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ABSTRACT

The 2-day meeting of 300 representatives of various practitioner and policymaking groups in education described in this report combined substantive discussions of research priorities and plans with discussions of ways to increase the use of research-based information. Fourteen small group discussions focused on both the National Education Goals and on the process of disseminating what is learned from research. Three sessions devoted to presentations of individual projects enabled colleagues to learn about 33 separate research and dissemination programs across the country. A major discussion item was a plan by Assistant Secretary Diane Ravitch to design a new and widely available electronic database, SMARTLINE, to share research with teachers and parents. This report includes an overview of the forum and summaries of sessions on: (1) the priorities of the Office of Educational Research and Improvement; (2) doing and using research; (3) business and education collaboration; (4) educational research and the National Education Goals; and (5) research, dissemination, and school reform. A list of the names and addresses of the participants is appended. (ALF)

Getting the Word Out:

A National Forum on Disseminating Educational Research and Development

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proceedings of

A National Forum on Disseminating Educational Research and Development

Sponsored by the
Office of Educational Research and Improvement

U.S. Department of Education
Washington, D.C.

U.S. Department of Education
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Assistant Secretary

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A National Forum on Disseminating Educational Research and Development

Align federally funded education research to the National Goals and to school reform.

Get the word out to a much wider audience about that research and how to use it well.

This was the double bill, so to speak, of a National Forum on Research, Development, and Dissemination sponsored by the Department of Education's Office of Educational Research and Improvement (OERI) November 14-15, 1991 in Washington, D.C. The participants and co-sponsors largely represented OERI's "family" for dissemination. They included representatives of the regional educational laboratories, research and development centers, ERIC clearinghouses, National Diffusion Network, and the Leadership in Educational Administration Development Program, as well as OERI offices. Representatives of various practitioner and policymaking groups also were among the 300 participants.

This was the first occasion for many participants to hear about the agenda of then-new Assistant Secretary for Educational Research and Improvement and Counselor to the Secretary, Diane Ravitch. And it was the first time since the establishment of the National Goals and the announcement of AMERICA 2000 that those in OERI most responsible for dissemination had an opportunity to share with each other what they were doing in response to the goals and assess where they were in terms of making research information available to those engaged in education reform efforts across the country.

The 2-day meeting combined substantive discussions of research priorities and plans with discussions of ways to increase the use of research-based information. Fourteen small group discussions focused on both the National Goals and on the process of disseminating what is learned from research. Three sessions devoted to presentations of individual projects enabled colleagues to learn about 33 separate research and dissemination programs across the country.

A plan by Assistant Secretary Ravitch to design a new and widely available electronic database, SMARTLINE, to share research with teachers and parents, was a major discussion item. More a challenge at this point than a finished product, SMARTLINE represented the "new vision" that Ravitch sought for OERI, namely to have an "unparalleled reach" throughout the country.

Priorities of the Office of Educational Research and Improvement

The National Education Goals provide a useful framework for a new set of priorities at OERI, Assistant Secretary Diane Ravitch told the opening session of the forum. Recommendations of internal study groups and discussions with major research experts helped suggest six themes for OERI research, Ravitch said — themes which mirror the National Goals. She listed:

- Early childhood education and families;
- At-risk children and youth;
- Curriculum and assessment;
- Mathematics and science improvement;
- Lifelong learning; and
- School organization.

Current legislative proposals contain some of these, she said, adding that she would like to establish a directorate for each of the priorities, similar to the organization at the National Science Foundation. In addition to these themes, the forum was structured to provide a discussion of Goal 6: Safe, Disciplined, and Drug-Free Schools.

Strategy for Change

At the forum, Dr. Ravitch said that the fiscal 1993 OERI focus would be on systemic school reform. In the winter 1991-92 *OERI Bulletin*, Ravitch announced a comprehensive, standards-based strategy for change.

OERI is concentrating on three elements of education reform in support of this strategy for change: (1) academic standards; (2) state K-12 curricula in core subjects; and (3) performance assessment.

1. National standards in core subjects. OERI is supporting the work of major nongovernmental organizations to establish national standards in core subjects. Building upon the efforts of the National Council of Teachers of Mathematics, OERI has thus far supported the development of math standards and is now supporting the development of standards for history, science, the arts, civics, geography, and English.

Together with the National Endowment for the Humanities, OERI has awarded a grant to the University of California at Los Angeles to establish a National History Standards Project. OERI has awarded a grant to the National Academy of Sciences to develop standards for what students should know and be able to do in science. With the National Endowments for the Humanities and the Arts, OERI has awarded a grant to the Music Educators National Conference in Reston, Virginia to develop world class standards in the arts. With the Pew Charitable Trust, OERI has awarded a grant to the Center for Civic Education in Calabasas, California which has a subcontract with the National Council for Social Studies, Washington, D.C. Again with the National Endowment for the Humanities, OERI has awarded a grant to the National Council of Geographic Education at the University of Pennsylvania in Indiana, Pennsylvania, in collaboration with the Association of American Geographers, the National Geographic Society (both in Washington, D.C.), and the American Geographical Society, New York City.

In coordination with the National Council of Teachers of English and the International Reading Association, OERI has awarded a grant to the Center for the Study of Reading in Champaign, Illinois to develop English standards by the fall of 1995.

2. K–12 curricula. In the area of curricula, OERI is supporting the development of state curricular frameworks (not the actual curricula). These K–12 frameworks should establish a coherent, orderly progression of learning for

students at each and every grade in each subject. "The faster states get their act together, with their best teachers and curriculum experts, the better it will be for national standards," Ravitch told forum participants. "National standards will take root only when they reflect the best of state standards."

3. Performance Assessment. In addition to ongoing work on assessment performed by the Center for Research on Evaluation, Standards and Student Testing (CRESST) at UCLA, the regional educational laboratories have begun a program-wide effort to improve math and science education which includes developing information and providing assistance with performance-based assessment in those subjects.

Dissemination

The primary purpose of the forum was the forging of stronger links between research and practice. Ravitch expressed concern that OERI's work had become too strictly divided among research, practice, and the gathering of statistics.

"Who is our audience?" she asked the conferees. In her opinion, "the consumer/beneficiary of research is not the research community but the public, parents, and teachers — these are the people for whom research is intended."

This means that planning for dissemination should occur simultaneously with planning for any research activities with products targeted toward different consumers/beneficiaries. An example of the dissemination effort Ravitch envisioned for OERI's laboratories and centers would be the gathering and dissemination of information about exemplary curriculum frameworks and standards, such as those developed in California.

New Database

To make such broad dissemination more possible, OERI's efforts are being focused on building a substantive database and on making it widely accessible. "I want a dissemination system that answers any question people might have about education," she said. In order for educational research to have the continuity of support it needs, Ravitch explained, her time at OERI "will be spent on developing a program so credible" that investment in research will be seen as decidedly worthwhile, not organized "around political constituencies." This also means "we need to make a powerful case that what we are doing helps society, especially students, teachers, and parents." The national forum should produce "good ideas" about how to make the important work being done by researchers accessible to the public, Ravitch said.

Central to OERI's planning for better dissemination has become what is known as SMARTLINE, or *S*ource for *M*aterials *A*bout *R*esearch on *T*eaching and *L*earning *i*n *N*ational *E*ducation. A major problem with current dissemination efforts, Ravitch said, is that "By the time we disseminate something, it is no longer current or new." SMARTLINE, an online information service, would change this. It would go into every public library (over 15,000) and every school library (about 75,000) with the "best of what we know about research." SMARTLINE would be an indispensable adjunct to the standards-based change strategy — it would make available the best research-based knowledge to all engaged in educational reform.

SMARTLINE will be an easy-to-use repository of education information; a sophisticated reference and referral system to put users in direct contact with federal agencies, institutions, national and state organizations, and individual experts, as well as other users; and, a participant in electronic networks that encourage the wide exchange of materials and promising practices.

Research and Dissemination

Basically, Ravitch said, research and dissemination must go in tandem. Showing that re-

search knowledge is valued and being used would create support for OERI's mission to create that knowledge. At the same time it is important to increase the federal investment in research. "We can't use a bigger horn if we don't have something to shout about." In a society as large as the United States, she said, "we need a wholesale way of reaching people — and we need help on thinking this idea through."

Doing Research, Using Research

The National Forum participants discussed and debated issues about the nature of educational research and support for it, as well as how research becomes part of practice. One presentation centered on quality issues raised by a National Academy of Education (NAE) project, "Funding Priorities for Educational Research," directed by Thomas James of Brown University, who spoke at the Forum.

Another body of research, presented by Brenda Turnbull of Policy Studies Associates, Inc., focused on lessons learned in putting research knowledge into practice, primarily drawn from studies of Chapter I implementation and of school improvement. It was centered on what teachers and schools do with research knowledge, rather than what policymakers do with it.

"The Research Enterprise" —— Thomas James

The framing issue around research funding, James said, is that the research enterprise needs a plurality of approaches. Nothing should be done to support research "that will unduly constrain the scientific and humanistic growth of the research community, nor the democratic, experimental character of social institutions in the United States." However, in addition to more funding and clearer research goals, the NAE project found the following:

- Educational research lacks comprehensive, effective strategies to shape funding priorities, the kind that produced agreement on research to cure cancer or stop smoking.
- Patterns of support for educational research are episodic, affected by changing demands, vacillating leadership, unstable commitments, and institutional pressures.
- Studies tend to be small-scale and short-term; rarely are they longitudinal and interconnected.
- With few exceptions, neither the federal nor state governments fund leading centers of educational research at a sufficient scale of operations or funding levels to maintain their momentum as centers of excellence over long enough periods of time to communicate effectively with practitioners. There should be more efforts like the Center for the Study of Learning at the University of Pittsburgh, according to James.
- Most of the public funding available specifically for educational research depends upon who has political control of the research dollars because most of these funds go into designated studies and research centers regulated more or less overtly by current but rapidly changing political and policy considerations. Researchers "need to respond to the realities but not be bound by them," James said.
- Too little room is left for coordinating field-initiated ideas, for theory-building and conceptual work needed to shape new inquiries, and for the cumulative insights of long-term empirical investigations. For example, said James, "there needs to be more room for conflicting and shifting ideas on testing."

The implications of these findings for the conduct and dissemination of educational research are many, according to James. Those who want to move research into practice must deal with a field that is fragmented and theoretically diffuse, "marked by a profusion of studies too often leading down divergent paths to endlessly debated viewpoints and assertions."

Also:

- The whole enterprise responds slowly to powerful new currents of fundamental research in disciplines touching upon the study of education.
- Most education research is not funded at levels sufficient to allow intensive experimentation and collaboration with practitioners.

- The paucity of longitudinal studies has resulted in an over-abundance of "snapshots" of specific treatments and interventions when what is needed is a cumulative, authoritative base.
- The available knowledge rarely is interconnected and mutually informing, or placed in perspective in order to discern patterns, to see the same problem from different angles.
- Institutional research fails to take adequately into account outside factors affecting the educational settings under study, such as the social, cultural, and economic forces influencing dropouts, testing, and tracking.

James advised the research community to communicate with the political community more often and to establish certain priorities for research that match political concerns. He listed active, lifelong learning; a systemic approach to assessment; the needs of underserved groups; the organization of schools; and teachers and teaching.

Getting Research in Tune
—— Eric Cooper

From the perspective of teachers and parents, especially those in minority communities, educational research provokes "groans" rather than interest, according to Eric Cooper, executive director of the National Urban Alliance for Effective Education at Teachers College, Columbia University. Educational research and its dissemination need to be more in tune with what is important to the users. There are serious, everyday problems facing educators and parents, but the current time lag in getting research into practice and the inability of good research on cognition to find its way into schools limits people's view of how helpful researchers could be. No one entity is at fault, but the situation calls for going beyond traditional processes for dissemination. "If we are to address the time it takes for theory to be translated into classroom practice," he said, "we must recognize that for systemic change to occur, we will need to build partnerships within communities that embrace important educational outcomes, and we will need to integrate instruction, research, and telecommunications." He advised:

- Collaborate rather than compete. An "enormous" amount of dissemination work is going on, but not much collaboration.
- Integrate research and telecommunications in order "to prepare the community for the research knowledge you are developing."
- Obtain broader public involvement in the process of change, using lessons from "giants" such as Ted Turner (Cable News Network). Only a few people are ever quoted in the media. Those interested in dissemination need to "demystify" what the James Comers and Ted Sizers are doing well so teachers can develop their own skills in using research. Instead of always looking for "what can I do on Monday morning," they should be encouraged to rethink what they do as individuals involved in the change process.
- Identify school systems with break-through methods for using research knowledge and creating new learning environments that improve students' thinking.

Faster, more effective dissemination of research can occur only through greater use of technology. Research proposals should include how the data will translate into use through advanced technologies, such as satellite telecommunications or videos.

"This is the frontier," Cooper said, adding that many successful models already exist to put an idea into practice and reach a wider audience through technology. However, they currently are fragmented. Users of technology need support, "especially for the clear use of research material," if research dissemination is going to be effective through new technologies.

The two presentations generated several questions about the nature of producing knowledge. James agreed with a comment that knowledge is not static and that the "enterprise" of education is to enable teachers and students to construct their own meanings

from knowledge. "Research is not something you take out of a bank," James said. "Knowledge is constructed by students, teachers, and communities; it does not come from a slim volume from Japan." Research also is a collaborative effort, ideally moving expertise into communities in a process that involves students and teachers, he said.

Cooper agreed with the argument that knowledge must be generated by those directly involved in the education process. He thought site-based management as a reform strategy will never achieve what it promises because it is separated from instructional goals and strategies. The latter arise in individual classrooms. "We don't see the messiness in education change. We only look at the heroes, the leaders," he said.

Gaining stability for educational research at both state and federal levels is a political issue, according to James. Social compacts at the federal level should be drawn up to involve two or more parties, as in the basic research supporting the space and nuclear energy fields. Policymakers at the state level can be reached by strengthening research agendas in such organizations as the Council of Chief State School Officers, National Governors' Association, and the Education Commission of the States. "We need to learn a craft wisdom about communicating with each other, which cannot be done at a single federal level," James explained. "As researchers, we need to see ourselves as part of the teaching and policymaking communities."

Using Research Knowledge in School Improvement
—— Brenda Turnbull

Picture the typical environment for a teacher, Brenda Turnbull of Policy Studies Associates suggested. From hour to hour, teachers are not sure of the effects of their decisions, and they are isolated from colleagues. However, teachers do want to enlarge their repertoire. They are most inclined to trust ideas from fellow teachers and to hang on to practices that show immediate signs of success. The stages they go through in the use of new knowledge are laborious. At first, a different skill or approach is used in a mechanical way. Later, its use is routine. Finally, teachers are confident enough to use the new knowledge creatively.

Yet, teachers really need to be problem solvers, learning what techniques work well in order to make immediate, informed decisions. "It is critical," Turnbull said, "to focus research-into-practice efforts at helping teachers be learners." The process of encouraging teachers to use research-based knowledge depends upon human learning, not just the dispensing of new prescriptions from outside. Without an active learning process, "schools and teachers may adopt buzz words, but things will not really change," she said. Studies of the change process reviewed by Turnbull show some common themes:

- Change in schools requires both leadership and management; one ingredient is the use of outside resources.
- Tough mandates are crucial; without them, many will not change; a combination of top down and bottom up effort is needed.
- Schools must be learning communities where trial and error are allowed and adults exchange ideas with each other.
- Schools need the capacity to make continuing change; the collection and analysis of data are important to keep improvements going.

Federal research policies, Turnbull warned, do not always support these essentials of education change. Their emphasis on (1) institutional functions, (2) technical quality control, and (3) extent of adoptions often are carried out at the expense of teachers and schools:

- Institutional functions. Debates and energy focus on divisions among research, development, and dissemination, but the research centers and laboratories "take on mixed roles,

both do both." Furthermore, the institutional functions are subject to changing agendas.

- Technical quality control. Researchers too often assume that more testing of programs is enough to assure quality.
- Adoption of effective practices. In focusing on the adoption of intact programs, we do not communicate respect for teachers as professionals and active learners, and we ignore the benefits of adapting and reinventing models. "A larger change process could transform the original model *and* leave the classroom or school better off." The biggest changes for teachers and schools, she added, "come about under the most ambitious change goals."

Federal research and development policies should develop a better relationship with schools and learning, focused on helping schools solve problems. "Give them more research-based ideas so they can re-invent them in practice." Partnerships with teachers can help researchers and developers learn better how ideas are adapted. Turnbull predicted they would learn that it will be necessary to equip schools and teachers with methods for continuous learning and to develop motivations for continuous knowledge use.

Turnbull also suggested that researchers make use of incentives already in schools. The commitment to change may be superficial at first, but there are places where the initial commitment can lead to significant change in learning environments, such as Kentucky and Chicago. These are not budget-busting ideas. Rather, Turnbull said, "they capitalize on what we know about the change process."

Participants noted that research-based change is made difficult because of shifts in school policies and demographics. When everything has to be "recalibrated," research becomes marginal, the discussion brought out. Furthermore, research ideas that appear as "bullets zooming in from outside" will have little effect because the energy to sustain change must come from the local leadership which understands its environments.

Turnbull emphasized, however, that top-down pressures, such as the school improvement mandates in Chapter 1, while underestimating what needs to be done to turn schools around, still represent "a powerful mandate" for change.

Collaboration: Different Voices, Same Views

G. Carl Ball

In his moderately sized business, G. Carl Ball employs 50 researchers. Were he running an education system, he said in a luncheon address, he would have to fire 49 ½ of them.

Deploring the lack of investment in research in the education sector, Ball challenged the National Forum to lobby for greater resources for educational research, reminding the participants that "you have a lot of friends and supporters in the business community."

A leader on partnerships between business and education, Ball said that business organizations have three functions: marketing, organization, and research. More advanced businesses now devote 10% of their resources to research, but the "education industry" spends less than one-tenth of one percent of its resources on research, an "appalling" amount. This is happening despite the obvious dependence on a better educated workforce in order to remain competitive. "We cannot remain competitive by turning out underachieving students," he said.

In addition to being underfunded, education research lacks teamwork. It is "inexcusable," Ball stressed, for "key people in research and dissemination not to be putting forth a full, aggressive effort to get research into use." In industry, research is tied closely to practice. Citing a model from agriculture — finding a cure for a tomato disease — Ball said that researchers, extension agents, seed developers, and farmers worked together to find a solution. In education, the same teamwork should exist among researchers, textbook publishers, regional laboratories, principals, and teachers. "Everyone should be focusing their efforts on solving problems, on using opportunities as equals."

A third issue is the research agenda. Tough decisions need to be made on what research will be conducted with limited funds. Having found little communication between researchers and school campuses in his visits to schools around the country, Ball advised the National Forum participants to concentrate their efforts on the improvement of learning.

The business community will support more effective research aimed at becoming part of classroom practice, he assured his audience. Business people ought to be invited to participate in education meetings and policymaking efforts more often. "After all, we come out of a competitive environment, we have a sense of urgency, we are accustomed to taking risks."

David Kearns

A corporate leader who became Deputy Secretary of Education, David Kearns called for a greater sense of urgency in the educational research community to produce "new ideas and new thoughts about how to get them out there." Too many efforts "are still tinkering at the edges," he commented. In other endeavors, such as research on semi-conductors, biotechnology, or fiber optics, "we see major research universities working with the private sector and the federal level. We do not see the same thing happening in education."

Kearns' interest in global competitiveness did not, however, lead him to endorse efforts to copy the Japanese system of education. "We need a system that is uniquely American and fits our own diverse society." But good is not good enough, in Kearns' view. At a minimum, "we need a clear projectory to meet our goals, and when we meet them, we have to go higher because expectations keep going up."

Milton Goldberg

Bringing the experience of many years in federal research policymaking to the National Forum, Milton Goldberg, director of the Office of Research in OERI, attempted to answer the proverbial question, "Who's on first? What's on second?"

Goldberg distilled three essential "plays" from the many issues involved in creating a more functional dissemination system for research knowledge:

- A clear delineation of the functions and responsibilities needed, accompanied by greater efforts to help the public understand the different roles of researchers, developers, disseminators and practitioners. Further, collaboration among these functions must begin with more clarity and honesty, with participants always asking: "What is my role?"
- Dealing with the "it-can't-be-done" syndrome, with an attitude that nothing can be done in our school environment. Goldberg said it was a "mystery" to him that this attitude prevails, even though every urban area has a school that is working for its teachers and students. "The dissemination business writ broadly has to answer why this [working] school exists and others do not."
- Overcoming the relative worth issue. "We ought not to be afraid to reach consensus on an issue," Goldberg asserted. "Enormous" tensions exist, such as the relative worth of state frameworks versus site-based management decisions; or having technology available versus knowing how to use it well. These issues should be put before the public for debate and consensus-making.
- Putting certain concepts back into the debate. Equity always has been part of the American tradition, but "the more diverse we become, the harder it is to accomplish." Likewise, a goal of quality, as Kearns had stated before, "is a race without a finish line." The research community needs to be more explicit about what quality means.

Finally, Goldberg said, referring to the pressures educators often feel to prepare students for working life and to enable the nation to remain competitive in a global economy, it is important to remember and maintain the importance of the humanities to human endeavors, and—in effect—to "honor the poets."

Educational Research and the National Goals

The first round of small-group discussions were organized according to the National Goals. The groups identified problem areas, discussed what needs to be added to the knowledge base of research and practice for each goal, and suggested potential strategies.

While each group dealt with a different goal, the discussions revealed some common perceptions:

- Deciding on research priorities under each goal should be preceded by better definitions and frameworks of the issues they present.
- Each goal has research gaps which need to be identified and better integrated with each other.
- Each goal also is supported by substantive existing research sufficient to justify making changes.
- Researchers need to link with classroom teachers as partners in framing research agendas and as knowledge builders, if they expect to move their research into practice
- The public is an important audience for research knowledge, but it is not well-informed about the complexities behind the National Goals.

Summaries of the six group discussions follow.

Goal 1. Readiness for School

By the year 2000, all children in America will start school ready to learn.

The definition of readiness was a common concern. The group recommended that a broad definition incorporating academic, physical, and social development be adopted, but some wanted the readiness of older school-age children to be part of the research focus; others wanted to limit it to ages from birth to age 8.

Also, the group acknowledged that communication with parents whose children are not in preschool programs needs to be tailored differently from that for parents in contact with such programs.

Constraints on achieving readiness include: lack of "passion" for reform and for long-term commitment to providing programs, fragmentation of services and a lack of coordination among agencies, a confusing array of appropriate practices, insufficient funding, and problems with staff stability and training.

To overcome these barriers, the group ***recommended*** that programs avoid the deficit model (i.e., the problem is all in the child and his or her family) and build on family strengths; provide and promote support systems that empower families; tailor services to family needs; train staff to work with parents; synthesize existing information on best practices according to age groups; and develop and support interagency collaborations.

Research priorities should focus on systemic models, personnel evaluation, parent involvement and family characteristics, access to services by poor parents in both urban and rural settings, different social and economic contexts, and emerging crisis factors in young children. The research should include meta-analyses, ethnographic techniques, and longitudinal studies.

Dissemination issues regarding school readiness include: identification of procedures to ensure outreach to parents, especially those in inner cities; use of public libraries; development of a national database with information useful to teachers and parents; exploration of alternatives to print media for reaching parents; collaboration among agencies; reaching parents who are "turned off"; and the need for strategies to build on what is already known

about the socialization process, such as people-to-people contact and trust building.

Goal 2. High School Completion

By the year 2000, the high school graduation rate will increase to at least 90 percent.

Participants first wrestled with problems of data collection and analysis. Distribution of material on 1988 dropout and graduation rates raised skepticism about assumptions derived from the data; for example, that school completion rates for blacks were approaching that of whites and that both rates exceeded 80%. The group suggested that the data should be disaggregated to make distinctions between rates for inner-city youth and other groups.

The group also debated traditional views of one standard for all students.A spokesperson for students with disabilities argued that the curriculum would be too rigid and force many of these students to drop out of school. Others said that support for diversified curricula would debase the standards and lead to second-class education for the students that such a policy was intended to help. (Both views came together, however, in agreement over making vocational and technical education more respectable and desirable.)

The group ***recommended*** more and better dropout prevention programs which offer solid and reliable evidence using successful strategies. Also, more emphasis should be placed on dropout prevention strategies in rural areas.

Research efforts in this area would benefit from an expanded definition of susceptible groups and appropriate prevention programs. To date, some groups of students at high risk of dropping out have been closely studied, but the majority of potential dropouts are less easy to identify and little is known about them or their reasons for leaving school. The differences among these students and the priorities for our concerns are threefold: (1) *magnitude*: (white students comprise the majority of dropouts — 66 percent — but their rate of dropping out is comparatively low); (2) *incidence*: (compared to whites, the number of inner-city black students and American Indians is low, but the proportion of dropouts among them is high); and (3) *uncertainty* (some Hispanic groups have high dropout rates, but the rates may be inflated because they include immigrant adults who have never attended U.S. schools, but who are being counted as dropouts because they do not have a high school diploma).

In sum, the ***barriers*** appear to be: a tension between raising graduation rates and meeting higher academic standards; inflexible definitions of achievement; and the tension between flexibility in standards and expectations and the fear that this would lead to sub-standards for some students. The ***research priorities*** should be: to refine and extend statistical data on dropout rates, especially those for minority students in urban areas; review dropout programs for evidence of success; extend dropout program research into underserved areas, such as rural areas; and extend and refine definitions of graduation, including behavioral as well as academic skills and workplace-relevant achievement.

Goal 3. Student Achievement and Citizenship

By the year 2000 American students will demonstrate competency in challenging subject matter and will learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment.

The group agreed that this goal is achievable and much research exists to support it. However, neither the public awareness and support nor the professional understanding and

practice exist at this time to be successful reaching this goal.

Barriers to this goal are: the absence of a consensus on the steps needed; and the lack of familiarity with the necessary strategies by those who are responsible for achieving this goal.

Public awareness crosses both of these barriers. Its role in supporting the goal is made more complicated because "community," and especially parents, have become amorphous in American society, so it will be difficult to mobilize community support for the goal. Media sources tend to make the public skeptical about education in general, but polls show that a greater percentage of the public (62 percent) believes this goal is more obtainable than other goals. However, OERI needs to be aware that the pubic lacks information about the National Goals.

To create greater public awareness, the group ***recommended***: fostering of "a sense of outrage" about school performance; greater emphasis upon knowledge and skills for leadership by principals; and attention to the larger forces impacting upon student achievement outside of the schools.

Teachers and principals, likewise, are not knowledgeable about the cognitive underpinnings of academic success at high levels for all students. Teachers need more information about how children learn, especially at-risk youngsters. In fact, the teaching profession has a belief about learning that is counterproductive to higher order thinking research, some group members contended. Nor is substantive change in content a part of restructuring efforts; most efforts focus on pedagogy.

Teachers need to deal with principles underlying new approaches to learning, rather than with strategies and materials, but researchers do not know how to stimulate this involvement with the intellectual content of changes in teaching and learning.

Another problem in transferring new knowledge into classroom practice is that it requires strategies not familiar to teachers or takes longer than teachers anticipate. Researchers wanting to move higher cognitive learning into practice need to prove the value of what they are doing and know how to measure it, but new outcome measures are expensive and take time.

Possible options for OERI and the general research agenda include: integrating the work of the National Center for Education Statistics more with the National Goals; gaining more validity of the knowledge base on cognitive research and improving the understanding about that base within the research community itself; more research and dissemination of alternative assessments and the integration of changes in curriculum, instruction, and assessment; analysis of the gaps in the knowledge base about achievement (e.g., the 1994 NAEP assessment in history should also include knowledge of world history); and more knowledge about how to motivate practitioners to use research.

These efforts, however, will take place in a political context and there needs to be continued research on the nature of political constraints and how they may be overcome. One suggestion was to restructure research so that the questions researchers ask come from practice, not from the research community; practitioners need to be involved from the beginning with articulating their needs and acting to have those needs met. Teachers comfortable with also being researchers should move in and out of universities, it was suggested, because diffusion of knowledge should be a two-way street.

Change also must be systemic; therefore, principals and superintendents are key players in moving research into practice. The agricultural model of the extension agent as a bridge between research and practice was considered a good one, but education's equivalent — the National Diffusion Network —

always has been underfunded, participants pointed out.

Advanced technologies can be a part of improving the use of research in practice, particularly its ability to bring expert one-on-one knowledge to teachers, but it is not a panacea.

Generally, the group's ***recommendations*** included: the delivery system for new knowledge must be systemic — across schools and from one level of governance to another; the knowledge coming from studies in cognitive science offers great promise for the realization of this goal and teachers should become familiar with it and its implications for practice; the results of cognitive research need to be incorporated into assessments as well as content; and — patience is needed.

Goal 4. Science and Math

By the year 2000, U.S. students will be first in the world in science and mathematics achievement.

Three issues were delineated in this group — collaboration, communication, and dissemination. Beyond just having a research database, users need to know how to translate what is there and access what they want.

Participants thought that knowing more about the change process is basic to making it possible to achieve this goal. Essential components of change are: research-based knowledge and skills, resources in the hands of those who need them, participation by all affected by change, rewards and incentives for change, commitment on behalf of individuals, administrative support, and dissatisfaction with the status quo.

A number of ***gaps*** exist in the research on this subject, including: how to accomplish the standards; understanding what a "discourse" in the community is; convincing teachers of the need to change; educating and informing the public; implementing research in classrooms; identifying evidence of success; identifying what it is essential for students to learn; knowledge about alternative assessment systems; greater knowledge about how to increase student motivation to tackle higher content; quality control of programs outside of the National Diffusion Network; and equity concerns.

Options for OERI in helping to achieve this goal included coordination among the variety of groups involved in research; encouraging and promoting collaboration among those states taking part in the National Science Foundation's state science initiative; funding initiatives for systemic reform; and attention to curriculum as a policy issue within OERI.

The group discussed at length the need to work directly with teachers in developing research agendas, particularly integrating their concerns and efforts with those of the research and development centers. The "intellectuals" and the "professionals" do not communicate well because they have different agendas.

General ***recommendations*** on this goal were: promote cooperation and collaboration among the various sources of concern, including professional societies, the National Science Foundation and the states; develop an OERI initiative to assist states and school districts in developing model programs; and renew the OERI initiatives in curriculum development.

Goal 5. Adult Literacy and Lifelong Learning

By the year 2000, 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.

Rather than accept a year 2000 deadline for this goal, this group pointed out that the im-

plication of lifelong learning is for an ongoing process. The year 2000 should mark the date for establishing a ***process for measuring progress***, rather than an end of the effort. Continuing immigration will keep adult literacy as a never-finished endeavor.

Literacy was defined as more than basic skills. Lifelong learning implies that adults will exercise skills of citizenship, as well as those for the workplace.

Participants agreed that the knowledge base for achieving this goal is unevenly distributed throughout the five objectives for the goal (to involve business in connecting education and work; to give all workers access to quality training; to increase in the number of quality literacy programs available; to increase substantially the literacy levels of those who attend college, especially minorities; and to substantially increase the number of college students with advanced skills).

Also, only partial information is available for some of these objectives. For example, even though business is highly involved with education, participants thought the business community has not clearly articulated the credentials and skills it believes are needed for work. There is no agreement as to the link between high school diplomas and work requirements. Nor is there enough knowledge about the linkages between businesses and schools, the levels and types of institutions that should be involved and the value of business investment in schools.

Another area for research is that of ***attitudinal barriers*** among adult learners who experienced failure in traditional schooling. Research needs to inform the profession on the most successful modes of teaching adults with different needs.

Recommendations included: offer academic credits for work experience; develop workplace incentives to motivate adult learning; develop better definitions of training and skills that lead to productive workplace experiences; and study and develop steps and strategies to improve the retention of minorities in post-secondary education.

Goal 6.
Safe, Disciplined, and Drug-Free Schools

By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

Before research and dissemination objectives can be set on this goal, the participants said, a focus must be determined — whether it is on drug-free students or drug-free schools.[1] Research needs are different depending on whether strategies are directed at individuals or at schools.

OERI activities related to this goal include large surveys on adolescent risk behaviors and drug-free school programs. These are surveys of teachers, principals, and superintendents by NCES on the extent of drug and violence problems and practices and programs to reduce problems. Non-OERI activities include local studies of substance abuse education components in collaboration with school districts and neighboring universities.

Despite a long period of data collection, rigorous evaluation of programs addressing drugs and violence is just beginning to emerge. The group ***recommended***: development of alternate methods of evaluation beyond experimental designs; studies of the effects of "responsible use" and "no use" drug programs (an issue mentioned in a recent GAO report[2]); and more information on how schools can work with their communities to reduce drug abuse problems.

Research, Dissemination, and School Reform

Moving to areas other than the link between research and the National Goals, the second round of small-group discussions at the forum focused on three broad concerns: the process of research and dissemination in fostering school reform, with a special emphasis upon exploring greater use of advanced technologies; targeting research findings to specific audiences; and new technologies and forms of dissemination.

Research and School Reform

Models for Collaboration

Focusing initially on the role of the National Diffusion Network (NDN), this group said NDN would be a better model for collaboration if it drew on the dissemination skills present in the centers and regional laboratories. Another suggested model was the interactive video information system now in a pilot stage in Maryland with different "packages" of information for different audiences, for example, school board members, teachers, and parents. Still another model is the Panasonic school reform network in eight school districts, which provides opportunities for multi-role group teams to collaborate. These models exemplify the importance of engaging as many parties as possible in educational research.

Discussants thought new telecommunications systems, such as SMARTLINE, should be built on theories of adult learning rather than just copy existing systems. Dissemination through this kind of medium will work best if it facilitates genuine engagement among users, moves away from being exclusively for experts, uses a menu that opens up access to knowledge, responds to urgently expressed needs, and provides easy access. SMARTLINE should be built upon what other electronic networks already have accomplished and not start from scratch. It must be expansive enough to be good but not a "spaghetti" of other networks. It also should foster communication among local users because local people may know better where to locate resources wanted by the users.

Knowledge Utilization Models

Development and dissemination are different concepts, but dissemination has become the generic term for all knowledge transfer or communication activities, this small group discussion concluded. While it may be a convenient, short-hand way of handling the concept, the field needs knowledge use models that will discriminate among very different models of knowledge use based on research and other models that are not research-based.

The group framed this issue through a series of questions:

- What is the character of the knowledge that is used?
- Who is the user? What do we know or assume about the user?
- What is the purpose of the use? What outcomes are intended?
- What would it be important to know about the context of the use situation?
- What do the answers to the above questions imply for improving knowledge transfer, communication, and utilization?

Granted that the challenge is to create a better research and dissemination system, what is the overall goal of such a system? The group detected a tension between two concepts of knowledge acquisition. One concept is filling an "empty vessel" with facts and information which are easily communicated and understood and which lead to products and programs which can be adopted and implemented. The other concept is that knowledge acquisition comes about by engaging or supporting "communities of learners, composed both of individuals who learn in complex ways

and of organizations seeking to restructure themselves as "learning organizations." The current status of knowledge utilization models is somewhere in between these extremes, the group concluded.

Another tension to be dealt with is that between a view of research responding to specific "needs" of knowledge users and a view of it as encouraging a protracted "conversation" dependent upon continuous feedback.

The discussion led the group to develop two paradigms:

- The ***dissemination paradigm*** in which knowledge is broadly disseminated to many users, often at some distance. The knowledge is "external" to the user system. The challenge is to communicate it well enough to create a demand for it among many users; the means are external systems such as marketing, mass media, on-line information systems, and 800 telephone numbers.
- The ***systemic change process paradigm*** in which the main focus of knowledge use and production is in a single location — a person's head or a large organization. This paradigm is local, complex, and dynamic. Externally produced knowledge may be part of this picture, but it often is incidental or subordinate to a process of change in group or organizational structures, policies, procedures, attitudes, values, and shared visions of those involved in the change process. Research-based knowledge becomes part of a process, not a product. However, this paradigm does not suggest an either–or situation but, rather, a melding of knowledge in many forms from many sources.

Current concepts of knowledge utilization mix these two paradigms. For example, external agents may support a local, systemic change process. And yet, as the complexities of the change process are better understood, using the dissemination paradigm alone becomes less relevant.

Mapping the Future of Research and Development

The importance of understanding the historical obstacles to collaboration on research and dissemination needs to be understood as a base for mapping the future. The group looking at what is ahead for research and development noted several issues that need to be considered:

- Criteria for dissemination;
- The audiences for research knowledge;
- The development of dissemination strategies targeted for different knowledge bases;
- Bridging the gap between research and practice;
- Assuring longitudinal, institutional, and well-financed research;
- Focusing efforts on at-risk populations;
- The need to develop capacities and incentives for users to be innovative — to want to use research knowledge; and
- The importance of establishing research priorities which are stable and consensual, intellectual, practical, and not exclusionary.

Standards for Validating Findings and Evaluating Research

Discussions about validation centered on the National Diffusion Network (NDN) and its programs, practices, and facilitators. While there was a consensus that the validation procedures used by NDN had value and should be continued, it was also felt the process should be broadened to accommodate programs, practices, and materials that had not nor were not interested in collecting the types of evaluation data necessary to be validated under the NDN process. For example, an alternative might be to create different levels of validation.

Regarding the dissemination of both validated and non-validated projects, the group's discussions revealed two main concerns: If a project is not validated, should its dissemination to other sites be funded by OERI? And, should OERI create a demand for a project through

the dissemination of information about it if OERI is not supporting the project with funding? There was some hesitation in the group about providing funding for dissemination of projects that have not been proven; also, model programs would need outside funding if a demand is created for them.

Turning to implementation issues, the focus on dissemination and validation ignores important lessons that have been learned about the need for support and assistance beyond dissemination. Studying NDN program adoptions which have not succeeded could provide needed information about the implementation process and why some adoptions fail. Presently, the federal role in implementation is limited, with no one entity claiming responsibility. ***Suggested policies*** included using categorical programs to support implementation, and providing support for the trainers and technical assistance agents so that implementation can be assumed locally.

The group acknowledged the difficulty and costs incurred by research-based projects in gathering the types of data necessary for the validation process and discussed how the centers and regional laboratories could help projects in the process. However, it was pointed out that evaluation is not necessarily research. Centers have to make choices between doing comparative studies of programs that work and doing more basic research.

Targeting Specific Audiences for Research Findings

Reaching Teachers, Parents, Policymakers, and Students

Dissemination needs to be defined better, this group decided initially, asking: Is it simply the distribution of information or does it encompass the training or technical assistance needed to help receivers implement the information as well?

Dissemination also should be considered as a marketing process, keeping in mind what is to be delivered, to whom, and by what means for specific audiences. The group noted that diversity exists within audience types. For example, some parents are sophisticated and some are not; some have had positive experiences with school when they were students, others have not; some speak English well and others have limited proficiency. A key to dissemination is learning the specific characteristics of the audience — what it needs and what delivery system can best meet the needs. Even a message targeted to a specific audience may need modifications to best serve a sub-group of that audience.

A successful dissemination system, the group decided, must build capacity at the school level, helping teachers and administrators collaborate. In any practitioner-led school improvement program, time is the key issue — there must be time to build an awareness of changes needed and resources available. In addition to databases, dissemination efforts should use methods that involve human contact, such as workshops for parents.

Although this is the *Information Age*, participants believe our society is not yet sophisticated about using information. Research information competes with everything else that crosses a person's desk, and what influences a person to notice a particular resource depends on the "headline" that says what the product or service will do for that person, indications that the product or service meets the needs of the moment, or a link of the information to someone or some organization known and trusted by the reader.

Demonstrating the Link Between Research and Practice

There are a number of qualities and conditions that could increase the likelihood of successfully translating research findings into

educational practice. No one condition is sufficient; some are more important than others.

Among the most important ones listed by this group is the need for writers at research centers to put their results into a form that can be used and further "translated" by disseminators, technical assistance personnel, staff developers, and others in direct contact with practitioners. Also considered important would be OERI funding of a contract or grant to "train trainers" and staff developers in the principles and process of translating research for practitioners.

Other conditions listed as most important were a need to decrease the considerable competition between research and dissemination for the same federal funds and the need to draw better distinctions between basic and applied research in education.

Additional issues to be considered in order to translate research into practice include the following:

- The research that is translated must represent knowledge for which teachers see both the need and the applicability.
- The selection of appropriate research is critical to successful translation.
- The concept should be considered as "research into professional use."
- Research into professional use should not be considered a short-term, knowledge-into-behavior phenomenon; rather, as one in which research information is used to make instructional or other decisions over the long term, as knowledge increases and new needs arise.
- Linkages between knowledge producers and translators (disseminators) need to be improved.
- To improve the link between research and practice, structured interactions between researchers and their target audiences are also needed.
- OERI should make both time and funds available for the further development (i.e., validation, replication) of promising research.
- Teacher training curricula should include specific training about "how to use research."

New Technologies and Forms of Dissemination

The Uses of Technology

Purveyors and users of technology in education must view it as a tool, a means to an end, but not an end in itself, the small group session decided. However, this group also recognized that the rise and progression of technology implies that it is more than an enrichment; its potential is for creating basic, systemic change in teaching and learning.

The group's comments and suggestions to OERI as it develops greater capacities for using technology included:

- Technology must always consider the ultimate client — often the student. However, the teacher will be the primary client. Moreover, the superintendent and the school board are key factors in the extent of technology use, implying that broad education about technology and the building of a wide constituency for it are critical.
- The human connection in developing and using technology must always be considered. Perhaps "electronic librarians" are needed for better understanding of technology and its uses. Information gathering traditionally has been a "social process," dependent on going directly to the people known to have the information needed. A new telecommunications system might include a talent bank as a way of incorporating this social networking.
- The basic value of old, common technologies should not be forgotten. More exotic tools need to be developed, but phones and FAX machines suit many knowledge users.
- Evaluating and financing technology are important issues that need to be addressed. Technology must demonstrate to a broad variety of users that it is valuable; this evaluation must come from the field more than from the laboratory. Research on comparisons between technology-delivered instruction and

instruction without technology is inconclusive. This approach asks the wrong questions. What needs to be asked is: What do you want to do with particular learners? What tools are needed to try to teach certain learners certain things? As to financing technology, the problem of obsolete equipment should be addressed by more cooperative policies among businesses. Also, groups need to cooperate through production partnerships on the purchase and use of advanced but costly technologies, such as video.

Technology can answer the problem of coordinating all available materials and methods. National policies in this area need to be reviewed and modified to focus on how to get technology into the field and how best to use it. Technology should be used as a tool for systemic improvement because it involves relationships among people, products and methods. It is at its best when solving two types of problems — how to enrich teaching and learning and how to become a better medium for traditional teaching.

Bringing the USA Online

Focusing on the development of the Assistant Secretary's proposal for SMARTLINE, this small group discussed numerous issues.

What databases, information networks, or communication systems are already in existence that can become part of SMARTLINE?

- INet (Institutional Communications Network), the fledgling OERI network, is compatible with the goals of SMARTLINE. A request-for-proposal to create a permanent version of INet (the current use of the GTE system is temporary) is being prepared, with a stipulation that it include a plan to link with other systems. The original plan for INet called for the second phase to link other institutions; the third phase, focusing on databases and bulletin boards, can adapt to SMARTLINE's purposes well.[3] The consensus of the group was to weave INet into the fabric of SMARTLINE. The OERI PC-based bulletin board would be superseded by the third phase of the INet plan. The existence of SCI-NET, a network for award-winning science teachers and Massachusetts supervisors, and other networks was cited. ERIC, an essential piece of the proposed SMARTLINE, can add depth to the information represented and has demonstrated its usefulness to educators and students. (SMARTLINE should allow a user to obtain a FAX or an electronic version of an ERIC document, request more information from clearinghouses, and use other ERIC system services).
- Additional existing networks that could become part of SMARTLINE include on-line library systems. Many libraries offer access not only to their own state holdings but also to other library systems and catalogues, to state library holdings, and other networks through Internet. Interlibrary loan capabilities would be a logical extension of SMARTLINE's communications. The capability for document delivery and full text retrieval and delivery must be built into this system. Where fees are necessary, they need to be easy to pay on a flat fee basis for schools and by credit cards for individuals.
- National Science Foundation networking grants have helped to create integrated networks of science and math teachers; and allowed teachers, university faculty, associations, and others to collaborate, conceptualize research, and work toward integration of science and math materials. Math and science teacher association members have been asked to participate in this networking, and universities helped them gain access to E-mail and bulletin boards from a BITNET platform. Many similar interest groups could be part of SMARTLINE.
- Another current service is ERIC Digest ONLINE. A file of ERIC Digests, it would provide an immediate full-text source of information for SMARTLINE. The digests are intended for use by policymakers, teachers, administrators, parents, students, and the general public.

- Other potential resources for SMARTLINE include online networks operated by professional associations, such as the Association for Supervision and Curriculum Development and the National Diffusion Network's (NDN) pilot bulletin board now operating for NDN facilitators.

Participants said a guiding principle for SMARTLINE should be ***connections***. Access should be possible from any number of networks. SMARTLINE may not be a single access point but a multi-access system, able to be dialed into from any site as well as accessible through workstations in public and school libraries. SMARTLINE should not be a separate network from all these other networks; it should contain distributed links and be a "front end" with its own components. It should act as a filter to other sources.

SMARTLINE also should allow for the addition of local service and education options and encourage users to tap into local resources, for example, a parent–teacher hotline concept. It also should provide information for those who want a "second opinion" on an education issue, an objective overview of appropriate service, and research-based information.

What "rules of the road" exist for a project like SMARTLINE?

- Technically, the system should feature broadband communications and plan for an extended phase-in period. Another potential delivery system would be the cable-in-classrooms effort, available free of charge to schools with E-mail connections. This technology features interactive television, accessible through a keyboard attached to a television set.
- SMARTLINE should have "high tech" and "low tech" components, with some elements housed at the points of access, such as school and public libraries, and other components online. There could eventually be local and remote access to materials on CD-ROM, print, video, and audio. Until documents could be easily delivered electronically, SMARTLINE could be augmented by fiche collections, local materials, and diverse storage and transmission media.

- Initially, a core SMARTLINE station needs to be defined and costed out, with estimates for quantity discounts. Packages could be offered with different levels of access, upgradable, and with certain perquisites that would encourage schools to buy into the fullest possible teacher access. A second phase might facilitate on-site electronic delivery via a FAX machine; phase three components might be determined by a market analysis of information needs of schools.[4]
- The cost analysis would need to address the issue of obsolescence; many estimates are based on a three-year projected life span for computer hardware.
- SMARTLINE would need to consider the psychological barriers to its use and reduce those as much as possible. Using libraries as initial entry points, a focus should be on improving the education and training of librarians. However, personal contact will be needed to encourage many parents and teachers to use the system.

The way the interface is designed will make — or break — this proposed system. It should accommodate both sophisticated and inexperienced users; it should be constantly modified by feedback from users. Use and demonstration of SMARTLINE should become a routine activity of schools through PTA meetings and other events. Schools probably cannot fund new positions; but librarians, teachers, parents, and administrators can be trained to be regular users of such a network.

Who would be the audience for SMARTLINE?

- Potential users include teachers, administrators and other building-level personnel, parents, community leaders, business and industry, school board members, and the health and social services communities. Another potential audience is students themselves. They should be able to use SMART-

LINE, although they will not be the primary audience. Student use, it should be pointed out, would encourage parent use.

What should be the first steps to bring SMARTLINE online?

- BITNET began with a base of 100 major universities. An equivalent group in K–12 education could be developed and include state education agencies, school districts, and professional associations.
- Development needs to be both top down and bottom up. At the top, decisions need to be made on a technology platform and models of the services to be provided, followed by connecting up the desirable network. From the bottom must come information and feedback about getting information to people who need it, getting it to them in forms that are usable, and getting them the information they want.

Related Comments from Other Groups

Other small groups at the Forum also discussed the potential of SMARTLINE, and several included extended comments about the proposal in their reports.

The group concerned with targeting research to teachers, parents, policymakers, and students suggested that this type of dissemination should be approached from a marketing viewpoint, asking "what do we want to deliver and to whom?" OERI will need to prioritize its audiences and decide how large an inventory is needed for those audiences. Users who come away from a source several times without the information they need are unlikely to tap into the resource again.

SMARTLINE will need to recognize the great diversity among its audiences. Some parents, for example, will be very sophisticated while others will be unsophisticated when it comes to using technologies.

SMARTLINE will need to explain what it is — and is not. For example, a database may not provide a person with an answer to whether or not all-day kindergarten is good for his or her child, but it will provide sources for information. This group also noted that in some communities, libraries would not be "friendly places" for access to the database.

The group dealing with the validation of research findings underscored the recommendation that SMARTLINE integrate information and existing networks already available and that training be a priority for users. This group noted that defining the users depends on the information available. Information for teachers, for example, may be of similar interest to parents. Likewise, defining the audience will shape the content on SMARTLINE. If parents are the primary audience, then the substantive content of the system will be different from a system designed for practitioners. The group recommended a database system with many levels of messages.

Epilogue

The OERI dissemination strategy in the past relied heavily on the belief that "just getting good stuff out" was sufficient, an OERI forum organizer noted at the concluding session. The forum set out a more active role for dissemination, he said, focusing on motivating various potential audiences to use research and on understanding what they need from and do with research information.

The two days of discussions created a sense of where the OERI research community is in terms of the information it has and its past efforts at dissemination. The forum also gave a reading for participants on:

- What research has to say about each National Goal;
- An understanding of the complexities of encouraging the "good stuff" to be integrated into practice; and
- The possibilities for new modes of dissemination.

With the advent of the standards-based change strategy announced by Assistant Secretary Ravitch, all the participating OERI programs have a big challenge to meet in providing good, research-based information in support of reform. Because OERI is working intently on these issues, it is the best place to be in the federal government today, Ravitch commented at the end of the forum. "We are involved in visionary work," she said. By coming together to develop such resources as SMARTLINE, the participants will be "on the cutting edge" of efforts to reform American education.

Notes

1. The Department has established that the focus should be on students.

2. Note: The GAO report is titled *Drug Abuse Prevention Federal Efforts to Identify Exemplary Programs Need Stronger Design (August 1991, GAO/PEMD 91-15)*. In responding to the GAO report, Secretary of Education Lamar Alexander took the position that the Department will not recognize schools that practice anything other than a "no-use" approach. The Secretary further stated, "...a "responsible use" message is out of step with the philosophy of the Administration and Congress and contradicts existing laws regarding the use of alcohol by youth under 21."

3. On September 30, 1992, a contract was awarded to Decision Systems Technologies, Inc. (DSTI) for the design, development and maintenance of the second phase of INet.

4. Since planning for SMARTLINE began in 1991, OERI has initiated contracts for the preliminary development of SMARTLINE, including (a) a study to determine the technical requirements for designing and operating SMARTLINE; (b) the development of four databases (research results, promising practices, sources of help, funding opportunities) to reside on the service; and (c) a pilot test of an Internet node. Reports from the contracts will be available in early 1993. During the planning stages for SMARTLINE, OERI has conducted advisory group meetings with representatives of the library community, state educational computer networks, teachers and educators, parents, and policymakers from the Education Department and other Federal employees. These consultations confirmed the need for the Department to provide on-line access to its information resources that have resulted from research and best practice.

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