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ABSTRACT Examines the evolution of the Educational Resources Information Center (ERIC). Presents an overview of the ERIC system. Discusses ERIC's historical development, including the three "signature strategies" at the core of its historical evolution; ERIC's redesign in 1986-87, and resultant policy emphases; current status; and eight initiatives for the future. (AEP)

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The Three Phases of ERIC

For the past 25 years, the Educational Resources Information Center (ERIC) has provided users with access to the education literature through its extensive database, publications, and user services. This article describes the evolution of ERIC and discusses changes in its mission and operating policies at three critical phases: at its creation; following the ERIC Redesign Study of 1987; and now, as it plans for its second quarter-century of operations amidst radical education reform and dramatic technological change.

In 1969, the U.S. Department of Education will hold a competition for new 5-year contracts to operate the ERIC Clearinghouses, now 16 in number. To ensure a spirited competition, and to ensure that the new ERIC Clearinghouse tasks incorporate both traditional activities (such as database building) and new initiatives such as those described later in this article (e.g., electronic and optical full-text document dissemination), the Education Department invites interested readers to submit comments and suggestions about current and future ERIC products and services.

An Overview of ERIC

The Educational Resources Information Center (ERIC) is a nationwide information system sponsored and supported by the U.S. Department of Education’s Office of Educational Research and Improvement (OERI). ERIC was founded in the mid-1960s, for the purpose of achieving bibliographic control over the reports and literature produced by the department and its many contractors. ERIC has since expanded to cover the education-related document and journal article literature wherever it is produced. ERIC collects, analyzes, catalogs, indexes, abstracts or annotates, and makes available documentary information from public, private, local, state, federal, and international sources.

The decentralized structure of ERIC consists of a policy-making and monitoring federal program office in the U.S. Department of Education (commonly referred to as Central ERIC), 16 subject-specific ERIC Clearinghouses (aided by a small number of volunteer Adjunct Clearinghouses), and three technical support contractors. Each Clearinghouse is responsible for collecting the literature within a major segment of the field of education. The technical support contractors are (a) the ERIC Processing and Reference Facility (for database building); (b) the ERIC Document Reproduction Service (EDRS) (for microfiche and document delivery); and (c) ACCESS ERIC (for systemwide publications, outreach, marketing, and referral services).

ERIC’s most well-known product is undoubtedly its bibliographic education database—the world’s largest—which contains approximately 750,000 records (over 310,000 documents and 420,000 journal articles). ERIC actively solicits for this database technical reports, conference proceedings and papers, curriculum materials, evaluation and policy studies, and many other kinds of documents, serving all levels of the educational community from the practitioner to the researcher. Items entering the database are announced, as appropriate, in one of ERIC’s two monthly printed abstract journals: Resources in Education, covering documents; and Current Index to Journals in Education, covering journal articles. The database is available for computer searching via both online vendors (e.g., DIALOG, OCLC, and BR), and CD-ROM vendors (e.g., SilverPlatter DIALOG).

Some 99% of the documents collected by ERIC are archived on microfiche and made available to libraries and users by EDRS on a subscription basis or an on-demand basis. Some 80% of the journal articles selected by ERIC are available from standard reprint sources, such as University Microfilms International. In addition to building the world’s premier education-related bibliographic database, the ERIC components produce many publications of their own. The Clearinghouses prepare various syntheses, interpretive summaries, state-of-the-art reviews, annotated bibliographies, and digests. The support contractors produce a variety of directories, calendars, indexes, newsletters, and other reference tools.

Phase I—Historical Development

In the late 1950s and early 1960s, the U.S. Office of Education found itself faced with a proliferation of unpublished reports emanating from increased federal funding of research, exemplary programs, and demonstration projects. The first groupings for a solution to the problem—a system to track and disseminate federally sponsored research papers—was found in concept and feasibility studies dating back to 1960. For example, the first efforts to conceptualize an ERIC Resourcs, a subject-indexing authority for such a future system, occurred in 1961. The concept of an ERIC system—combining document collection, indexing, and archiving—began to gel during this period; however, ERIC’s gestation proved to be quite long. It wasn’t until 1964 that an actual embryonic organizational unit called ERIC appeared within the Office of Education, and it wasn’t until 1966 that the first 12 ERIC Clearinghouses and a central editorial and computer processing facility were established. In November 1966, the first issue of ERIC’s abstract journal, then called Research in Education, appeared, creating a convenient milestone from which to count future anniversaries.

In 1967, an additional 6 Clearinghouses were established, for a total of 18. Since then, the number has fluctuated in response to needs and priorities. There have been a total of 23 different ERIC Clearinghouses, but the number has currently stabilized at 16. Also in 1967, the word Research in ERIC’s name
was changed to Resources, reflecting the emerging recognition that research results were not the only bibliographical resources that ERIC was going to collect.

Many of ERIC's basic organizing principles, still in use today, were determined very early in its life and reflect the careful planning of the founders. Much of the historical evolution of ERIC can be traced to the following three "signature" strategies:

- Decentralized structure. Unlike the other monolithic government information centers that might have served as its model, ERIC decided to adopt a decentralized model. Education in the United States was, and still is, a decentralized enterprise, with power dispersed to the states and localities, professional associations, and teachers unions. Information was being developed at all these levels, and a monolithic information center in Washington was not felt to be the best way to keep abreast of such a diffuse and dispersed community. Instead, a system of separate "Clearinghouses" was conceptualized, each concentrating on a major sector of the field of education and each bearing responsibility for acquiring the documentation of that subfield and for interacting with that particular part of the educational community.

The same decentralized structure exists today, and it has served ERIC well in coping with the many constituencies that compose the field of education. Though decentralization is not without special problems of coordination and duplication caused by the geographically separated system components, on balance, the increased breadth of coverage, the diversity of contacts, and the variety of points of view represented have been ultimately assessed as strengths that outweigh the operational problems.

- "Leveraging" of private sector for database dissemination. Always modestly budgeted, ERIC was from the beginning forced to involve the private sector in an effort to "leverage" various dissemination products and services. ERIC had enough funds to create its bibliographic database, but not enough to invest in the necessary research and development to create all the products and services that could be derived from the database.

The micrographics contractor (EDRS), commercial publishers, and the online and CD-ROM vendors are all examples of organizations that provide ERIC products and services to the public, at no charge to the government. ERIC, in effect, gives these organizations a license to, in the first case, microfilm ERIC documents; in the second case, publish the ERIC Thesaurus and Current Index to Journals in Education; and, in the third case, include the ERIC database in commercial information retrieval systems. The organizations provide services and market products to the public, recovering their costs and making a profit in the process; the users, in turn, pay for what they specifically want, but pay no subsidy in tax dollars.

"Leveraging" is evident, to some extent, even in the Clearinghouse contracts, where the host organization holding the Clearinghouse contract typically provides some services (e.g., in-kind personnel, printing, and equipment) above and beyond those strictly required by the contract.

- Document delivery as an essential service. The first ERIC contract, before any of the Clearinghouses, established the EDRS. This is an indication of how crucial the early planners viewed document delivery. Unlike many information systems, which simply tell users about the existence of an item without solving the problem of obtaining a copy, ERIC wanted to be able to actually deliver the vast majority of the items it advertised. Parity this stance was dictated by the fugitive nature of the report literature. If ERIC had not offered availability, the problems and frustrations of the users in this area would probably have led to more criticism than any system could bear. Be that as it may, ERIC was founded on the principle of closing the loop for the user as much as possible.

The nearly 900 ERIC microfiche collections that exist around the world, built up regularly through annual subscriptions, together with the ready on-demand availability of microfiche and reproduced paper copy documents from the EDRS, represent one of the strongest links in the ERIC chain of services.

While structural decentralization, private sector leveraging, and guaranteed document delivery are perhaps the major basic strategies of ERIC, there are several lesser strategies that might be mentioned:

- The bibliographic database as a fundamental foundation for the system, on which most other products and services are built and connected in some way.

- Primary coverage devoted to that part of the educational literature that is not handled adequately by anybody else (e.g., the report fugitive gray literature, encompassing such things as contractor reports, conference papers, and curriculum materials but generally not including the commercially published book literature).

- Relevance to all levels of the educational community, from the teacher concerned with tomorrow's lesson to the professor engaged in research. This implies an acquisitions net that is cast widely and that encompasses both the theoretical and the practical.

- A wide distribution of ERIC information, including the regular education community (teachers, administrators, researchers, counselors, students, etc.) as well as parents, policymakers, and the media, at the lowest possible cost.

- A database that changes in response to changing conditions. ERIC's acquisitions and selection criteria have been modified over time in response to new priorities (e.g., the inclusion of machine-readable data files), and new fields have been added to improve searchability and discrimination (e.g., Publication Type, Target Audience). In 1990, the full text of certain selected documents (i.e., ERIC Digests) became available to online users.

Phase II—The ERIC Redesign
In 1986-1987 there occurred perhaps the single most significant event in the development of ERIC since its birth. This was the ERIC Redesign Study, a top-to-bottom examination that involved the internal staff at the Department of Education, an outside panel of reviewers, and numerous critiques from the field. This intense examination of ERIC culminated in a widely discussed paper titled "ERIC in Its Third Decade" (Bencivenga, 1987). Later that year, on July 30, 1987, the House Subcommittee on Select Education sponsored the first oversight hearings on ERIC (ED 287 519). As a result of these activities, three main policy emphases were identified for ERIC's immediate future:

- ERIC products and services should become more widely used and available.

- ERIC should become better integrated into OERI's mission of gathering, analyzing, and reporting information on the status and condition of American education.

- ERIC should serve a wider, more
diverse audience, including policymakers, journalists, practitioners, and the general public.

Some of the strategies for accomplishing these goals included the following:

- **ACCESS ERIC**, the first new system component in over two decades, to serve as an outreach arm for ERIC, strengthening marketing, publicity, advertising, and public relations, and helping to actively disseminate ERIC’s products and services (call 1-800-USE-ERIC).

- **Adjunct Clearinghouses** as an aid to achieving better coverage of the literature and as a source of volunteer financial support. ERIC now has Adjunct Clearinghouses in the areas of Literacy Education for Limited-English Proficient Adults, Art Education, U.S.-Japan Studies, Compensatory Education, and Consumer Education.

- **ERIC Partners** as an attempt to multiply ERIC’s dissemination efforts and to achieve a wider audience via the marketing of its major users. The improved integration of ERIC with OERI’s other major programs, such as the Research and Development Centers and the Regional Educational Laboratories, has also received attention. The ERIC Clearinghouses are now actively producing publications in partnership with these units: the flow of products from these units to the ERIC database is now reoriented; and ERIC, the Labs, and the Centers now regularly participate in joint planning and dissemination activities.

**Current Status**

Federal funding for the ERIC program in recent years has been approximately $5.5 million per fiscal year. With this sum, ERIC supports 16 Clearinghouse contractors, three support contractors, and various other systemwide services such as printing. ERIC has established and maintains a network of over 1,600 acquisition arrangements with organizations that regularly send ERIC their education-related output; similarly, ERIC’s over 300 Partners routinely receive and redistribute ERIC materials to their own members.

In 1991, the ERIC system:

- Acquired and indexed 30,000 new items for the ERIC database (13,000 documents and 17,000 journal articles);
- Responded to over 100,000 information requests from the public;
- Coordinated with public and private information vendors to apply new technologies (e.g., CD-ROM, online education services) to disseminate key materials to educators (some estimated ERIC database usage statistics for the year are 100,000 users from 96 countries using 100,000 hours of connect time in performing 450,000 online searches and subscribing to some 3,000 ERIC-on-CD-ROM retrieval systems);
- Established and maintained partnerships with over 500 educational organizations;
- Produced over 200 publications, over a million copies of which were disseminated to diverse audiences;
- Produced and sold over 17 million microfiche and paper copies of ERIC documents;
- Distributed *Resources in Education* (via the Government Printing Office) and *Current Index to Journals in Education* (via Oryx Press) to (between them) over 3,000 subscribers, over 1,000 U.S. Depository Libraries, and (via the Library of Congress) nearly 85 foreign governments and institutions; and,
- Regularly provided materials to over 900 information centers (nearly 800 in the United States and 120 spread across 24 other countries) that maintain extensive microfiche collections or perform computer searches of the ERIC database for clients.

**Phase III—Eight Initiatives for the Future**

The recomposition of the ERIC Clearinghouses in 1987 became a vehicle to implement several of the recommendations that emerged from the redesign study; similarly, the upcoming 1992 Clearinghouse competition will establish some of the new tasks and directions that will characterize the ERIC program as it enters its second quarter-century of service. Eight program-improvement initiatives—some of which are underway while others are purely conceptual at this stage—are discussed below. These initiatives have many different origins, ranging from recent program staff and field-initiated suggestions and activities to longstanding debates about the nature and reach of ERIC.

1. **ERIC in the Schools and Community—Achieving the National Education Goals.** In its quarter-century history, ERIC has evolved into a comprehensive system widely recognized as the premier source of information for planning education activities, developing new programs, carrying out research, and making program decisions. The ERIC Clearinghouses are now giving priority to the identification, development, and dissemination of high-quality materials pertaining to the six national education goals.

The individual school is the key site of education reform. The surest way to reform education is to give teachers, principals, and parents the authority and responsibility to make important decisions about how the school will operate. If site-based management and restructuring are to succeed, and if the nation is to make significant progress in achieving the six goals adopted by the president and the governors, local educators must have ready access to research and instructional information to make rational decisions leading to school improvement.

ERIC has already begun to work with a number of schools implementing school-based management to assure that critical information is available from which to make informed decisions, e.g., ERIC on CD-ROM, an EDRS collection of ERIC documents on microfiche, full-text CD-ROM products if available, and access to other key education information sources.

By 1993, schools and communities throughout the country—including public schools, private schools, and business-supported academies and skill clinics—will be considering how they might become New American Schools and America 2000 Communities. ERIC will provide access—through its database, publications, new full-text products, and other means—to the most current information possible (including but not limited to World Class Standards for the core educational areas, exemplary curricular and program materials, new assessment instruments, and current research findings) directly to schools, communities, “design teams” funded by the New American Schools Corporation, governors’ academies, and other institutions participating in the remaking of the American education enterprise.

2. **Full-text delivery of education materials.** Long discussed in the ERIC system, some first steps have recently been taken to provide full-text access to selected materials. The ERIC Digests Online (EDO) full-text file—now available online through DIALOG and GTE Education Services—is one such example.
Also, ERIC has been working with a major information company to develop a prototype CD-ROM product containing the full text of hundreds of key education documents and journal articles, as well as complete issues of approximately 100 core education journals. The "Compact ERIC" is envisioned as containing the most important, significant, and useful documents and articles announced in ERIC. These materials are essentially of two types. First, there are major policy and goals papers, commission reports, ED publications, evaluation reports, and research syntheses. Second, the Compact ERIC will also contain the best items in ERIC intended for practical use by teachers, principals, school district administrators, curriculum coordinators, guidance counselors, other school professionals, and parents, including carefully selected teaching-related materials, theory-into-practice research results, curricular and classroom materials, and reference and resource guides. The prototype, which provided about 75,000 CD-ROM-stored pages of images cross-indexed to the ERIC database, has recently been field tested.

3. Diversification of funding sources. ERIC has long recognized the desirability of obtaining continued support from other components both within and outside ED. Adjunct Clearinghouses, a few of which are already supported by funding from other parts of the department and foundations, are one manifestation of how outside support can be used. However, ERIC may also seek support from specific program offices, within ED and elsewhere, to help subsidize expanded coverage and comprehensiveness in topic areas of interest to their programs and their constituents. In addition, ERIC is pursuing some options by which accountable usage fees can be collected from online vendors, CD-ROM vendors, and other commercial purveyors of the ERIC database to the public (in the past, ERIC has charged no fees or royalties for use of its database).

4. Coverage and delivery of nonprint materials. ERIC has, with some exceptions, concentrated on the document and journal literature. While ERIC has paid increasing attention in recent years to identifying and indexing some of the major education databases, questions remain about what ERIC's role should be in acquiring, indexing, and even disseminating nonprint materials, including but not limited to videotapes, multimedia packages, computer diskettes, CD-ROMs, interactive laserdiscs, etc. While it is clear that ERIC could pay increasing attention to indexing such materials, cost-effective procedures for copying and disseminating them (even assuming copyright permission) appear much more problematic.

5. Expanded international activities. ERIC has been planning or participating in several activities designed both to expand the overseas dissemination of U.S.-developed education information and to broaden our access to foreign-produced materials. Some activities and ideas for the greater internationalization of ERIC include cooperative work now underway with the International Association of Universities and UNESCO to develop a worldwide bibliography of higher education materials, discussions with the United States Information Agency and the Agency for International Development on ways to make ERIC materials available to developing nations (all overseas British Council libraries already have ERIC available on CD-ROM), cooperating with ERIC-equivalent organizations in other English-speaking countries to develop an integrated database, and establishing ERIC nodes on the major international computer networks (e.g. BITNET, INTERNET) to facilitate document and information exchange.

6. ERIC research and development partners. While many commercial and academic organizations use ERIC products for their own purposes, few have established any meaningful collaborative R&D projects with the ERIC system. Over 125 documents, articles, and study reports about the ERIC system have been produced in the past 6 years, but they are rarely done in collaboration or even consultation with either OERI or the ERIC components. This element of collaboration would be a valuable step toward ensuring that research and development activities related to ERIC products and services will have a direct and positive effect on improving access and use of education information in the schools. In conjunction with the ERIC system components, ERIC "R&D" Partners can help to develop targeted new products and services, applications of new technologies to improve the selective dissemination of education information, and enhanced coverage of the education field.

7. Greater comprehensiveness of coverage. With its limited resources, ERIC Clearinghouses have always had to make difficult decisions about which documents and journal articles would be indexed for inclusion in the ERIC database. For instance, though Current Index to Journals in Education claims to cover about 800 journals, very few of those are actually indexed even to cover. Most journals are indexed selectively: that is, not all of the education-related articles will be cited in the ERIC database. We are contemplating the establishment of a list of "core journals"—perhaps 100 or so—that will be indexed even to cover the future. A related issue concerns the monograph book literature, that is, materials generally produced commercially and accessible through library card catalogs: Should ERIC pay increasing attention to indexing such materials? If so, which?

8. Value-added services. In preparing the prototype Compact ERIC full-text product on CD-ROM, ERIC Clearinghouses were asked to determine which materials from the ERIC database should be included in a highly selective compilation of practice- and policy-oriented materials. On an ongoing basis, the Clearinghouses are continuing to identify these "best" materials. How can ERIC most constructively continue this emphasis on assessing the quality of documents and journal articles selected for the database?

Summary

The eight initiatives described above are far more than a wish list. Considerable thinking, planning, and resources have already gone into some of these initiatives. Nevertheless, for the most part, these initiatives are not yet formally part of the required work of the ERIC Clearinghouses, nor have final policy decisions been made about many of them. Before these new directions are formally incorporated into the scope of work of the ERIC components—in particular, as part of the new Clearinghouse contracts that will be issued in 1992—we are seeking feedback from interested and informed ERIC users: researchers, librarians, educators, and policymakers. In particular, we are interested in responses to the following two questions:

- What suggestions do you have to improve current ERIC products and services? In general, how satisfied are you with the ERIC database and related products, ERIC publications, and ERIC user services?
What suggestions do you have for the future expansion or enhancement of the ERIC program? Which of the initiatives described above seem particularly worthwhile, and which seem problematic?

Comments should be directed to: Dr. Robert M. Stonehill, Director, ERIC Program, U.S. Department of Education OERI, 555 New Jersey Ave., NW, Washington, DC 20208-5720.

Many documents have been written about ERIC. Every 3 years the ERIC Processing and Reference Facility issues a "Bibliography of Publications About ERIC" (free on request). Through 1988, 407 publications dealing with ERIC have been cited. The following references provide a concise but complete picture of ERIC to date: Brandhorst, 1990; Hoover and Brandhorst, 1982; Office of Educational Research and Improvement, 1991: U.S. Congress, 1987; Stonehill, 1990; and Trester, 1979.

References


ROBERT M. STONEHILL is director of ERIC (his address appears at the end of this article).

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Correction

A correction should be noted in the Statements of Purpose for AERA Journals, which appeared in the last issue. Only one editor will be receiving feature articles for Educational Researcher after July 31, 1992. He is Robert Floden, and his address appears correctly in the Statements of Purpose.

A Special Notice About the May Issue

The next issue of ER will be mailed about the middle of May. It will contain the call for proposals for the 1993 Annual Meeting in Atlanta, April 12-16.
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