

# Information Dissemination in Education: A Status Report

**T**HE DISSEMINATION OF educational information has undergone dramatic change and growth in the last decade. Not only has the volume of information to be conveyed exploded, but the techniques employed to disseminate and use it have grown complex and demanding. Perhaps still more significant is our recognition that, for whatever reasons, information is not being disseminated and used as much as it should be by members of the educational community.

Regardless of the title assigned to our jobs—reference librarian, information center manager, or director of special services—we are all concerned with the handling and use of information. This is the heart of the business. How can the librarian effectuate a successful information dissemination program? Certainly there is no simple answer to this broad and complex question. But who will disagree that a necessary starting point is to survey the resources and dissemination techniques now available? This article provides such a survey, and hopefully, will stimulate the use and further expansion of similar efforts in other fields of education.

As used in the following discussion,

---

*Mr. Marron is director, Division of Information Resources, Department of Health, Education and Welfare, Office of Education, Washington, D.C.*

*Mrs. Sullivan is education specialist with the Division of Information Resources, U.S. Office of Education, Washington, D.C.*

the term "educational information" refers to that information which exists or existed in a classical document (i.e., the printed page with a readable, cogent title and catalogable with standard techniques). Nonprint media, although important, are excluded.

## PRIMARY PUBLICATIONS

Information is transmitted in a variety of ways, but most commonly in primary documents. Just a decade or two ago grim predictions were heard forewarning the doom of the conventional book and journal as disseminators of information. Newer forms of information conveyance (microforms, tapes, and audiovisuals) are undoubtedly becoming more important, but the book, journal article, report, and other conventional forms are still the primary methods for disseminating information. The primary publications may not be where the action is, but they are where the action is described and fully documented.

The information explosion in the primary literature has been well documented. The same patterns of exponential growth observed in scientific and technical literature are now developing in the primary literature in the field of education.<sup>1</sup> Closer examination reveals that the primary literature is arbitrarily grouped into three categories: books, journal articles, and reports (which include speeches, conference proceedings, and other documents of relatively limited distribution).

The extent of the book literature in the field of education is difficult to estimate. The latest edition of *Books in Print* lists some 200,000 titles. The fraction of these which fall within the field of education depends on the definition of "education" and the source of information. *Publishers' Weekly* estimates that 842 new titles and editions were published last year in the field of education, i.e., those classified as education under the Dewey Decimal System.<sup>2</sup> Since this figure excludes such categories as textbooks, instructional guides, and manuals, the actual figure must be substantially higher. The message is clear, if not precise: There are many books appearing each year in the field of education, but the exact number is unknown.

In the United States alone, at least 30,000 reports annually are put into some kind of pipeline for distribution. Based upon the experience of the Educational Resources Information Center (ERIC) system, however, only about 10,000 of these are considered sufficiently valuable, significant, and of wide enough interest to be disseminated nationally. It should be noted, however, that ERIC does not currently handle curricula materials and statistical or school management reports.

How many useful educational journal articles are currently being published? Although the precise number is difficult to estimate, the 1970 *Standard Periodical Directory* lists 1,620 titles under the heading of education, but the definition of periodicals is broad, and the heading "education" is even broader. In 1968 Saul Herner asked a select group from the educational community (representing researchers, administrators, and government personnel) to identify the journals they scanned regularly. The Herner list included over 350 periodicals.<sup>3</sup> We have since learned that there are over 500 English language journals containing significant numbers

of substantive and useful articles on education. This translates to between 15,000 to 20,000 articles per year. A general observation can be made concerning the primary publications in the field of education. Referring to books, journal articles, and reports, we may not be able to state with precision the number appearing each year, but clearly the number is large. This large number can be viewed as a mixed blessing. On the one hand, with so many publications there must be lots of information available, but one may find it difficult to find the information needed to satisfy a specific use.

#### SECONDARY SERVICES

Clearly, there are many primary publications being generated which are of interest and value to educators. So many, in fact, that the librarian or information center manager cannot hope to acquire, stock, and have available for immediate use all potentially useful documents. Fortunately, there are several secondary services which help separate potentially useful primary documents from the others and provide a means of gaining access to specific reports and journal articles. (The table at the end of this article provides a summary of secondary services of interest to educators.)

The newest and most comprehensive secondary service for report literature in the field of education is *Research in Education (RIE)*. This monthly abstracting and indexing publication is published by the Educational Resources Information Center (ERIC) and the Government Printing Office. *RIE* lists about 10,000 items per year, the majority of which are reports, speeches, and other so-called "fugitive" documents. It was a thin fellow at birth in November 1966 (containing fewer than fifty items) but it grew fast and seems to have leveled off at about 850 citations monthly. The twelve monthly issues and

the cumulated indexes sell for about \$30 per year.

In addition to *RIE*, ERIC publishes, from time to time, catalogs and indexes to collections of reports in areas of special interest. Examples are the yearly compilations and manpower research documents or projects supported under Title III of the Elementary and Secondary Education Act.

Several major secondary services cover the journal literature of education. The oldest of these, *Education Index (EI)*, provides a subject index to the educational periodical literature. *EI's* coverage has expanded considerably in the last decade, growing from 190 journals in 1960 to nearly 250 in 1969.

A relative newcomer to the education world is the *Current Index to Journals in Education (CIJE)*. A monthly, *CIJE* currently cites about 15,000 articles per year from over 500 primary journals. *CIJE* is published as a cooperative effort between the ERIC program and Crowell Collier and Macmillan Information Corporation. Twelve monthly issues plus semiannual and annual cumulated indexes cost \$64 per year. *CIJE*, covering the periodical literature of education, serves as the companion volume to *RIE*. Both volumes employ ERIC descriptors, and the items cited are indexed to considerable depth, allowing better retrieval capabilities on a current and retrospective basis.

Within the last few years the Institute for Scientific Information (ISI) announced the publication of *Current Contents—Education*. This weekly provides reproduction of the content pages of about 700 journals. The chief strength of *Current Contents—Education* is the ease and speed of scanning for educational articles on a current basis. The annual subscription is \$100, but a reduced rate of \$67.50 is available to educational institutions.

Access to the book literature in education is provided in numerous well-

known sources: *Publishers' Weekly*, *Library Journal*, *CHOICE*, and *Forthcoming Books*, to name just a few. Most educational periodicals provide book reviews or lists as a regular feature and many, such as *School and Society*, *Educational Leadership*, and *Phi Delta Kappan*, publish regular annual or biannual lists of books of interest to educators. The main recurring guide is Phi Lambda Theta's annual compilation, *Education Book List*. An excellent guide for building a collection is the New York University list of *Books in Education*, compiled by Barbara Marks.

There are, of course, many more worthy secondary services which could be cited. Suffice to say that today there are a variety of secondary services designed to help the librarian and his customers identify and gain access to the primary literature of education.

#### REVIEWS AND SUMMARIES

So far it has been established that many primary publications are published each year, and many tools and services are available to help librarians gain access to the literature. Is that enough? Perhaps it was in the past, but no longer. There is hardly a question about a new technique or research area that doesn't release a torrent of documents which discuss the subject from a variety of viewpoints. The truth of the matter is that when librarians or their customers have a problem, they are looking for a practical solution. People seeking information often are not researchers and don't want to know *all* there is to know about a subject. Faced with a problem and looking for some direction, most would be perfectly happy to take the word of an expert who has examined the alternatives and then recommended or provided guides on how to proceed. As a matter of fact, even highly trained and sophisticated scientists are now demanding review articles to obviate their having to acquire,

read, and make evaluative judgments on the plethora of papers available in print. Action-oriented people do not want exhaustive bibliographies. They want selective bibliographies, interpretive summaries, critical reviews, guides, or "how to do it" manuals. This is not to say that those needing exhaustive bibliographies should not have them also. Currently, very significant progress is being made in the development of information analysis products for the field of education.

Since 1941 the major source of digested, concise summaries of educational research has been American Education Research Association's (AERA) *Encyclopedia of Educational Research*. The fourth edition provides summaries of close to 200 major aspects of education, each with extensive bibliographies. AERA's two journals, *Review of Education Research* and *American Educational Research Journal*, provide useful updating for the *Encyclopedia*. In addition, AERA's specialized volume, *Handbook of Research on Teaching*, provides comprehensive reviews of research on the theory and practice of teaching.

More recently the ERIC Clearinghouses have begun major information analysis programs in their respective subject areas. The clearinghouses are charged (within their capabilities) with the responsibility of preparing such selective, annotated bibliographies, reviews, summaries, digests, and guides as are most needed by education. Last year the ERIC system prepared and disseminated about 240 information analysis items; the number is expected to exceed 350 this year.

A new series of reviews designed to complement the ERIC system is currently underway at Britannica, Inc. Entitled *Britannica Reviews of Education*, the capstone of the series is the recently published volume, *Britannica Review of American Education*. The volume, to be issued biannually, summarizes the

broad progress and developments in American education. Other parts of this review series will synthesize the research and latest developments in specific areas of American education. The first of these more narrowly focused volumes, *The Britannica Review of Foreign Language Education*, has already been published. It was written in cooperation with the ERIC Clearinghouse on Teaching of Foreign Languages. Future review volumes are planned in the fields of educational technology, engineering education, science, English, and early childhood education.

There are still other efforts in this direction. Under a grant from the U.S. Office of Education, the Council of Chief State School Officers published a two-volume effort summarizing educational issues of interest to state education leaders. The first volume is titled *Education in the States: Historical Development and Outlook*, and the second is titled *Nationwide Development Since 1900*. The latter reviews in depth sixteen areas of concern to all state departments of education (i.e., educational facilities, finance, food services, etc.).

Various subject-oriented professional associations also produce reviews of the literature and research in their field. The International Reading Association, for example, publishes the *Reading Research Quarterly* which provides a comprehensive review of the published research on reading on a yearly basis.

Clearly, the trend is toward selectivity, critical review, and analysis. The growth and diversity of the educational literature undoubtedly ensures that this thrust will be continued and intensified.

#### EDUCATIONAL INFORMATION CENTER

A growing influence in the complex business of disseminating educational information is the educational information center. What does such a center do? As used herein, an educational information center provides a variety of

services which may include but is not limited to reference, referral, or bibliographic activities. The source documents used may be within the center itself in the form of books, periodicals, reports, ERIC materials, or instructional materials, or from sources external to the center.

Some may feel that this definition in fact describes a special library. The terminology varies widely, depending on the service provided by a particular library. The critical distinction to be made between an educational information center and a library is; the consulting service and the expert advice on educational matters that are provided over and above the conventional bibliographic services.

The number of educational information centers in the United States is surprisingly large. In 1969 the USOE compiled a *Directory of Educational Information Centers* which fit the above description and identified 397 educational information centers scattered through the United States.

In the opinion of the authors, educational information centers will play an increasingly important role in the dissemination of information to the educational community not only because they are in the best position to provide bibliographic services, but because they also enhance the probability of utilization by providing problem-solvers at the local level.

#### REFERRAL ACTIVITIES

It is interesting to note that when information people or librarians discuss services they tend to focus on the user who knows what he's doing and what he wants. This is probably because generally it is more fun to work with the "pro" than with the confused novice. But what about this uninformed novice? He is reluctant even to discuss the matter with his librarian. It serves little pur-

pose to lecture in pious tones that he ought not be ashamed and that he ought to bring his problems to the people who can help him. The fact is that he is often reluctant to do so. There ought to be a place or places where he can go and unashamedly ask to be headed in the right direction. Fortunately, there are such aids available.

In his *Brief Guide to Sources of Scientific and Technical Information* Saul Herner lists thirty-seven separate directories and guidance sources. Admittedly, the thrust is toward science and technology, but many deal with the behavioral or social sciences or education. Some examples of these are the *Directory of Special Libraries and Information Centers* and the *National Referral Center for Science or Technology*. There are a few more which are pertinent to those seeking information in the area of education.

#### ON-GOING RESEARCH AND DEVELOPMENT

The preponderance of information reported in the literature and disseminated via any of the techniques discussed thus far deals with the results of research, development, or testing programs in education which are already contained in documents or publications. The existence of a considerable time lag between research and development and subsequent publication is well documented.<sup>4</sup> How does one find out about work while it is in progress? While the dissemination network available to provide responses to such questions in the area of education leaves something to be desired, there are several channels available.

The *Commerce Business Daily* routinely announces U.S. Government contract awards for all new R&D projects. Admittedly, most of these are in the areas of science and technology, but the social sciences and education are hang-

ing in there—even if only by the fingerprints.

*Research in Education*, in its Project Section, reports monthly on the research grants and contracts awarded by USOE.

By far, the most comprehensive service for current awareness of research and development is the Science Information Exchange (SIE) of The Smithsonian Institution. The bulk of SIE's holdings are in the physical, biological, medical, and engineering sciences, but the social, behavioral, and educational research holdings are building up at a rapid rate. SIE does not publish lists of its holdings and must be asked for information. Another point to keep in mind is that SIE covers only research and development. Unfortunately, much of the work that we are interested in is not classified as research and development and is therefore not included in the SIE files.

In summary, there are ways of finding out about on-going research and development, even though the dissemination channels need considerable improvement.

#### NEW TECHNIQUES

A review of the status of dissemination of educational information would not be complete without mention of some of the newer techniques. There are some exciting developments, particularly in the areas of file query and document access.

One of the most significant steps taken in recent years is the capturing of large amounts of bibliographic reference materials in computer files. Many are already available for use. For example, the USOE is currently distributing, at reasonable cost, the ERIC data base on magnetic tape. This file consists of over 40,000 surrogates of select educational reports and journal articles. Furthermore, a software package can be provided which will search, select, and display portions of the file to selected

OE activities and to state and local departments of education. These magnetic tape files have been requested for a variety of uses ranging from providing an on-going service to experimentation and training in schools of library or information sciences. It remains to be seen how many activities will prove to be viable. There is no question, however, that a new dimension has been added to our total dissemination capabilities.

Several groups, including ERIC, are currently experimenting with on-line, interactive machine search and display systems. It is not known if such a service will be economically and technically feasible, or even desirable, in providing bibliographic services to education, but the education community will be kept informed of ERIC's progress.

The computerizing of data bases allows for a variety of Selective Dissemination of Information (SDI) plans to satisfy the needs of a wide range of consumers. There are already several operational SDI systems in science and technology. Soon we should see similar systems for the behavioral sciences and education.

Within the last year or so there have been some exciting developments with machines that store large numbers of microform and which can retrieve and display text very rapidly. The developers seem confident that we will soon have the capability to store huge amounts of text (primary documents) and to gain access to the primary documents or particular parts of them quickly and inexpensively.

Many other developments are being touted and may come to pass in ten years or so, but that is not the concern of this article. The important point is that computer and microform handling systems are here and in use. They will have a real and beneficial impact on libraries and information centers in terms of how materials are acquired, housed, and accessed.

ABSTRACTING AND INDEXING SERVICES OF SPECIAL INTEREST TO EDUCATORS

| Services                              | Issues per Year | Literature Surveyed                                | Citations per Year  | Type of Indexes  | Basic U.S. Cost per Year            | Cumulative Index                 | Original Reproduction Available         | Available from   |
|---------------------------------------|-----------------|--|---------------------|--|-------------------------------------|----------------------------------|---|--|
| <i>Abstracting Services</i>           |                 |  |                     |  |                                     |                                  |   |  |
| Dissertation Abstracts                | 12              | doctoral dissertations from more than 210 colleges | 30,000              | Author/Subject   | \$85. Sections available separately | Annual                           | Microfilm/Xerographic                   | University Microfilms Ann Arbor, Mich. 48106   |
| Psychological Abstracts               | 12              | 700 periodicals/books/reports                      | 20,000              | Author/Subject   | \$40                                | Semi-Annual                      | None                                    | American Psychological Association, Inc. 1200 17th St., N.W. Washington, D.C. 20036        |
| Research in Education                 | 12              | 10,000 reports/speeches/conference papers          | 10,500              | Author/Subject Institution/Accession no.                 | \$21                                | Semi-Annual/Annual               | Microfiche; hardcopy                    | Supt. of Documents U.S. Govt. Printing Office Washington, D.C. 20402                       |
| Courrier                              | 6               | 750 periodicals/100 annuals/books                  | 5,000               | Author/Subject (Fr. & Eng.)                              | \$11                                | Annual                           | Photocopies available                   | Chateau de Longchamp Bois de Boulogne Paris (16 <sup>e</sup> ), France                     |
| Mental Retardation Abstracts          | 4               | 7,000 periodicals/reports/books                    | 3,000               | Author/Subject   | \$ 3                                | None <sup>1</sup>                | None                                    | Supt. of Documents U.S. Govt. Printing Office Washington, D.C. 20402                       |
| Exceptional Child Education Abstracts | 4               | 135 periodicals/reports                            | 2,800               | Author/Subject/Topic and Document Classification/Keyword | \$50                                | Indexes cumulate with each issue | Microfiche; hardcopy                    | Council for Exceptional Children/Box 6034 Mid City Station Washington, D.C. 20005          |
| Current Index to Journal in Education | 12              | 530 periodicals                                    | 12,000 <sup>2</sup> | Author/Subject/Descriptor grouping                       | \$34                                | Semi-Annual/Annual               | None                                    | CCM Information Corporation 909 3rd Ave. New York, N.Y. 10022                              |
| dsh Abstracts                         | 4               | 300 periodicals                                    | 2,000               | Author/Subject   | \$ 8                                | Annual                           | None                                    | American Speech and Hearing Association 1001 Connecticut Ave., N.W. Washington, D.C. 20036 |
| College Student Personnel Abstracts   | 4               | 112 periodicals                                    | 1,000               | Author/Subject   | \$20                                | Annual                           | Microfiche; hardcopy for some documents | College Student Personnel Institute 165 E. 10th St. Claremont, Calif. 91711                |

## ABSTRACTING AND INDEXING SERVICES OF SPECIAL INTEREST TO EDUCATORS

| Services  | Issues per Year | Literature Surveyed                           | Citations per Year            | Type of Indexes             | Basic U.S. Cost per Year | Cumulative Index                                  | Original Reproduction Available              | Available from  |
|---|-----------------|---|-------------------------------|-----------------------------|--------------------------|---|--|---|
| Child Development Abstracts and Bibliography        | 3               | 37 periodicals/books                          | 940                           | Author/Subject              | \$10                     | Annual  | None   | University of Chicago Press<br>5750 Ellis Ave.<br>Chicago, Ill. 60637               |
| Educational Administration Abstracts                | 3               | 100 periodicals                               | 650                           | Author/Journal              | \$10                     | Separate biennial subject index for earlier years | None   | Interstate Printers and Publishers<br>19-17 N. Jacksons St.<br>Danville, Ill. 61832 |
| Research Studies in Education                       | 1               | doctoral dissertations underway and completed | 7,000                         | Author/Subject              | \$ 6                     | Annual  | None   | F. E. Peacock Publishers, Inc.<br>Itasca, Ill. 60143                                |
| Sociology of Education Abstracts                    | 6               | 170 periodicals; documents, books, reports    |                               | Author/Subject/Annotations  | \$12.50                  | Annual  | None   | Pergamon Press, Ltd.<br>Headington Hill Hall<br>Oxford, OX30BW, England             |
| <i>Indexing Services</i><br>British Education Index | 6               | 85 periodicals                                | N/A                           | Author/Subject              | \$20                     | Biennial  | None   | The Library Association<br>7 Ridgmount St., Store St.<br>London, WC1 England        |
| Current Contents—Education                          | 52              | 700 periodicals                               | Reproduction of content pages | Author/with Author address  | \$100/67.50              | None  | Tear sheet service                           | Institute for Scientific Information<br>325 Chestnut St.<br>Philadelphia, Pa. 19106 |
| Education Index                                     | 10              | 250 periodicals                               | N/A                           | Author/Subject              | Service basis            | Cumulates throughout year/Annual/Biennial         | None   | H. W. Wilson Company<br>950 University Ave.<br>Bronx, N.Y.                          |
| New York Times Index                                | 24              | New York Times                                | N/A                           | Subject/Person/Organization | \$75<br>\$74             | Annual  | <i>New York Times</i> available on microfilm | New York Times Co.<br>Library Service Dept.<br>New York, N.Y. 10036                 |
| State Education Journal Index                       | 2               | State education association journals          | 5,000                         | Subject/Annotation          | \$30                     | 4-year volumes in preparation                     | None   | State Education Journal Index<br>P.O. Box 244,<br>Westminster, Colo. 80030          |

<sup>1</sup> Cumulative indexes available for older indexes.

<sup>2</sup> 70% of citations are annotated.



## USE PATTERNS

Given the glut of educational information and the growing number of dissemination services, another dimension assumes paramount importance: use patterns—predictable, idiosyncratic, or otherwise—of the user groups. The information science community is now beginning to investigate questions related to how educators or educational specialists approach a problem. Do they systematically check all sources? Do they rely on an "invisible college" for their information? Do they seek only digested information? And perhaps more importantly, how do educators use the information once they have found it?

Information has been available for some time as to how scientists and engineers use (or non-use) existing information systems in their fields. Investigations are now being conducted to ascertain how the educator seeks and receives

his information. The Auerbach Corporation has a project underway to identify models of technical information services in education. It is expected that the results of the study will focus on the information requirements of educators directly concerned with education in the primary and secondary schools. Another project just completed by the Stanford Research Institute (SRI) has developed methods whereby the Office of Education can now gather data on the information needs of educational practitioners. SRI identified the types of information most needed and used by various levels of educational personnel.<sup>5</sup>

In an effort to design more responsive dissemination systems the study of the needs, habits, and use patterns of the educational community as consumer has begun. All in all, the future looks bright.

## REFERENCES

1. D. J. De Solla Price, *Little Science, Big Science* (New York: Columbia University Press, 1963), and Charles M. Gottschalk and Winifred F. Desmond, "Worldwide Census of Scientific and Technical Serials," *American Documentation* 14:188-94 (July 1963).
2. "1969: Subject Analysis of American Book Title Output," *Publishers' Weekly* (9 Feb. 1970), p.38.
3. Saul Herner, Janet D. Griffith, and Mary Herner, *Study of Periodicals and Serials in Education* (Washington: Herner and Company, 1968). Available from the ERIC Document Reproduction Service, as ED 017747 (MF \$.50; HC \$4.88).
4. Saul Herner, *A Brief Guide to Sources of Scientific and Technical Information* (Washington: Information Resources Press, 1969), and W. D. Garvey and B. C. Griffith, *Reports on the American Psychological Association's Project on Scientific Information Exchange in Psychology* (Washington: American Psychological Association, Washington, D.C., 1963-1965).
5. Carl H. Rittenhouse, *Innovation Problems and Information Needs of Educational Practitioners* (Menlo Park, Calif.: Stanford Research Institute, 1970). Available from the ERIC Document Reproduction Service as ED 40976 (MF \$.50; HC \$4.45); Melvin J. Voight, "The Researcher and His Sources of Scientific Information," *Libri* 9:177-93 (March 1959); and Egon G. Guba, *The Impending Research Explosion and Educational Practice*. Paper presented at the Summer Lecture Series, Kent State University (19 July 1965). Available from the ERIC Document Reproduction Service as ED 011405 (MF \$.25; HC \$1.40).