of performance controls in recent U.S. education policy include performance contracting, merit pay and career ladders for teachers, and state- and federally sponsored performance incentives in education and employment.

The U.S. experience with these performance controls points to a couple of major conclusions for education reformers in other countries. One is that policies designed to allocate rewards to schools or teachers based on performance have consistently failed because output measures have been inadequate to judge performance, and because the plans have been based on faulty conceptions of what motivates teachers. The major lesson from research on performance contracting, merit pay, and career ladders is that factors that motivate

performance are to be found largely within schools rather than in the external environment of schools. This suggests that incentives to motivate teachers might include greater flexibility in student grouping practices, access by teachers to outside knowledge related to specific problems they identify, time for cooperative work on curriculum and teaching, and staffing arrangements that permit teachers to observe each other.

A second conclusion is that designers of policy need to think very carefully about what they are trying to motivate. To the extent that they work at all, rewards focused on individual teachers motivate individual performance, but most of the important tasks that promote sustained student learning are not problems of individual motivation but of group motivation.

The U.S. experience with state and federal performance incentives suggests several lessons. First, performance incentives are highly sensitive to the political context. Second, it is likely that the usefulness of performance incentives will vary considerably with sectoral organization—that is, it will affect operations in a system based on contracts more than in a public monopoly. Third, performance incentives seem to work best when they can be targeted to measures that have meaning for specific clienteles.

Decentralization, or school-based management, is another approach to structural reform tried in the United States. School-based management is defined in terms of the relationship between central administration in local districts and schools; it means some degree of autonomy over budget, personnel hiring and evaluation, curriculum, and school organization. School-based management typically includes a school-site council that exercises some degree of influence over school decisions, and it is typically undertaken as part of some district-wide strategy for improving school performance. It may be viewed as a way of solidifying community support, strengthening the administrative control of school principals, or providing more autonomy for professional staff. There are many possible combinations and permutations of centralization and decentralization.

The U.S. experience with decentralization suggests two major implications for educational reform in other countries. First, the centralization or decentralization of decisionmaking authority has no necessary relationship to either political legitimacy or performance in education. Second, decentralization could have a relatively powerful effect on public involvement and student performance if it were explicitly coupled with deeper theories related to school performance such as teacher engagement in problem-solving around student learning, serious attention at the school level to the skills, knowledge, and understanding that students are expected to manifest, and the role of parents in reinforcing student learning.

Client choice, another structural reform, has assumed a variety of different forms in different settings, including open enrollment policies, magnet schools, use of postsecondary schools, and "second chance" or "re-entry" programs for dropouts who wish to complete school. While client choice seems to result in some degree of diversity among schools and some degree of satisfaction among those who choose, it leaves unanswered certain basic questions about whether choice stimulates diversity, or vice versa, and whether the positive effects of choice are the result of improvements in education or self-selection. Client choice does not support the unqualified contention that parental or student choice leads to higher quality, greater efficiency, or more responsive programs. Offering choices among alternative educational programs may be a powerful

way of linking teacher, student, and parent interests, but it is not likely to have a powerful effect on educational performance unless it is linked to other strategies of school improvement, such as curriculum development, sustained attention in professional development to issues of school organization, and more focused attention at the school level to the desired outcomes of schooling.

The main lesson from all of this is that structural reform has a slippery and indeterminate relationship to the central tasks and technologies of schooling. There is no systematic way to account for why structural reforms seem to work in some settings and not in others. Rather than using structural reforms as a way of driving teaching and learning, it would seem more promising to use good ideas about teaching and learning to drive structural reforms. One might start, for example, with a few key ideas about conditions that are most likely to enhance the success of teachers and students--more instructional time on fewer topics, more flexibility in the allocation of teacher time and expertise to groups of students, more flexibility in student grouping practices, more continuity and reinforcement of key ideas across content areas, more continuity in adult-student contact over time. Then one might construct the set of structures and incentives that support and reinforce these practices—fewer externally prescribed outcomes, greater flexibility in measurement and reporting of student learning, more discretion in allocation of staff time to subject matter, or more internal incentives for cooperative work among teachers and students and for continuity of contact over time. The point is that structural reforms should be derived from knowledge about teaching and learning.

Summary of Respondents' Remarks on Management Reforms in Education

Dennis Rondinelli, senior policy analyst and principal scientist at the Research Triangle Institute, expressed his skepticism about what can be transferred from the United States, and even more skepticism about the ability of international assistance organizations to translate effectively what has been learned to other countries. Similar interventions work very differently in different settings and if structural changes are to work effectively, cultural differences, the dynamics of learning and teaching, concepts, terminology, and methods must all be known. This is particularly true because two types of problems have plagued previous assistance projects—structural and managerial reforms were made with the assumption that they would lead to education improvements. Conversely, the focus was on the technical aspects of education with little or no concern for the managerial issues.

Dr. Rondinelli identified five factors that affect how well education reform projects will be implemented:

1. Clear understanding of goals.

2. Different attitudes, behaviors, and motivations of education actors.

3. Reform benefactors' needs and objectives, including students, teachers, and parents.

4. Relationship between managerial requirements and capacities.

5. Economic, political, and social environments for reform.

Dr. Rondinelli suggested a contingency approach to assistance projects that would look at:

- The managerial implications of the proposed reforms;
- The managerial capacity of intended implementing organizations;
- A gap analysis between the two; and
- An attempt to increase the congruence between the reform requirements and the capacities.

Based on this analysis, the complexity and innovativeness of the projects should be modified and assistance with organizational development should be provided.

Karl Schwartz, then chief of the Office of Development Planning, ANE Bureau, A.I.D., noted that while some changes are taking place, such as the growth of private professional schools in Thailand, education reform is not a particular priority in Asian and Near East countries. A.I.D. should therefore anticipate a greater interest in developing a trainable workforce and expanding access to secondary education. Dr. Schwartz noted that in Asian and Near East countries the impacts of structural reforms on student achievement and performance have not been consistent, and they have had little or no impact on educational access. Reforms have been concerned with the process of instruction, not the content of school curriculum. Therefore, Dr. Schwartz concluded that the best route to a trainable workforce is probably not through the ministry of education.

Appendix B

Seminar Presenters, Respondents, and Other Participants

April 1990

Presenters and Respondents

Charles Aanenson

Dr. Aanenson is the human resources development officer for the A.I.D. Bureau for Asia, the Near East, and Europe. Dr. Aanenson formerly worked with the Ford Foundation, the East West Center, Oklahoma State University, and the U.S. Department of Agriculture. Most recently, he directed the USDA Middle Income Country Program before returning to A.I.D. Dr. Aanenson earned his Ph.D. from Indiana University (Bloomington).

Carol C. Adelman

Dr. Adelman is the assistant administrator for the A.I.D. Bureau for Asia, the Near East, and Europe. Dr. Adelman has provided the bureau leadership for an open-markets, open-societies agenda, which recasts the fundamentals of self-sustained economic growth. As the first senior A.I.D. administrator behind the recently removed iron curtain, Dr. Adelman planned U.S. government efforts to provide $6 million of political and electoral support for the fragile transition to democracy process in Czechoslovakia, Bulgaria, Rumania, Yugoslavia, the German Democratic Republic, Poland, and Hungary. In the early 1980s, Dr. Adelman was a Foreign Service Officer with A.I.D. in Africa. Prior to her appointment to A.I.D. by President Reagan, Dr. Adelman headed a private consulting firm in Washington. Dr. Adelman received her Ph.D. from Johns Hopkins University in Public Health and a masters from Georgetown's School of Foreign Service.

Shigeko Asher

Dr. Asher is currently senior operations officer in the Population and Human Resources, Asia-Department II, World Bank where much of her work focuses upon the Phillipines and Thailand. Earlier, she served as a senior loan officer in the India Division, and education economist in the East Africa Division. She also served in the East Asia and Pacific Regional Offices. Dr. Asher is a labor economist, holding degrees from Keio University, Smith College, and a Ph.D. from the University of Syracuse.

Kenneth H. Ashworth

Dr. Kenneth H. Ashworth is commissioner of higher education for Texas, a position he has held since March of 1976. Formerly, he served in a variety of capacities in the University of Texas System. During his early working career, Dr. Ashworth was employed by the U.S. Treasury Department, the Urban Renewal Administration, the San Francisco Redevelopment Agency, and the U.S. Office of Education in Washington. He joined the University of Texas System as an assistant to the vice chancellor for academic programs, assuming the position of vice chancellor the following year. Dr. Ashworth received his undergraduate and Ph.D. degrees from the University of Texas at Austin and his master's degree from Syracuse University.

Albert R. Colville
Dr. A.R. Colville is currently program manager in public affairs for IBM's Governmental Programs Office. He is responsible for conducting public affairs education programs and maintaining IBM's relationships with "think tanks" and key academics involved in public policy issues. Formerly, Dr. Colville directed IBM's contributory programs in the Far East as manager of Corporate and Scientific Programs for the Asia/Pacific Group in Tokyo, Japan. Dr. Colville received his doctorate from Massachusetts Institute of Technology, a master's degree from the University of Washington, and a bachelor's degree from Rensselaer Polytechnic Institute.

William Cummings
Dr. Cummings is director of the Office of International Education at the Harvard Graduate School of Education. He has taught at Harvard University, the University of Hawaii, the National University of Singapore, University of Chicago, and Tsuda College in Japan. He has been an analyst or fellow at the National Science Foundation, the East West Center, and with the Ford Foundation. His research and publications are numerous. Dr. Cummings holds degrees from the University of Michigan and Harvard. He also attended North Carolina State University.

Richard Elmore
Dr. Elmore is a senior research fellow at the Center for Policy Research in Education. He is president-elect of the Association for Public Policy and Management. He is a professor at Michigan State University in the College of Education and adjunct professor in the Department of Political Science. Dr. Elmore attained degrees from Whitman College, Claremont Graduate School, and Harvard University. He will be returning to Harvard University in the fall of 1990.

Chester E. Finn Jr.
Dr. Finn is a professor of education and public policy at Vanderbilt University, and director of the Educational Excellence Network. Formerly, Dr. Finn was counselor to Secretary Bennett at the U.S. Department of Education (1985-88); legislative director, Office of Senator Moynihan (1977-81); research associate in governmental studies, the Brookings Institution (1974-77); Counsel to the American Ambassador to India (1973-74); and staff assistant to President Nixon (1969-71). Dr. Finn is a prolific writer, with more than 150 articles to his credit. Among his six books are *What Do Our 17-Year Olds Know*, and *Scholars, Dollars, and Bureaucrats*.

Nancy D. Frame
Ms. Frame is deputy director of the U.S. Trade and Development Program (TDP). She has been with TDP for three and one half years. Prior to that, she was an attorney in the General Counsel's Office at A.I.D. Ms. Frame specialized in the areas of international commercial law and contracting. Ms. Frame holds a J.D. from Georgetown University. She also studied in France on a Fulbright Fellowship.

Evelyn Ganzglass
Ms. Ganzglass is program director for Training and Employment at, the National Governors' Association (NGA). Since coming to NGA ten years ago, she has been involved in research and technical assistance activities related to adult literacy, workforce excellence, work and welfare programs, youth policy, dropout prevention, vocational education, and job training. Prior to NGA, Ms. Ganzglass worked in the U.S. Department of Labor in a variety of positions. She has also served as a Peace Corps Volunteer in Somalia.

Stephen Heyneman
Dr. Heyneman has served as chief of the Human Resources Division of the Economic Development Institute for The World Bank since 1984. He is also a professor at the University of Maryland and the American University. He has taught in the Chicago elementary schools as well as at the University of Chicago. He is a board member of the National Academy of Sciences and the Society of Comparative and International Education. He has attained degrees at the University of California, Berkeley; the University of California, Los Angeles; and the University of Chicago.

David Hornbeck
Before joining Hogan & Hartson, Dr. Hornbeck was the state superintendent of schools in Maryland for twelve years. He is presently chairman of the board of trustees for the Carnegie Foundation for the Advancement of Teaching. He has served as president of the Council of Chief State School Officers. He received his undergraduate degree from Austin College in Texas, has earned two graduate degrees in theology, and received his law degree from the University of Pennsylvania.

Kerri-Ann Jones
Dr. Jones is a science and technology officer of the Office of Technical Resources, Bureau for Asia, Near East and Europe, A.I.D. She began working with A.I.D. in 1985 as an American Association for the Advancement of Science (AAAS) fellow. She has since worked in India as a biotechnology advisor, and in Thailand on the Science and Technology Program. Formerly, she worked at the National Institutes of Health, as program officer for the Middle East and the Indian subcontinent. She has degrees from Barnard College, Columbia University, and Yale University.

Clifford Lewis
Mr. Lewis is the deputy assistant administrator of the A.I.D. Bureau for Program and Policy Coordination. He was responsible to the administrator for creating a policy planning group and a major report on U.S. economic assistance. Formerly, Mr. Lewis was with The World Bank and International Monetary Fund, where he served as senior trade and finance specialist for Latin America. Prior to that, Mr. Lewis was with the International Paper Company as assistant to the chairman. Mr. Lewis has authored numerous articles in Atlantic and National Interest. Mr. Lewis holds a B.S. degree from Harvard University and a J.D. degree from New York Law School.

Morgan Lewis
Dr. Lewis is a research scientist at the Center on Education and Training for Employment, and an adjunct professor at Ohio State University. Formerly, he served as senior researcher and professor at Pennsylvania State University. His consultancies and publications are extremely numerous. His recent works include *Vocational Education's Response to the New Economy* and *Reports to Congress on Vocational Education*. Dr. Lewis earned his Ph.D. from Pennsylvania State University.

Marlaine Lockheed
Dr. Lockheed is a senior education sociologist in the Population and Human Resources Department of the World Bank. Before joining the World Bank, she was senior research sociologist at the Educational Testing Service, directing research on education technology and gender equity. She has taught at Stanford University, the University of Texas, and Princeton University. She has worked in Afghanistan, Nepal, and Thailand. Her research focuses upon education policy and practice. Two special interests are school and classroom effectiveness in developing countries, and applications of technology for enhancing school quality. Dr. Lockheed received her Ph.D. from Stanford University.

Lynellyn Long
Dr. Long has served as an American Association for the Advancement of Science (AAAS) fellow in the Office of Development Programs, Africa Bureau, A.I.D., since 1988. Prior to A.I.D., Dr. Long worked at the Center for Immigration Policy and Refugee Assistance, Georgetown University, and with the Catholic Organization for Emergency Relief and Refugees in Thailand. Dr. Long has worked in the Philippines, Bangladesh, Sudan, Togo, and Mali. She holds her degrees from Williams College, the University of Toronto, Harvard University, and Stanford University.

Gary Natriello
Dr. Natriello is professor of sociology and education, Teacher's College, Columbia University. Formerly, he taught at Washington University in St. Louis, Washington State University, and Stanford University. Presently, Dr. Natriello is principal investigator with nearly $1 million in research funds looking at more responsive high schools, New Jersey teacher education, and post-high school experience. Dr. Natriello attained his degrees from Princeton and Stanford Universities.

Lee Nehrt
Dr. Nehrt was a chaired professor of international business at Ohio State University, Wichita State University, and Indiana University. He also served as the director of the World Trade Institute, New York City. Dr. Nehrt has served overseas as advisor to the minister of economics in Tunisia; chief of party at the University of Dacca, Bangladesh project; and, most recently, chief of party of the MUCIA Project in Indonesia. Dr. Nehrt holds degrees from the U.S. Coast Guard Academy, the University of Paris, and Columbia University.

Thomas Nicastro
Dr. Nicastro is the chief of the Human Resources Division, Bureau for Asia, the Near East, and Europe, A.I.D. He is responsible for the development and design of the ANE Human Capital Resources Strategy as well as provision of assistance and advice on human resource development and economic growth to bureau missions. A foreign service officer, he served in India, the Dominican Republic and Bolivia. He also participated on A.I.D. assignments in Chile, Honduras, Pakistan, and Thailand. Formerly he was on the faculty of the University of Missouri. He holds degrees from St. Francis College in New York City, and the University of Missouri, Columbia.

Allan Odden
Dr. Odden is director of Policy Analysis for California Education (PACE). He is professor, Department of Educational Policy, Planning and Administration at the University of Southern California. From 1975 to 1984, Dr. Odden was with the Education Commission of the States. He earned his Ph.D. from Columbia University. A prolific writer, Dr. Odden's most recent book will be published by McGraw Hill, titled *School Finance: Topics and Applications.*

Senta Raizen
Ms. Raizen is director of the National Center for Improving Science Education. The center's mission is to promote changes in state and local policies and practices in science education focusing on curriculum, teaching, and assessment. Formerly, Ms. Raizen served as study director at the National Academy of Sciences and associate director of the National Institute of Education she worked for ten years at the National Science Foundation, and served as senior researcher with the Rand Corporation. Ms. Raizen holds degrees from Bryn Mawr and the University of Virginia.

Dennis Rondinelli
Dr. Rondinelli is senior policy analyst and principal scientist in the Office for International Programs at the Research Triangle Institute. He is also senior research associate with the Center for Competitiveness and Employment Growth at the University of North Carolina. Dr. Rondinelli formerly taught at Syracuse University's Maxwell School of Public Affairs, Vanderbilt University, and the University of Wisconsin, Milwaukee. Dr. Rondinelli recently completed writing *Planning Education Reforms in Developing Countries: The Contingency Approach*, available through Duke University Press. His Ph.D. is from Cornell University.

Raymond C. Scheppach
Dr. Scheppach is the executive director of the National Governors' Association. He was previously deputy director of the Congressional Budget Office; United States Congress. Prior to that he was vice president and senior consultant for economic studies at Jack Faucett Associates, Inc., an economic consulting firm where he specialized in energy, transportation, environment, and regional economic analyses. Dr. Scheppach has authored and coauthored several books on economics.

Karl Schwartz
Dr. Schwartz is chief of the Office of Development Planning, Policy, and Program Guidance in the A.I.D. Bureau for Asia, the Near East, and Europe. Formerly, Dr. Schwartz was the Thailand/ASEAN desk officer, the human resources development officer in Yemen, and the education officer in Egypt. Dr. Schwartz earned his Ph.D. from the University of Wisconsin.

Meredith Scovill
Dr. Scovill is a policy analyst and program economic officer in the Office of Development Planning, Bureau for Asia, the Near East, and Europe, A.I.D. Dr. Scovill has served as a foreign service officer for ten years. She has earned her Ph.D. from the University of Illinois, Urbana, in economics, specializing in public finance and taxation. Formerly, Dr. Scovill taught at the University of Notre Dame.

Alexander H. ter Weele
Dr. ter Weele is presently chief, Asia Region, Population and Human Resources Technical Division at the World Bank. He has been with the bank for more than sixteen years. Before coming to the bank, Dr. ter Weele worked for the Harvard Institute for International Development in Ethiopia, for the Harvard University Development Advisory Service in Columbia, and for the Harvard University Center for Studies in Education and Development in Venezuela. He holds a bachelor's degree in engineering from Dartmouth College, a master's degree in particle physics from Brown University, and a doctorate in development planning from Harvard University.

Susan Traiman
Ms. Traiman is a senior fellow in the National Governors' Association Center for Policy Research. She is responsible for providing direct assistance to state policymakers on policies related to restructuring the education system, with particular emphasis on the teaching profession. A former teacher, she was a consultant at a regional center of the New Jersey State Department of Education, served on the staff of the National Commission on Excellence in Education, and tracked state education reform at the U.S. Department of Education.

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Emily Yaung Ashworth
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Appendix C

Seminar Agenda

Agency for International Development
Bureau for Asia, the Near East, and Europe
National Governors' Association

A Seminar on
ANE Human Capital Resources Strategy for the 1990s
April 25–26, 1990
National Press Club, Washington, D.C.

April 25, 1990

8:30 a.m.–9:00 a.m. — **Continental Breakfast**

9:00 a.m.–9:30 a.m.
Main Lounge

Introduction and Welcome

Thomas Nicastro
Chief, Human Resources Division
ANE Bureau, A.I.D.

Carol C. Adelman
Assistant Administrator
ANE Bureau, A.I.D.

Raymond C. Scheppach
Executive Director
National Governors' Association

9:30 a.m.–11:00 a.m. — **Process of Reform**

Chester Finn Jr.
Professor of Education, Vanderbilt University

Respondent: Stephen Heyneman
Chief Human Resources Division
Economic Development Institute
The World Bank

Respondent: Clifford M. Lewis
Deputy Assistant Administrator
Bureau for Program and Policy Coordination, A.I.D.

Moderator: Barbara Turner
Director, Office of Technical Resources
ANE Bureau, A.I.D.

11:00 a.m.–12:30 p.m. — **Management Reforms in Education**

Richard Elmore
Professor, Michigan State University

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Respondent: Dennis Rondinelli
Senior Policy Analyst
Research Triangle Institute

Respondent: Karl Schwartz
Chief, Policy and Program Guidance
ANE Bureau, A.I.D.

Moderator: Charles Aanenson
Human Resources Officer
ANE Bureau, A.I.D.

12:30 p.m.–2:00 p.m. **Luncheon: Implementing Reform Initiatives at the State and Local Levels**

David Hornbeck
Hogan and Hartson
Former Commissioner of Education, Maryland

Introduction: John S. Blackton
Deputy Assistant Administrator
ANE Bureau, A.I.D.

2:00 p.m.–3:30 p.m. **Access and Completion**

Gary Natriello
Professor, Teacher's College
Columbia University

Respondent: William Cummings
Director of International Education
Harvard University

Respondent: Lynellyn Long
Development Programs
Africa Bureau, A.I.D.

Moderator: Samuel Rea
Director, Office of Education
Bureau for Science and Technology
A.I.D.

3:30 p.m.–3:45 p.m. **Break**

3:45 p.m.–5:15 p.m. **Instructional Methodology and Assessment**

Senta Raizen
Director
National Center for Improving Science Education

Respondent: Marlaine Lockheed
Senior Sociologist
Population and Human Resources Department, The World Bank

Respondent: Kerri-Ann Jones
Science Officer
ANE Bureau, A.I.D.

Moderator: Bruce Odell
Director, Office of Project Development
ANE Bureau, A.I.D.

5:15 p.m.–5:30 p.m. **Wrap Up**

Thomas Nicastro
Chief, Human Resources Division
ANE Bureau, A.I.D.

5:30 p.m.–6:30 p.m. **Reception**
Library Lounge

April 26, 1990

8:30 a.m.–9:00 a.m. **Continental Breakfast**
Bourke-White Room

9:00 a.m.–9:30 a.m. **Summary and Discussion of Previous Day's Issues**
Bourke-White Room

Charles Aanenson
Human Resource Officer
ANE Bureau, A.I.D.

Chester Finn Jr.
Professor of Education, Vanderbilt University

9:30 a.m.–11:00 a.m. **Education and the Economy**

Morgan Lewis
Research Scientist
Center for Education and Training for Employment
Ohio State University

Respondent: Lee Nehrt
Professor, Business School
Indiana University
Formerly Head, World Trade Center

Respondent: Albert R. Colville
Program Manager, Public Affairs
IBM Corporation

Respondent: Nancy Frame
Deputy Director, United States Trade and Development Program, A.I.D.

Moderator: Lance Marston, Director
Private Sector Development Office
ANE Bureau, A.I.D.

11:00 a.m.–12:30 p.m. **Financing of Education**

Allan Odden
Director, Southern California PACE Center
University of Southern California

Respondent: Shigeko Asher
Senior Operations Officer
Population and Human Resources
Asia-Department II
The World Bank

Respondent: Meredith Scovill
Policy Analyst
Office of Development Planning
ANE Bureau, A.I.D.

Moderator: Richard Blue
Deputy Director
Office of Technical Resources
ANE Bureau, A.I.D.

12:30 p.m.–2:00 p.m. **Luncheon: A Higher Education Perspective on Education Reform**

Kenneth Ashworth
Commissioner
Texas Higher Education Coordinating Board

Respondent: Alexander H. ter Weele
Chief, Asia Technical Division
Population and Human Resources
The World Bank

Introduction: Thomas Nicastro
Chief, Human Resources Division
ANE Bureau, A.I.D.

2:00 p.m.–3:30 p.m. **Discussion Regarding Priorities and Recommendations**

Chester Finn Jr.
Professor of Education, Vanderbilt University

3:30 p.m.–3:45 p.m. **Break**

3:45 p.m.–5:00 p.m. **Discussion Continued**

Chester Finn Jr.
Professor of Education, Vanderbilt University

5:00 p.m. **Wrap Up and Discussion**

Thomas Nicastro
Chief, Human Resources Division
ANE Bureau, A.I.D.

Evelyn Ganzglass
Program Director, Training and Employment
National Governors' Association

Appendix D

Seminar Sponsors

National Governors' Association

The National Governors' Association, founded in 1908, represents the Governors of the fifty states, the commonwealths of the Northern Mariana Islands and Puerto Rico, and the territories of American Samoa, Guam, and the Virgin Islands. Its missions are to influence the shaping and implementation of national policy and to apply creative leadership to the solution of state problems.

United States Agency for International Development

The Agency for International Development (A.I.D.) administers economic and humanitarian assistance to more than eighty countries worldwide. A.I.D. assists developing countries to realize their full national potential through the development of open and democratic societies and the dynamism of free markets and individual initiatives. A.I.D. assists nations throughout the world to improve the quality of human life and to expand the range of individual opportunities by reducing poverty, ignorance, and malnutrition.