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ABSTRACT

As a first step toward developing a strategy for a comprehensive external evaluation of the Educational Resources Information Center (ERIC) system, this paper contributes by providing an overview of the system's mission, structure, and resources. A brief review of ERIC's historical development and extant literature, the conduct of a key informants survey, coupled with comparative analysis with the two other subject-specific U.S. national library information systems are used to produce a preliminary assessment of strengths and weaknesses, followed by recommendations and approaches for further investigation. ERIC's mission, understood as a formal statement of purpose, is seen to have broadened considerably in audience and collection scope over the past 35 years, and is further expanded by the needs and realities of an information society. The structure of the system, understood as both formal and informal alliances and hierarchies between organizational units, has changed very little in its decentralized internal arrangement; however, ERIC's nominal integration with the National Library of Education in 1994 is seen as a critical change that still requires key organizational integration at all levels, encompassing mission, structure, and resources. Despite these far-reaching changes, ERIC's resources, understood as the products, people, and financial commitments that go into the system, have remained essentially level and are, therefore, insufficient to support the increasing number of products and services produced by the ERIC system. Findings and conclusions stress the need for mission prioritization and subsequent realignment of structure and resources based on this refocused mission. An appendix contains the survey results. (Contains 33 references.) (Author/AEF)

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ERIC: Mission, Structure, and Resources

A Paper Commissioned by the U.S. Department of Education, Educational Resources Information Center

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This paper should be viewed in the spirit of the constructive criticism in which it was intended. The history and current state of ERIC's interrelated mission, structure, and resources are relevant primarily for their ability to suggest future directions as well as to guide and inform efforts to realize the full potential of ERIC as a national education information system for the twenty-first century. It is the belief of this author that this could be most effectively achieved within an authoritative National Library of Education that equals the stature, prestige, and professionalism of the other National Libraries.

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ABSTRACT

As a first step toward developing a strategy for a comprehensive external evaluation of the Educational Resources Information Center (ERIC) system, this paper contributes by providing an overview of that system's mission, structure, and resources. A brief review of ERIC's historical development and extant literature, the conduct of a key informants survey, coupled with comparative analysis with the two other subject-specific U.S. national library information systems are used to produce a preliminary assessment of strengths and weaknesses, followed by recommendations and approaches for further investigation.

ERIC's **mission,** understood as a formal statement of purpose, is seen to have broadened considerably in audience and collection scope over the past thirty-five years and is further expanded by the needs and realities of an information society. The **structure** of the system, understood as both formal and informal alliances and hierarchies between organizational units, has changed very little in its decentralized internal arrangement; however, ERIC's nominal integration with the National Library of Education in 1994 is seen as a critical change that still requires key organizational integration at all levels, encompassing mission, structure, and resources. Despite these far-reaching changes, ERIC's **resources**, understood as the products, people, and financial commitments that go into the system, have remained essentially level and are, therefore, insufficient to support the increasing number of products and services produced by the ERIC system.

Findings and conclusions stress the need for mission prioritization and subsequent realignment of structure and resources based on this refocused mission. The recommended approach for mission refinement centers on narrowing audience scope, either by de-emphasizing some audience groups or through the creation of a hierarchy that significantly prioritizes audience groups.

Concomitantly, a widening of coverage scope by including international and multimedia resources is urged. Recommended considerations for structural refinement include basing structural components on audience service categories, more discrete divisions of services and functions, clarity in relationships with outside organizations, full administrative and functional integration with the National Library of Education, and enhanced administrative and professional authority at the National Library level. Structural refinements should ultimately lead to the more efficient provision of ERIC products and services, and greater transparency of these resources to ERIC users. Ultimately, these changes, and even the ability to fully evaluate their potential, rely on increased fiscal resources. It is the position of this paper that the ERIC system cannot and should not continue to "do more with less;" rather, it should reduce or eliminate lower priority products and services commensurate with its funding. In this process, mission, structure, and resources must be inextricably linked. Evaluation efforts should consider not what was, or even what is, but what it is possible for ERIC to be.

INTRODUCTION

As a first step toward developing a strategy for a comprehensive external evaluation of the Educational Resources Information Center (ERIC) system, which would be the first undertaken since its integration with the new National Library of Education in 1994, this paper contributes one portion of an assessment of ERIC by providing an overview of its mission, structure, and resources. A brief review of ERIC's historical development and extant literature, the conduct of a key informants survey, and a comparative analysis with two other subject specific U.S. national library information systems are used to produce a preliminary assessment of strengths and weaknesses, followed by recommendations and approaches for further investigation.

Mission is understood as a formal statement of purpose. **Structure** is understood as both formal and informal alliances and hierarchies between organizational units. **Resources** are understood as the products, people, and financial commitments that go into the system as well as, to some extent, those products and services that are produced as a result.

While ERIC's mission has gradually expanded to include greater service mandates and growing audiences in the 35 years since its creation, its financial resources have remained essentially level. Further, while its basic internal organizational structure has changed very little, ERIC has been repeatedly relocated within the federal government structure. Its present, relatively new parent agency, the National Library of Education, has evolved entirely separately from the ERIC system, and it is unrealistic to expect that the nominal placement ERIC within NLE was sufficient to integrate the divergent traditions and organizational structures of these two entities. ERIC is currently surrounded by widespread changes in the culture and economics of information, driven by the popularity and apparent usability of the Internet and the World Wide Web. It is naïve to

expect that ERIC need do nothing to modify its mission, structure, and resources to adapt to the sweeping changes in its external environment.

Institutional effectiveness is seen as the ability to achieve stated objectives, and is therefore inevitably tied to mission and the manner in which structure and resources are intertwined with this mission. One aspect of ERIC's mission, the improvement of education in the United States, is deemed largely non-measurable for the purposes of this study. Institutional effectiveness, then, is preliminarily evaluated here principally on the basis of ERIC's ability to directly or indirectly fulfill the education information needs of its intended broad scope audience. Though ERIC has repeatedly demonstrated strong ties and effective service delivery to faculty and researchers in the higher education community, and has articulated a wide range of other potential audiences such as policy makers and students, it has nonetheless been criticized for its chronic inability to adequately address what many see as its core audience, that is, educational practitioners in the elementary, middle and secondary schools of this nation who are expected to implement changes in educational processes. The reasons for limited effectiveness in reaching this audience undoubtedly include a combination of: the location of the Clearinghouses in predominately higher education or other research organizations thus leading to academically-oriented resource collections; the lack of sufficient funding in light of expanding resource availability; multiple formats and access modalities; the generally non-research orientation of educational practitioners; and the fact that the expanding mission and steady state of fiscal resources make it increasingly difficult to develop sufficient products to serve specific target audiences.

While mission, structure, and resources are inherently interconnected, this paper separates them for the purpose of identifying underlying issues of incompatibility and sources of difficulty as well as ideal integration and effectiveness. This paper further addresses the historical evolution of ERIC's mission along with the attendant realities of structure and resources, and continues to

detail each of these elements in terms of their present-day context. These elements are compared with those of the National Library of Education (NLE). Further, the other two national subject-based libraries, the National Library of Medicine and the National Agricultural Library, are compared to lend insight into the relationship between NLE and ERIC.

A key informants survey (see Appendix A) was distributed to administrative personnel of each major ERIC component, including ERIC Clearinghouse Directors, Adjunct Clearinghouse Directors, Support Component Directors, and OERI Monitors. This survey, which received responses from 20 out of the 39 invited ERIC personnel, is used to develop a preliminary sense of effective and problem elements, as well as institutional knowledge and attitudes.

DISCUSSION

Mission

The Educational ***Research*** (now Resources) Information Center (ERIC) system arose as a result of the need to catalog and archive the documents created by significant federal funding of a broad array of education-related activities beginning in the early 1960s. Ranging from research to exemplary programs and demonstration projects, the documents resulting from these activities lacked systematic procedures for publication, dissemination, and storage (Heinmiller 1981). Consequently, there were significant delays between original research, publication, and any subsequent application as well as widespread problems with locating and recovering already-published materials. In response, the 1963 Weinberg Report called for the creation of an organizational unit within the U.S. Office of Education to evaluate, select, collect, catalog, abstract, index, archive, announce, and disseminate educational materials that were not receiving wide distribution (Norton 1980).

History

While the *ERIC Annual Report 1999* states that the original 1966 purpose of ERIC was to "provide departmental staff and researchers with centralized access to federally funded education research," others emphasize that ERIC was initiated with the goal of improving educational practice in the United States by collecting and disseminating educational research to educators via a large bibliographic database (Guthrie and Stoddart 1986). References to the original purpose of the ERIC system also emphasize the collection of unpublished fugitive reports (*ERIC Annual Report, 1999*). In this effort, information storage and retrieval, archiving, metadata description, and dissemination were conceived as central activities and were considered largely synonymously (Guthrie and Stoddart 1986).

Specific objectives cited include:

1. To make significant, but previously unavailable R&D reports easily and readily available to educators.
2. To interpret and summarize results in ways that educational practitioners and decision-makers can use them.
3. To help strengthen existing educational communication channels for putting R&D results to use.
4. To become an important base for developing a national education information network. (Burchinal 1968)

ERIC's 1965 mission statement, however, neither mentions improving educational practice as a fundamental goal nor identifies government-sponsored reports as a specific collection aim. It states:

> ERIC exists to collect research information from the schools and colleges of the Nation and from the education community generally and it must also disseminate this information. This responsibility involves:
>
> 1. the location, acquisition, and evaluation of source materials;
> 2. the indexing, abstracting, reporting, and storing of these materials;
> 3. the retrieval of information upon request;
> 4. the dissemination of that information in the form of references, annotated bibliographies, abstracts or reports;
> 5. the preparation of alerting publications and trend studies; and the rendering of technical and consultative services. (Colker 2000)

Thus, it appears that ERIC's original purpose, its formal founding mission, and, perhaps, its institutional traditions embody a competing set of core values and priorities, resulting in ongoing debate regarding the most necessary functions of the system and the most appropriate audience for its products and services (Guthrie and Stoddart 1986). It was only one year after ERIC's founding that its name changed to Educational *Resources* Information Center and in 1974, *Research in Education,* which covers documents other than journal articles, became *Resources in Education*.

Current

In 1999, the mission of the ERIC system is:

> to improve American education by increasing and facilitating the use of educational research and information to improve practice in learning, teaching, educational decision making, and research, wherever and whenever these activities take place (*ERIC Annual Report 1999*).

The goal of facilitating educational improvement here encompasses research, learning, teaching, and decision-making activities, each of which is, in reality, associated with distinct audiences and stakeholder groups. Further, activities deemed related and significant have been expanded infinitely by the phrase "wherever and whenever." Recent additions to the panoply of ERIC components that serve to translate ERIC materials into usable products for practitioners like the ERIC Digests created by the Clearinghouses, are ACCESS ERIC and its "cross-site Indexing Service that allows users to search all of ERIC's web sites simultaneously and the Information and Technology Clearinghouse's successful AskERIC service."

ERIC is currently expected to meet the information needs of seventeen audiences:

- Teachers
- Professors
- Librarians
- School and college administrators
- Counselors
- Instructional media staff
- Support personnel
- Educational researchers
- Educational policy makers at every level
- Adult learners
- Parents
- Health and social services personnel
- Caregivers who support families
- Students
- Children
- The media and business communities as they relate to education
- Students and nonformal learners at every age and level

This audience scope is widely supported by the 20 ERIC administrators who responded to the key informants survey, with 9 audience categories receiving a median score indicating the highest level of importance.

The current scope of ERIC's mission is largely a response to Title IX of *Goals 2000: Educate America Act*. Known as the "Educational Research, Development, Dissemination, and Improvement Act of 1994," this statute officially established the National Library of Education (NLE) and resulted in the reauthorization and placement of ERIC within its Resource Sharing and Cooperation Division (RSCD). ERIC is widely seen as the backbone of the new National Library of Education (Ely 1997, Rothenberg 1999); therefore, any attempt to evaluate the mission of ERIC in 2000 must be seen as part of its larger placement within the NLE.

National Library of Education

Authorized as a National Library in 1994, the founding statute of the National Library of Education states that its mission shall be to:

1. become a principal center for the collection, preservation, and effective utilization of the research and other information related to education and to the improvement of educational achievement.
2. strive to ensure widespread access to the Library's facilities and materials, coverage of all education issues and subjects, and quality control;
3. have an expert library staff; and
4. use modern information technology that holds the potential to link major libraries, schools, and educational centers across the United States into a network of national educational resources (NLE Advisory Task Force 1997).

By 1997, the NLE Advisory task force revised this statement in "non-technical language" as follows:

> The mission of the National Library of Education is to provide awareness and maximum access to high-quality education information in all formats and from multiple sources, to provide high-quality assistance to information seekers, and to be accountable for all these efforts. Our customers are the educators, students, and parents of America at all education levels and the agencies, corporations, and institutions that serve them. Our partners are

> the nation's education libraries, education information providers, and educational organizations (NLE Advisory Task Force 1997).

In addition to the statutory mandate for a comprehensive collection covering "all education issues and subjects," this restated mission further broadens the definition of audience (all American educators, students, and parents as well as the institutions that serve them), product media (all formats), and services (provide awareness and maximum access). The twenty key informants responded almost unanimously that this mission was "very compatible" with that of the ERIC system. Further, the Task Force recommended that the authorizing legislation be interpreted as broadly as possible in implementing the work and structures of the Library. Ninety percent (90%) of key informants responded that they agreed with this recommendation. Yet, these ambitious aims for the Library undoubtedly further impact ERIC's already broad mission and audience.

The degree to which the scope of the literature covered by ERIC should include non-U.S. English language and non-English educational material is being raised as an issue by those who would like to see NLE's mission broadened further to include the educational literature of the world. The move to expand the literature to be covered by ERIC is problematic because ERIC has already, whether supported by evidence or not, been consistently charged with failing to meet the needs of its core audience of educational practitioners and has had difficulty escaping a reputation for serving primarily academics (Hoover and Brandhorst 1982, Norton 1980, Lopez 1989, Guthrie and Stoddart 1986, ERIC User Survey Report 1991, Oversight Hearing 1987, Horn and Clements 1989); however, international coverage is not precluded by the central vision of improving American education. Indeed, an international perspective may more fully support this vision.

Subject-Specific National Libraries

In addition to the National Library of Medicine (NLM) and the National Agricultural Library (NAL), the National Library of Education is one of three national libraries devoted exclusively to the coverage of a single discipline. In contrast to the nascent NLE, NLM was founded as a National Library in 1956 and NAL was authorized in 1962. Thus, information networks and dissemination efforts for these more established national libraries grew primarily out of specific library goals.

National Library of Medicine

The mission of the National Library of Medicine is defined as follows:

> The National Library of Medicine collects, organizes, and disseminates the biomedical literature of the *world* [emphasis added] in order to advance the medical and related sciences and to improve the public health. The Library serves as a national information resource for research, health care, the education of health professionals, and service activities of Federal and private agencies, organizations, institutions, and individuals.

The scope of materials collected is defined as a comprehensive collection of "the world's substantive biomedical publications to support its mission." While the library is available to the public worldwide, it does not collect information written for this audience; rather, its collection is intended to serve the needs of "U.S. health professionals." Thus, the core NLM audience is divided into 3 segments:

1. health science librarians and information specialists
2. health care providers, researchers, scholars, and students
3. historians

NLM serves as the backbone of the medical resource-sharing network, the National Network of Libraries of Medicine (NN/LM), which creates and unites a variety of bibliographic databases as well as an expert system. The goals of NN/LM are defined as:

1. To promote awareness of and access to biomedical information resources for *health professionals* [emphasis added].
2. To develop and improve the biomedical information resources in the regions and support the sharing of these resources within the regions and throughout the nation.
3. To encourage, develop, and support connectivity to the Internet and the inclusion of network member libraries and health professionals in the developing national information infrastructure.

National Agricultural Library

The National Agricultural Library "ensures and enhances access to agricultural information for a better quality of life" as part of the U.S. Department of Agriculture's mission to enhance the American quality of life by "supporting production of agriculture" (NAL Web Site). The goals of NAL are:

1. to serve as a National Library of the United States and as the Library of the U.S. Department of Agriculture.
2. to acquire, organize, manage, preserve, and provide access to information and provide quality stewardship of its collection.
3. to assist, train, and educate people based on assessment of their information needs.
4. to provide leadership in information management.
5. to maximize access to information through collaborative efforts and utilization of technology.
6. to enhance global cooperation through international exchange of information and the provision of services and technical assistance.

National Library Mission Comparison

The national medical and agricultural libraries exist to provide information to professional researchers and practitioners as well as librarians and students through the use of information technology, specifically bibliographic databases available via the Internet. Ultimately, both envision themselves as key facilitators of a progress-oriented, global information network in their respective subject areas. Both acknowledge the broad public applicability of their collection and dissemination activities, but place priority on a practitioner audience actively involved in medical

and agricultural activities and, therefore, most capable of carrying out professional improvements. NLM specifically targets this audience in its mission and goals statements. NAL's mission and goals statements are broader, offering to assist "people" based on their information needs and promoting "access to agricultural information" in order to improve the quality of life; however, these broad statements of purpose are necessarily narrowed somewhat by the technical nature of the material collected and the more restrictive mission of NAL's parent organization (USDA) to support agricultural production.

Mission Summary

While ERIC was begun with the practical mission of providing educational practitioners and federal education employees with federally sponsored research reports in an effort to improve educational practices in the United States, a mission comparable to that of the resource access systems of NLM and NAL, the scope of this founding purpose has continually expanded in the past 35 years. Originally aimed at fugitive research that escaped traditional dissemination channels, collecting activities soon expanded to include English-language literature in all formats, education activities unbounded by time or place, and, essentially, a primary audience composed of the entire American public. While this mission has been supported through a variety of innovative arrangements and committed personnel, it is legitimate, due to finite fiscal resources, to question the sustainability of this excessively broad mission that appears to generate support for further broadening the mission.

Further, the scope of collection activities ascribed to ERIC's new parent organization, the National Library of Education (the fifth parent for ERIC), includes all education-related issues and subjects and requires the creation and maintenance of finding aids for textbook literature that were specifically excluded from original ERIC collection efforts. The other two national subject-based libraries, albeit grounded in more discrete scientific disciplines, on the one hand are more

ambitious in their coverage area (international literature) and, importantly, on the other are more limited in their intended audience. While ERIC reaches international audiences through a variety of methods, including direct Internet access by non-U.S. customers, international conferences, and DIALOG's development of International ERIC, ERIC's scope does not include significant international literature.

It seems clear that the mission of ERIC has been held hostage to the political sensibilities at the time of its various reauthorizations. Its overall effectiveness, limited by fiscal resources, has been constrained; financial resources provided for the ERIC system are insufficient to effectively cover the mandates to increase its audience. Appropriations have been insufficient to fund repeated requests for assessment by independent evaluation contractors of ERIC's mission and other system components. An evaluative effort of significant magnitude is long overdue. The content and client mission of ERIC may have grown so broad that it has become relatively meaningless in its usefulness for focusing the structure and resources of the system; an independent evaluation may determine whether or not this is the case.

Structure

ERIC existed as a traditional, centralized information agency only during its initial planning phase between 1964 and 1966 (Hoover & Brandhorst 1982). The current structure (see Figure 1), composed of a central coordinating federal office, support components charged with specific outputs, and widely dispersed Clearinghouse components valued for specialized knowledge and established audience relationships, is intentionally decentralized.

Organizational decentralization is based on the pluralistic and decentralized nature of U.S. education efforts, the desire to capitalize on the subject expertise of research centers throughout the country, the theoretical economy of such a structure, and, more recently, a network-oriented approach dedicated to multiple points of access where educational information centers are physically dispersed but interlinked virtually. In addition, a key organizing principle was the belief that a decentralized, private-public partnership would help attract highly skilled professionals (Burchinal 1968). (This expectation was brought into question in the mid-1980s when the ERIC Technical Steering Committee reported high turnover, overwork, and burnout at all levels in the ERIC system--Oversight Hearing 1987). Potential problems, of course, exist with decentralization including organizational fragmentation and duplication of activities.

An ERIC Redesign Study provided the first impetus for major changes in the ERIC system, primarily in an effort to increase dissemination efforts to practitioner audiences (Guthrie and Stoddart 1986). At this time, AccessERIC was added as a support component as well as Adjunct Clearinghouses and ERIC partners. Stonehill (1989) describes the resulting structure as "a complex system involving the Federal government, university-based and private sector contractors, and information service providers located throughout the world."

In their responses to the key informants survey conducted for this paper (Appendix A), ERIC administrators had differing pictorial concepts of the ERIC structure, with 55% identifying it as axial, 15% identifying it as distributed/autonomous, 15% identifying it as a matrix, 10% identifying it as hierarchical, and 5% identifying it as amoeba-like. The survey also asked ERIC administrators how they thought those outside of the ERIC family understood ERIC's structure; there was no majority agreement for these structural diagrams as representative of outsider concepts of the system. According to one survey respondent, the current ERIC system "has the structural logic of a jigsaw puzzle." Approximately 55% of questionnaire respondents believed that changes in organizational structure were needed, while 45% believed that structural change was unnecessary.

The current system structure is composed of:

I. Central ERIC

Located within the Office of Educational Research and Improvement (OERI) of the Department of Education, the ERIC Program Office is composed of a Director and support staff along with a set of OERI Monitors who oversee and coordinate the contracted responsibilities and activities of individual Clearinghouses and Support Components; thus, Central ERIC functions as a system planner, a policy setter, and a coordinator of distributed operations. Central ERIC staff is apparently overseen directly by OERI administrators, rather than the Director of the NLE; therefore, ERIC's organizational hierarchy seems to be largely separate from the National Library of Education despite the fact that it is frequently identified as the functional backbone of the Library. Several respondents to the key informants survey indicated, in a variety of different question areas, a pressing need for greater leadership and advocacy at the central level. One respondent believed this outcome would be addressed by the February 2000 appointment of a full-time ERIC Director.

II. Clearinghouse Components

Selected based on their professional expertise and authority in a given subject area, and often part of an academic institution, ERIC Clearinghouses are intended to specialize in selecting high-quality materials for entry into the database as well as reaching the audiences most in need of that information. Hoover and Brandhorst (1982) divide Clearinghouses into three different coverage areas:

1. Level-Oriented: Based on the different levels of educational progression in the United States, these Clearinghouses focus on a particular educational stage, such as Higher Education or Elementary and Early Childhood Education.
2. Discipline-Oriented: These Clearinghouses are specialists in a particular disciplinary category, such as Information and Technology or Social Studies.
3. Problem-Oriented: These Clearinghouses are based on current areas of particular concern within the educational community, such as Urban Education or Handicapped and Gifted Education.

Clearinghouses are overseen by an assigned OERI Monitor as well as by a Clearinghouse managed advisory board. Clearinghouses perform the following principle functions as applied to the particular scope of their subject areas:

1. Collection Development: Select and acquire quality education materials in their subject area for inclusion in ERIC database.
2. Technical Processing: Catalog, abstract, and index these materials for submission to the ERIC Processing and Reference Facility and subsequent entry into the database.
3. Transformation: Synthesize and review material from ERIC databases for practitioner consumption.

4. User services: Assist users in retrieving information as well as answering reference questions, develop and administer electronic lists and discussion forums for particular audiences, perform training sessions and workshops to educate users, maintain Clearinghouse web site, provide technical assistance to users.
5. Special Projects: Experimental services or products designed to address identified needs or assess interest and feasibility.

While recognizing their central role in the creation of the ERIC database, David Lankes (1999) states that Clearinghouses have also become involved in a variety of related activities, and have essentially "become publishers, reference centers, trainers, and web designers."

Adjunct Clearinghouses

Adjunct Clearinghouses complement the functions of a parent Clearinghouse by providing all or a portion of the services offered by that Clearinghouse for a narrow subject area within the broader scope of the Clearinghouse subject.

Partners

In return for priority Clearinghouse services and access to Clearinghouse products, partners disseminate ERIC materials to their constituents and help acquire materials to support the database. David Lankes (1999) identifies partners as an important area for additional alliances and increased standards for development.

Affiliate

ERIC affiliates appear to function in a manner similar to Clearinghouses. Several survey respondents expressed concern that a trend towards affiliates as well as adjuncts will raise issues dealing with efficiency, will accentuate the perceived need for organizational change, and will

negatively effect the general health of ERIC components. Two respondents expressed confusion regarding the definitions and functions of affiliates.

III. Support Components

When asked on the key informants survey "What aspects of the organizational structure of ERIC need to be streamlined for greater efficiency?" eleven (11) respondents (55%) identified the support component category; recommendations ranged from increasing technology innovations to digital full-text products and from complete reorganization to greater staffing. Other comments targeted specific support components.

ERIC Processing and Reference Facility

The technical hub of ERIC, the Processing and Reference Facility (known as simply the Facility) receives, edits, and makes database entries from each Clearinghouse, performing a quality control function in the process. It assigns accession numbers and prevents duplication. With input from the Clearinghouses, it is responsible for maintaining, updating and disseminating internal quality control documents such as the ERIC Thesaurus, the ERIC Identifiers Authority List, and the ERIC Processing Manual. Out of thirteen (13) comments addressing the efficiency of ERIC components on the key informants survey, four (4) identify the facility as technologically backward.

ERIC Document Reproduction Service (EDRS)

EDRS distributes full-text reproductions of ERIC documents directly to users and access points in paper, microfiche, and electronic formats. Some key informants indicate frustration with continued reliance on text-based dissemination methods in an increasingly digital environment.

Publishers

Publishers package and sell both print and electronic copies of ERIC document resumes and other ERIC products.

AccessERIC

Established in 1989, AccessERIC coordinates product development, user referral services, and dissemination activities for the system; thus, AccessERIC is seen as a national contact point intended to promote ERIC products and services to expanded audiences. It maintains the ERIC system web site and is intended as a "unified point of entry" to the web sites of each separate ERIC component. In addition, it produces reference and referral databases, which include directories of ERIC components and related services.

IV. Unofficial Partners:

Approximately 984 organizations (primarily libraries) exist as ERIC Resource Collections; they function as intermediaries between ERIC and the public. They provide individuals with local and regional access points to the ERIC database and ERIC microfiche documents. Several studies indicate that ERIC most effectively reaches academic and researcher audiences, which may be partially due to the predominance of academic library resource collections, which outnumber all other access points combined and generally contain a higher concentration of ERIC resources than other access points (Heinmiller 1981).

V. Other

A variety of other ERIC components contribute to special projects that range from one-time education and outreach endeavors, to audience-specific activities or to experimental project development. One such project is AskERIC, which grew from an electronic reference service developed and implemented by the Clearinghouse on Information & Technology to encompass

reference services for the entire system. The service works by routing user questions to a central site where they are assigned to subject specialists within the various Clearinghouses for a response, thus using ERIC's distributed, specialized knowledge structure to provide direct customer service. In order to improve user service, AskERIC also supplements the basic structural divisions of the system by asking (via its online question form) for additional information from the system inquirer; i.e., employment position (teacher, researcher, etc.), geographic location, general subject categories of question, and the manner and educational level for which the information will be used.

National Library of Education

NLE and ERIC evolved out of independent yet parallel efforts to improve the quality of educational practice by facilitating access to relevant information. While a library of educational materials has existed in various forms as part of the various agencies related to education supported by the U.S. government since the mid-nineteenth century, NLE's current structure (see Figure 2) is a direct product of its 1994 founding legislation. In addition to the Resource Sharing and Cooperation Division (RSCD), which is composed principally of ERIC, NLE is composed of two additional divisions, the Reference and Information Services Division and the Collection Development and Technical Services Division. All three divisions are overseen by the Office of the Director.

Functioning independently from the collection and processing activities of ERIC/RSCD, NLE's central library facility in Washington D.C. manages the physical library collection. It is here that the work of the two other library divisions is concentrated. The Reference and Information Services Division offers reference assistance to patrons. NLE personnel operate circulation and reference desks. They "respond readily to phone, mail, and electronic inquiries with timely information on:

- programs and activities in the Department of Education;
- Department publications;
- education materials from other federal agencies;
- services and resources available through ERIC, the research institutes, and the national education dissemination system; and,
- statistics through the National Center for Education Statistics." (*Access for All* 1997)

The Collection Development and Technical Services Division is responsible for building a comprehensive collection of education information and serving as an archive for Department publications and historical items. In this capacity, it functions much like the ERIC Clearinghouses in identifying, selecting, acquiring, and cataloging education publications. However, this information is catalogued and accessed separately from ERIC documents. Thus, with the exception of the ERIC system, the NLE is a centrally located and operated organization.

Subject Specific National Libraries

The structures of the National Library of Medicine and the National Agricultural Library differ from the National Library of Education primarily in the ways in which they coordinate centralized versus decentralized services and the activities that are handled by each type of service. Both NLM and NAL produce databases, respectively MEDLARS and AGRICOLA, that act as national and international distributors for materials in their disciplines. Both have decentralized contract-bound units (Regional Medical Libraries and Agriculture Network Information Centers).

National Library of Medicine

For NLM, the primary database production activities, including selection, acquisition, and processing, occur within the central library offices in Bethesda, MD. Likewise, technology investigation, support components, and vocabulary and standards controls are located and implemented centrally within the library itself. The six geographically-determined Regional

Medical Libraries (the core of the National Network of Libraries of Medicine) are primarily concerned with nationwide outreach and dissemination activities and are typically housed within major practitioner centers such as large teaching hospitals. This system evolved out of concern for access to the practitioner, and was a direct result of the conclusions of a 1988 outreach advisory panel that recommended a complete restructuring of network partnerships in order to maximize access opportunities for health care professionals. One Regional Medical Library, the New York Academy of Medicine, serves as the Online Training Center for the nation, providing training on NLM systems throughout the United States. NLM defines Regional Medical Library responsibilities as:

- interlibrary loan;
- answering or referring reference questions; and
- performing computerized or manual bibliographic searches.

NLM further facilitates the work of these libraries by funding a National Medical Library development grant program.

National Agricultural Library

The fourteen subject-specific Information Centers of the NAL (the central library is located in Beltsville, MD) "vigorously market ... products and services" and conduct collection and cataloging efforts in their subject areas, which are distributed in the form of websites and indexed in AgNIC (Agriculture Network Information Center) or incorporated into the AGRICOLA database. Typically located in academic settings, NAL Information Centers are organized principally by crop type and function like ERIC Clearinghouses by providing access to NAL documents and databases to their audiences as well as generating information products to meet the particular information needs of their users.

Structure Summary

The primary distinction between the information networks of the other national subject libraries and that of NLE is that while ERIC is commonly seen as the backbone of NLE, both NLM and NAL are seen as the backbone for their respective information networks. Indeed, the key informants survey responses indicate that most (15/19) see ERIC as below moderately or very poorly integrated with NLE. The relatively young age of the NLE and the lack of fiscal or administrative attention devoted to subsequent structural integration makes this conclusion seemingly inevitable.

While agricultural subject categories based on crop types may effectively divide the contract-bound units within NAL, the combined level, discipline, and problem categories that identify ERIC Clearinghouses in the broad-based, non-technical, humanities-oriented discipline of education are not as discrete as those of agriculture. Administrators in the ERIC system lack a uniform conception of the structure of that system and often express concern with its complicated internal and external alliances. Since ERIC insiders lack a clear perception of the organizational logic and effectiveness of the system, it may be that this complicated structure serves to confuse services and products for users. This highly complex system may be a fundamental barrier to an ideal of transparent user-tailored service; thus, it may be beneficial to consider a restructuring of ERIC as a user- centered service, using client group requirements rather than subject of resources as the central organizing principle.

Resources

Products

ERIC's main product is its bibliographic database, which originally served as an information system that organized document metadata and was complemented primarily by print and human dissemination agents in the form of index distribution and reference services. Thus, in 1987, Ward Mason identified ERIC as primarily and most appropriately an information system serving a bibliographic and archival function and not a dissemination system that provides product and service delivery (including information services, professional development, and technical assistance) to the public. It appears that the database was originally used to perform specific user services such as literature searches, while print indexes, *Resources in Education* (RIE) and *Current Index to Journals in Education* (CIJE), were produced from database entries as widely-available public references. The database has since been distributed in print (RIE by the Facility, CIJE by the publisher), through commercial database vendors, in CD-ROM format (by the Facility), and, most recently, online for free. This last dissemination method, in particular, has eroded the distinction between the ERIC database as a predominantly digital information system with a separate, text-based dissemination system.

The current ERIC database is composed of two files, one containing journal articles from some 980 journals covered by the *Current Index to Journals in Education* (CIJE) and the other containing non-journal items included in *Resources in Education* (RIE), originally *Research in Education* (emphasis added), most of which are collected and processed by the Clearinghouses. Among other materials, RIE includes conference papers, research reports, project descriptions, books, evaluation reports, and classroom materials. Already containing nearly 1 million bibliographic records, the database grows through additions at an average rate of 30,000 records per year. Approximately 40% of these are RIE document records and 60% are CIJE journal records. The key informant survey responses for this paper suggest a need for more rigorous

collection development guidelines; however, ERIC's current subject area structural focus and broad audience scope make it difficult to determine a fundamental baseline for document quality, since quality is necessarily dependent on both the intended use and the user.

Products resulting from ERIC activities (Figure 3) are currently distributed in the following ways:

ERIC Documents

Full-text of RIE documents are available in microfiche and, to a more limited extent, electronic copies through EDRS. Criticism in this area has largely related to processing and delivery time for document requests and user resistance to microfiche use. At the same time, full-text delivery options in a wide variety of disciplines have become available through most commercial bibliographic search services, increasing user expectations that documents themselves be fully integrated with their descriptions. Further, broad, web-based dissemination of the ERIC database gives users direct, searchable access to bibliographic data, obviating much of the need for distribution methods such as CD-ROMs, print indexes, and microfiche.

Web sites

Created and maintained by ERIC components for many difference purposes and audiences, the various ERIC web sites are linked by the main AccessERIC site. These separately maintained sites cover a great array of innovative and useful sources of specialized information such as the National Parent Information Network (NPIN) and the Gateway to Educational Materials (GEM). These sites are often linked to supplemental databases kept discretely from the primary ERIC database. The ERIC database is likewise available in a variety of formats and interfaces via these sites. Yet, as Lankes (1999) and Ely (1997) point out, the Internet has made ERIC products easily available to a wider audience, members of which may neither understand nor want to understand the distinctions between these multiple points of access. A 1998 study of Internet-based searches of ERIC conducted by the Clearinghouse on Assessment and Evaluation concluded that just 4.5

percent of the searches conducted met the Clearinghouses minimum standard for effective searches (*ERIC Annual Report 1999)*. Further, responses from the key informants survey indicate a need for ERIC to begin cataloging electronic resources as part of a comprehensive database effort. These observations lead to further support of the critical need for a reassessment of the mission of ERIC.

Syntheses

Syntheses are the primary method by which ERIC Clearinghouses add value to bibliographic data; syntheses include interpretive studies, literature reviews, bibliographies, FAQ lists, directories, resource guides, and ERIC Digest summaries. Aimed primarily at parent and educator audiences, syntheses have become among the most popular ERIC products. Likewise, presently numbering over 1000, ERIC Digests are particularly cited as among the most used and useful products of the ERIC system for practitioner audiences (Colker 2000).

In addition to its products, ERIC provides services that can be generally categorized to include:

Direct Customer Service

Reference services can be obtained directly from ERIC via multiple access points, including Clearinghouses, AccessERIC, the Facility, and AskERIC. In addition, Clearinghouses provide conference presentations, exhibits, and user training workshops.

Indirect Customer Service

Indirect customer service is maximized through a network of over 650 partners and nearly 1,000 resource collections that provide access to ERIC products as well as reference services in the finding and use of those products. According to Heinmiller (1981), ERIC resources are most widely available through academic access points. Much criticism has addressed related

perceptions that ERIC resources are less accessible to ordinary practitioners through the access points most commonly available to this audience. While the typology of users who contacted ERIC Clearinghouses in 1998 indicates that the 50 percent of the users who are faculty and students are evenly split between elementary/secondary and postsecondary locations, the use data illustrates that over 70 percent of the uses overall are for research preparation and class assignments. These statistics can arguably be interpreted to indicate that ERIC's services are not being used intentionally "...to improve American education ... through improving practice in learning, teaching, [and] educational decision making..." (ERIC mission in *ERIC Annual Report 1999*). However, if it is concluded that the research uses of ERIC support the improvement of educational practice, this could result in a significant focusing of the ERIC mission.

Ward Mason (1987) argues that, while duplication of database activities is inefficient and unacceptable, service duplication may be classified as "useful redundancy"; however, it is more appropriate to regard any chronic or widespread duplication of efforts as unacceptable, particularly in an environment, such a ERIC's, which is characterized by extreme scarcity of financial resources.

National Library of Education

In contrast to the largely virtual products and services of the ERIC system, the National Library of Education provides centralized products and services in a largely archival context. NLE contains a circulating collection of books on education, ERIC Reference products, ERIC microfiche, one copy of all Department of Education Documents, historical monographs and textbooks, and documentation of educational legislation. It provides direct customer service relating to these products from circulation and reference desks.

Subject Specific National Libraries

Both NLM and NAL have developed significant databases as a key product and have furthered distribution of related services and products through network alliances. MEDLARS, NLM's Medical Literature Analysis and Retrieval System, was created in 1964 primarily as a method of electronically producing *Index Medicus* (begun in print format in 1879) as an index to journal citations derived from some 3,000 journals in 40 languages. MEDLARS has since grown to include two computer subsystems containing over 40 online databases with approximately 18 million references, most of which are bibliographic in nature plus some that include full-text factual information. While NLM performs outreach and user service functions, it sponsors grant and training programs to more aggressively provide indirect services on a widespread basis through its national network of hospital and medical school libraries. Centralized functions include research, evaluation, database administration, and syntheses.

NAL provides information to practitioners largely through AgNIC, the Agriculture Network Information Center Alliance, composed of a group of university and agricultural libraries that focus on providing quality agriculture information on specific subject areas via the World Wide Web. These efforts are supported by AgDB, a database directory of agricultural databases and datasets which must be searched separately, and AGRICOLA, a collaboratively created bibliographic database. AGRICOLA also serves as NAL's OPAC, containing details regarding its physical collection and those of its collaborators. The AGRICOLA collection describes over 3 million items. Reference services are available in person, by telephone, in writing, and via the Internet, but users are advised to seek services indirectly through local and network member collections as a preliminary step.

Finances

Most current and historical descriptions of the ERIC system report chronic problems with under-funding that result in significant limitations on products and services. While many innovations in the creative leveraging of funds have resulted from this situation, funding is consistently identified as a primary cause for the inability of the ERIC system to instigate critical improvements. Indeed, consistent level funding combined with inflation has ensured that the real buying power of ERIC has decreased over the past 35 years. According to the report of the 1987 Oversight Committee Hearing, "ERIC has suffered a 47 percent funding reduction in real terms between 1971 and 1986" despite the fact that the ERIC budget as a percentage of the OERI budget had increased. In 1999, the National Library of Education received funding just under 15.5 million, while ERIC was allotted 10 million of that sum.

While ERIC operates at a cost of 10 million to the Federal government, Heinmiller (1981) estimates that this federal funding covers approximately four (4) percent of the total ERIC cost. He attributes one (1) percent of the total cost to development by other agencies and organizations, 19 percent to access points such as libraries, and 75 percent directly to the users of the system. Three (3) percent of the $10 million federal funding is used for GPO printing, phone lines, and computer systems, while 19 percent is distributed among the support components and 78 percent is allotted among the Clearinghouses. The Clearinghouses, in turn, use approximately 23 percent of their funds for database development, 18 percent for Clearinghouse management, 17 percent for system improvements and special projects, 15 percent for publications, 15 percent for user services, 10 percent for outreach and training, with the remaining 2 percent for travel expenses (ERIC Annual Report 1999).

ERIC components such as Adjunct Clearinghouses, Partners, and Resource Collections are not federally funded; therefore, their contributions to the ERIC system represent considerable

leveraging of scarce federal funds. Yet, these monetary savings must inevitably be weighed against the loss of control that accompanies the loss of financial ties. These additional components have allegiances and priorities of their own, thus David Lankes recommends more specific definitions for these affiliations, and increased efforts to both set standards and incorporate these entities into those standards (Lankes 1999). Further, these alliances lead to increased system complexity that undoubtedly plays a part in limitations to quality use of the system.

Subject Specific National Libraries

With $15 million in annual federal funds, NLE receives less funding than NAL ($22 million in 1999) and significantly less funding than NLM ($174 million in 1999). While this may reflect an overall cultural bias prioritizing medical and scientific disciplines, it undoubtedly also reflects specific value judgements regarding the effectiveness and worth of the work done by the respective libraries. Yet, NLM and NAL have received federal support as national libraries for thirty to forty years longer than NLE, thus accounting for their more substantial collections and more integrated missions and structures.

Table 1. National Subject Libraries Resources Comparisons -- Fiscal 1999

	Founding Date	Annual Funds (in millions of dollars)	Database Holdings (approximate)
National Library of Medicine	1956	174.0	18 million items
National Agricultural Library	1962	22.0	3.3 million items
National Library of Education	1994	15.0	1 million items

Resources Summary

A lack of reasonable growth in fiscal resources has limited the ability of the ERIC system to carry out its increasingly complex and comprehensive mandate. Likewise, necessary improvements and

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innovative progress in product development and integrated delivery have been stifled by inadequate funding. While restrictive funding has inspired creative alliances with the private sector and the development of entrepreneurial Clearinghouses, it has not allowed the type of assessment and redesign that is necessary for the system. Despite the distributed ideal of multiple points of access, the National Library of Education and each separate ERIC component create and disseminate products and services that are frequently limited to a single, specialized access point, particularly in the form of component web sites and resource lists that remain excluded from the ERIC database. While these efforts may be part of larger attempts to address the needs of specific audiences, they increase the work and knowledge levels required by potential ERIC users. Further, direct vs. indirect access points lack coordination and a sense of structural logic or audience appropriateness.

Without seamless integration of ERIC products and services and some prioritized hierarchy to determine the most appropriate source for each, the multiple points of access ideal is likely to translate for the user into a confusing array of products and services offered by different components and, ultimately, to widespread user frustration. ERIC may consider the addition of metadata descriptors identifying intended audience as well as intended use in order to more effectively categorize services for its wide range of audiences. If all of ERIC's resources were then combined into a single database, or "knowledgebase" (as Stuart Sutton suggests in his commissioned paper on the database and operational processes of ERIC) search functions could effectively produce results that satisfy particular user needs. Ultimately, however, without the financial resources to carry out both evaluation and subsequent restructuring, ERIC's longstanding intention to develop user feedback projects and studies "to strengthen its understanding of the clients to be served and how best to organize and deliver products and services" (Hoover & Brandhorst 1982) will be largely sporadic.

FINDINGS

In 1971, the Dissemination Advisory Committee and Rand Report recommended that ERIC be redesigned in order to be more accessible to practitioners; however, this did not result in major modifications to the system. A separate Division of Practice Improvement was then created apart from ERIC. ERIC subsequently suffered a decrease in funding. In 1980, when ERIC was placed within the newly created Department of Education, there was consideration of abolishing ERIC entirely. In 1986, Guthrie and Stoddart recommended the creation of a parallel educational resource network for practitioner audiences due to ERIC's necessary and legitimate focus on research audiences. This suggests that a failure to identify and meet the scope of ERIC's mission as presently stated may ultimately result in unintended consequences for the structure and resources of the ERIC system, namely loss of its audience base to alternate (possibly for-profit) providers and decreases in funding.

Mission

The mission of ERIC has grown principally in response to political demands that can be interpreted as legitimate; however this manner of evolution, combined with restricted funding, has resulted in a system that lacks a reasonably focused and attainable purpose. The mission further needs to be framed within the context of the National Library of Education.

Structure

The structure of ERIC has evolved to meet additional mission mandates. The structure has responded to expanding subject areas, service providers, and user audiences, but has become cumbersome as a consequence of mission expansion. The distributed virtual structure of the ERIC system has not been functionally or administratively reconciled with the traditional, central

structure of the National Library of Education. The NLE may need to reinvent itself as a largely virtual library to effectively integrate the ERIC system.

Resources

The leveraging of limited federal resources through a distributed structure and liaisons with other organizations, while at the same time absorbing increases in publications, new user groups, and new technologies, is a substantial accomplishment; however, these efforts cannot infinitely sustain the over-extended resources of the system. Off-budget contributions that continue to sustain ERIC on a voluntary basis are unreliable and obscure the fundamental problem of inadequate resources.

CONCLUSIONS

Mission

There is a lack of political and institutional agreement on the appropriate scope of the audience for ERIC. Widely divergent needs of those who reasonably understand themselves to be targeted ERIC clients result in a broad array of ERIC access points and products and result in increased outreach at no cost to the Federal government. These developments have been created out of necessity rather than systematic planning and are leading to fragmentation in the system, frustrations for creators and providers, and disappointment for too many users. Financial neglect, interpreted as benign by funding sources, has resulted in a lack of a mission evaluation for the ERIC system and needs to be remedied. The passive acceptance of mission expansion could easily be interpreted by an outsider to the educational establishment as an expression of less than appropriate respect for the products of educational research. Neither medical nor agricultural research is expected to be directly relevant to all practitioners, and certainly not to all patients, their families, and other consumer groups such as journalists and policy-makers.

An evaluation that focuses on mission appropriateness should yield recommendations appropriate to the design of a consciously user-focused information acquisition and access system, or systems, built on the strong content base of the present ERIC system.

Structure

The structure of the ERIC system should be redesigned based upon a new, more client-focused mission in which service audiences are specifically defined and prioritized. This structure should result in a more coherent connection between NLE and ERIC and foster leadership from NLE more in common with her sister national subject-specific libraries, i.e., NLM and NAL. NLE should become an active member of federal-level digital library initiatives, and should

consciously incorporate ERIC components as part of such a system. The Director of the National Library of Education must have professional stature and political impact comparable to the Directors of the other National Libraries. The experience of NLM, which underwent a similar, client-focused restructuring in the late-1980s, may provide a model for such an endeavor for NLE.

Resources

Issues pertinent to ERIC's resources are a direct consequence of mission expansion, related principally to expanded audience scope coupled with both the increases in educational resources and the technologies to provide access to them. Continuing growth via loose structural relations such as affiliates can no longer be expected to keep the ERIC system coherently bound together. Deficiencies in the ERIC system have been caused by increased service mandates, a cobbled-together structure, changing leadership, and insufficient financial support. To prevent a serious breakdown in institutional capabilities or a painfully slow decline/demise, the issue most directly linked to resources, i.e., mission, must be addressed. In addition to client prioritization, the possibility of adding intended use and/or user type fields to ERIC document records should be assessed as a possible method of addressing the particular needs of distinct ERIC audiences.

Conclusion

The central vision of improving American education must be supported by an intertwined National Education Library and information system that acknowledges client diversity as well as a largely digital future. In order to escape fundamentally divergent traditions with differing missions, structures, and resources, the ERIC system may need to reinvent and rename itself as a new educational resource access system that is part of the National Library of Education. Such a system would ideally be designed with input from the present systems as well as outside groups

and would be fully implemented by a specific target date. The evaluation process that creates this system must focus not on what was, or even what is, but what could and should be.

QUESTIONS AND RECOMMENDED APPROPRIATE METHODOLOGY

Questions

Mission

The first step in a major evaluation of ERIC should be the identification of the appropriate scope of ERIC's mission. This should include:

1. Audience

   As currently defined, ERIC's audience includes a potentially vast number of stakeholders. If this set of stakeholders is determined to be appropriate, all stakeholders should be involved in the evaluation of ERIC and its resources.

2. Collections

   The scope of ERIC's collections must address audience in terms of priority levels. An evaluation of collection scope should investigate user versus organizational expectations and consider the efficiency and effectiveness of collection dissemination in both direct and indirect formats. An understanding of the distinctions between information systems and dissemination systems will be critical to this effort, as will an understanding of ways in which networked computing technologies blur these distinctions.

3. NLE

   Audience and collection scope must be integrated with the National Library of Education.

Structure

An evaluation of ERIC must identify critical roles based on the particular strengths of each component as well as the National Library of Education in carrying out the mission. If the current broad scope of ERIC's service audience is maintained, a comprehensive evaluation should investigate the feasibility of basing Clearinghouse structures on distinct audience segments as

opposed to the current subject-based, level-based and problem-based system, which lacks clear boundaries and service priorities. An evaluation needs to explore the current structural relationship between NLE and ERIC with respect to efficiency, effectiveness, and other related aspects of program implementation.

Resources

It seems imperative that critical products, services, and audience segments should be defined for each ERIC/NLE component based on its critical roles. This should be based on the audience priorities identified as part of mission revision. Accordingly, the feasibility of incorporating specific product use and intended audience fields into document resumes should be investigated. Further, an ERIC evaluation should investigate contingent funding strategies that align variable distributions of financial resources at different funding levels (ideal through expected) with ERIC priority areas. ERIC would be able to use these strategies in lobbying and advocacy efforts in order to clarify the impacts of funding decisions. ERIC could further use contingent funding strategies to organize grassroots involvement based on projections of specific products and services that will be minimized or eliminated at proposed funding levels.

Methodology

A task force composed of diverse experts from within and outside the ERIC system should be created to develop specific and detailed models of future directions for the ERIC system, including different possible audience priorities and the collection, structure, and resource outcomes of each priority set. Combined, the five commissioned papers that serve as a prerequisite to full evaluation should provide a number of possible models for consideration. The preliminary set of task force-defined models should be subjected to feasibility studies, with intense scrutiny devoted to the fiscal necessities of each plan. As a result of these studies, a

hierarchy of priority sets for each model should be developed in conjunction with the funding levels required to address each priority area.

Survey instruments should be designed, tested, and administered to assess the desirability and potential impact of these different, priority-dependent models from the perspectives of the full range of ERIC stakeholder groups. Additional questionnaires with follow-up interviews as well as focus group interviews at all levels of the ERIC system are recommended in order to assess the effectiveness of the current ERIC system in meeting these priorities, as well as the feasibility and desirability of mission, structure, and resource options. These institutional levels include upper- and lower-level personnel as well as representatives from the full range of stakeholders as identified in the current mission. Further, the evaluation team structure must reflect a concerted effort to include both ERIC users and non-users.

Figures

Figure 1. ERIC Administration

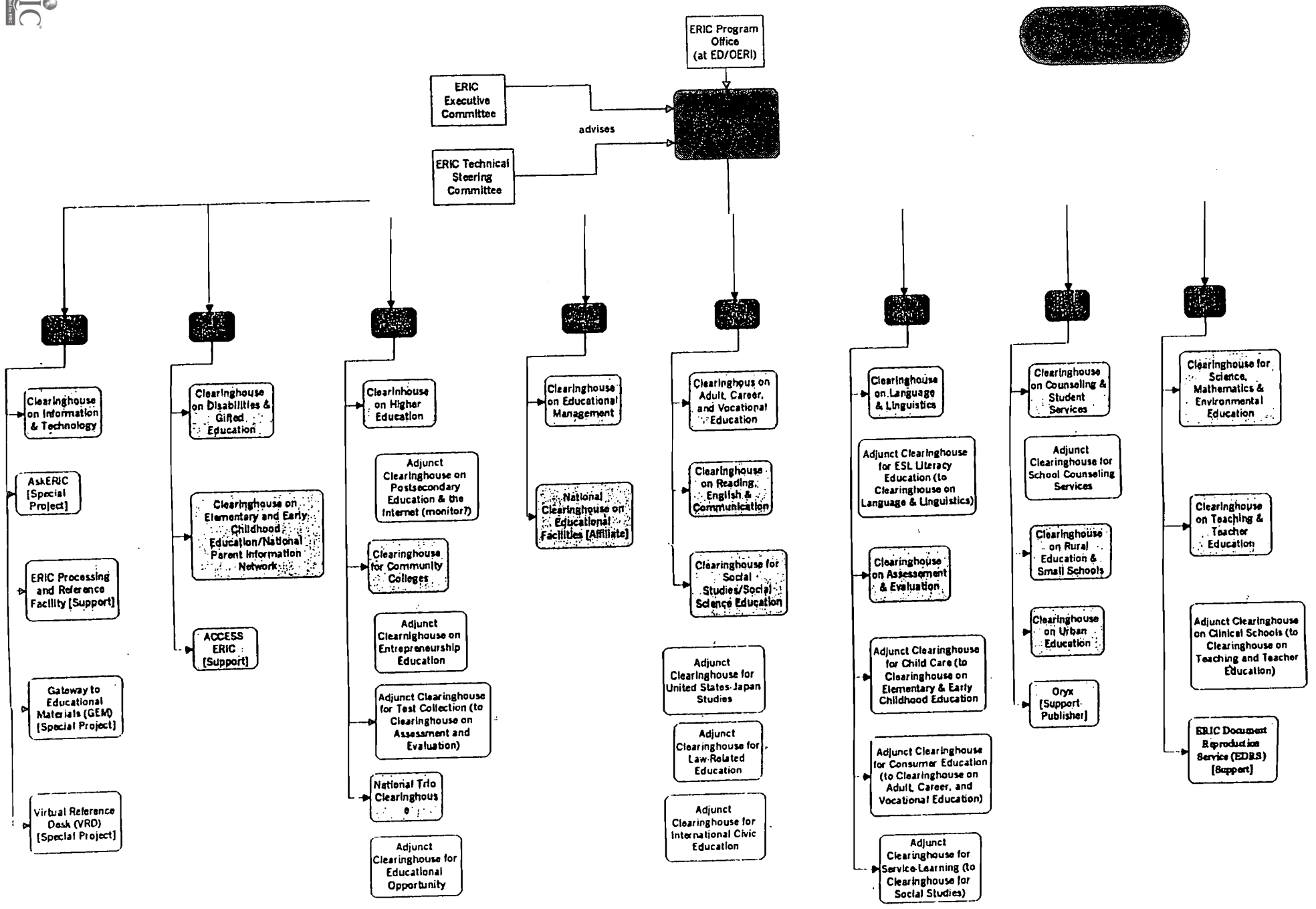

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Figure 2. National Library of Education Organization

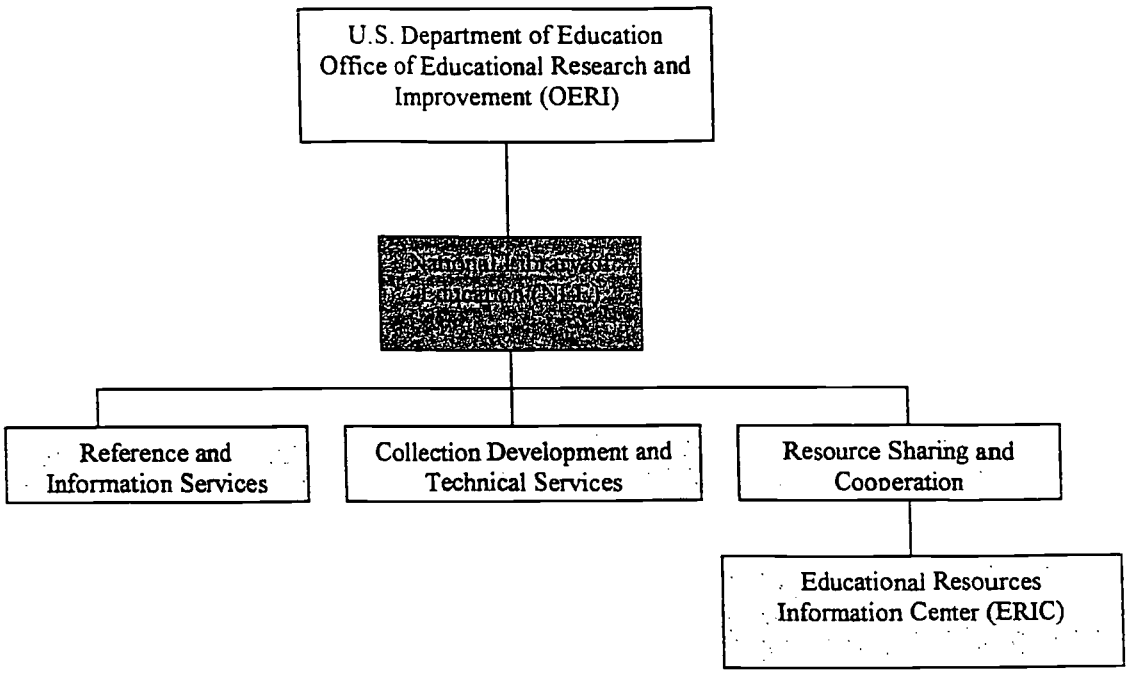

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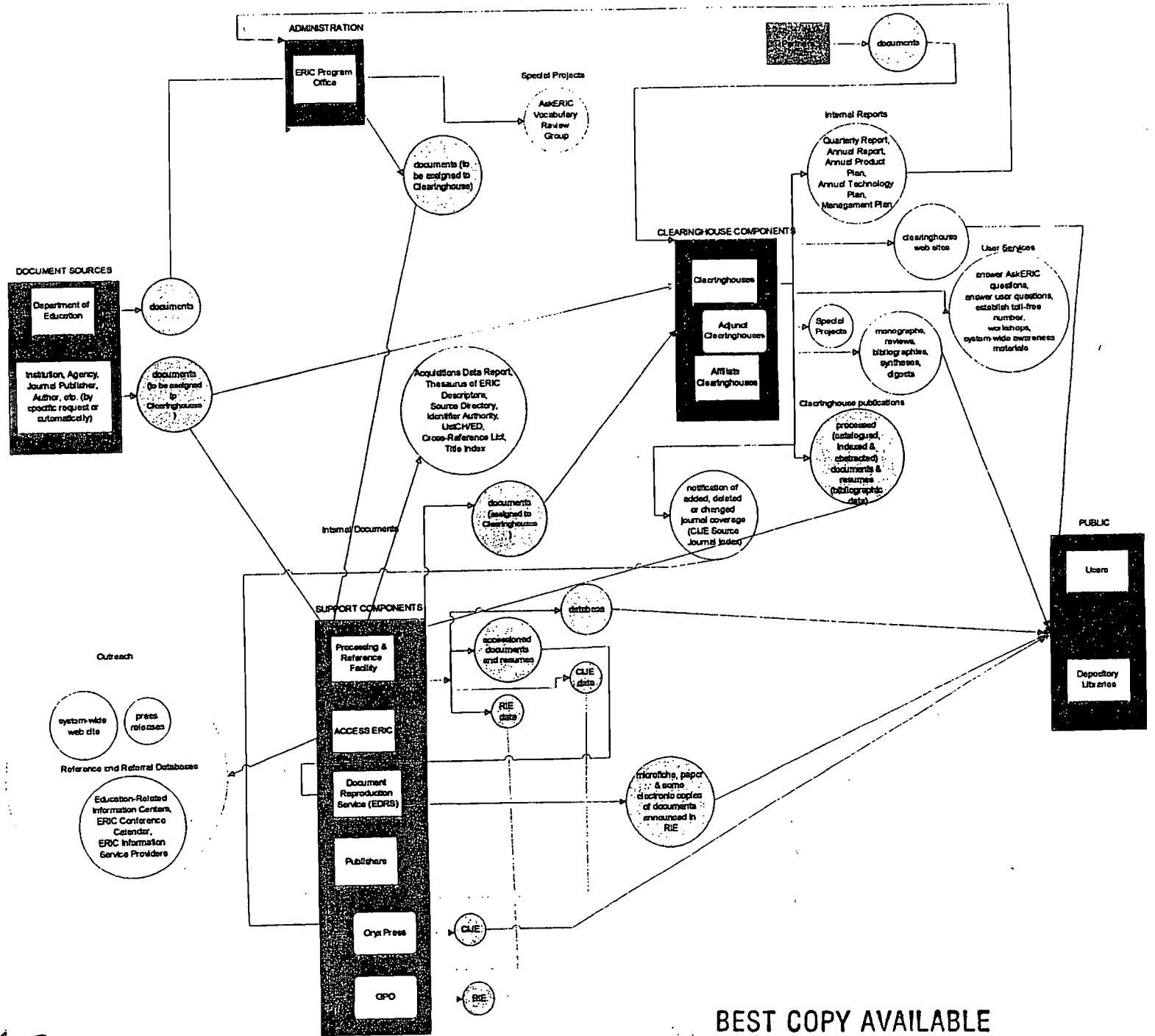
Figure 3. ERIC Products



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Appendix

Appendix A

ERIC Mission, Structure, and Resources Key Informants Survey Results

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Online Survey Dates: 3 January 2000 - 14 January 2000
Total Response: 20 out of 39 (51%)
Population: ERIC Clearinghouse Directors, Adjunct Clearinghouse Directors, Support Component Directors, and OERI Monitors
Red text represents responses and summary statistics.

I. Mission

Questions about:
A. ERIC Mission
The following is the present ERIC mission statement:

> "The mission of the ERIC system is to improve American education by increasing and facilitating the use of educational research and information to improve practice in learning, teaching, educational decision making, and research, wherever and whenever these activities take place."

1. Which of the following responses best reflects your ***feelings*** related to this mission statement and the present-day state of ERIC? After reading through each of the responses below, mark one box in each section that most closely reflects your feelings.

a. Mission appropriateness

The mission statement **appropriately** reflects ERIC today.	15/20 (75%)
The mission statement does **not appropriately** reflect ERIC today.	5/20 (25%)

b. Mission accuracy

The mission statement **accurately** reflects ERIC today.	14/20 (70%)
The mission statement does **not accurately** reflect ERIC today.	6/20 (30%)

2. Which of the following responses best reflects your feelings related to the mission statement and the future development of ERIC? After reading through each of the responses, mark one box in each section that most closely reflects your feelings.

a. Mission scope

The mission statement is too **broad** to guide ERIC in future development.	6/20 (30%)
The mission statement is too **narrow** to guide ERIC in future development.	2/20 (10%)
The mission statement is **neither** too broad nor too narrow to guide ERIC in future development.	12/20 (60%)

b. Mission effectiveness

The mission statement will **effectively** guide the future development of ERIC.	13/20 (65%)
The mission statement will **not effectively** guide the future development of ERIC.	7/20 (35%)

3. The mission of ERIC in terms of its service audience has expanded significantly in the past 35 years. Based upon your personal belief regarding the appropriate mission of ERIC, please rank each of the present service **audience** elements in terms of their centrality to the appropriate mission of ERIC on a scale from 1 (not a key element) to 10 (key element). Please put the appropriate ranking for each in the box provided:

Key Audience Elements	**Ranking Scale**									
	retain as an audience	decrease emphasis		remove as key audience element						
	10	9	8	7	6	5	4	3	2	1
	Your assessment: N=20									
Administrators	mean=9.25 median=10									
Adult Learners	mean=7.55 median=8									
Business Communities	mean=6.1 median=6.5									
Caregivers	mean=6.4 median=6.5									
Counselors	mean=8.95 median=10									
Educational Researchers	mean=9.5 median=10									
Instructional Media Staff	mean=8.65 median=10									
Librarians	mean=9.65 median=10									
Policy Makers	mean=9.15 median=10									
Professors	mean=9.15 median=10									
Students	mean=9.1 median=10									
Teachers	mean=9.9 median=10									

4. The ERIC mission statement is:

> "The mission of the ERIC system is to improve American education by increasing and facilitating the use of educational research and information to improve practice in learning, teaching, educational decision making, and research, wherever and whenever these activities take place."

If you could rewrite this mission statement for ERIC, would you?

No.	10/20 (50%)
Yes.	10/20 (50%)

If yes, please draft a statement below:

view draft statements

5. How critical to the mission of ERIC is its present location in OERI/NLE on a scale of 1 (not critical) to 10 (very critical)?

very critical not critical

10 9 8 7 6 5 4 3 2 1

Your assessment: N=20, mean=4.75, median=5

B. National Library of Education Mission

1. According to *Access for All*, the 1997 report of the National Library of Education Advisory Task Force:

> "The National Library of Education's authorizing legislation should be interpreted as broadly as possible."

Do you agree or disagree that the authorizing legislation should be interpreted as broadly as possible?

Agree 18/20 (90%)
Disagree. 2/20 (10%)

Comment on the authorizing legislation if you will:

view comments on the authorizing legislation

2. The overall mission of the National Library of Education is:

> "To provide awareness and maximize access to high-quality education information in all formats and from multiple sources, to provide high-quality assistance to information seekers, and to be accountable for all these efforts."

In your opinion, how compatible is this mission with the mission and activities of ERIC on a scale of 1 (not at all compatible) to 10 (very compatible)?

very compatible incompatible

10 9 8 7 6 5 4 3 2 1

Your assessment: N=20, mean=9.45, median=10

3. According to its authorizing legislation, the more specific mission elements of the National Library of Education are to:

> a. Become a principle center for the collection, preservation, and effective utilization of the research and other information related to education and to the improvement of educational achievement;
> b. Strive to ensure widespread access to the Library's facilities and materials, coverage of all education issues and subject, and quality control;
> c. Have an expert library staff; and
> d. Use modern information technology that holds the potential to link major libraries, school, and educational centers across the United States into a network of national educational resources.

Please rank these four mission elements in terms of importance on a scale of 1-4, with 1 being the most important and 4 being the least important. Place 1 rank in each of the four boxes:

a. N=20
mean=1.95
median=1

b. mean=2.8
median=3

c. mean=2.8
median=3.5

d. mean=1.85
median=2

4. As you are aware, other national libraries in the U.S. system have missions that include a mandate to provide international leadership in their subject areas (i.e., National Library of Medicine, National Agricultural Library),

a. To what degree do you believe that the addition of an international leadership mandate is appropriate for NLE? *(place your ranking in box provided below)*

very appropriate inappropriate
10 9 8 7 6 5 4 3 2 1

Your assessment: N=20
mean=6.15
median=6

b. How likely do you believe the addition of this mandate will be for NLE? *(place your ranking in box provided below)*

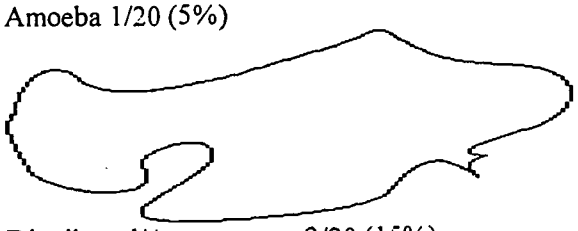
very likely very unlikely
10 9 8 7 6 5 4 3 2 1

Your assessment: N=20
mean=4.35
median=5

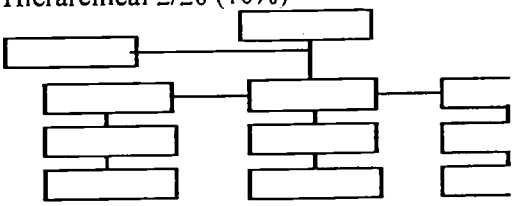
II. Organization/Structure

1. Below are six pictures of organizational structures. Please mark the structure that best illustrates <u>your</u> sense/concept of the structure of the ERIC system:

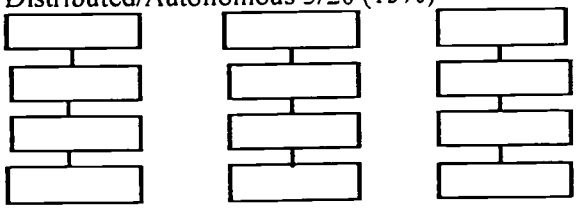
Amoeba 1/20 (5%)



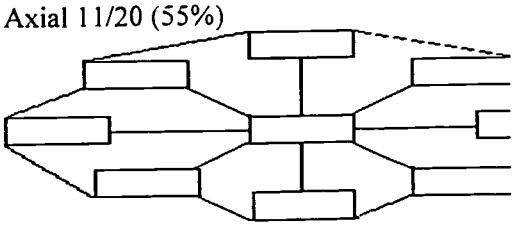
Hierarchical 2/20 (10%)



Distributed/Autonomous 3/20 (15%)

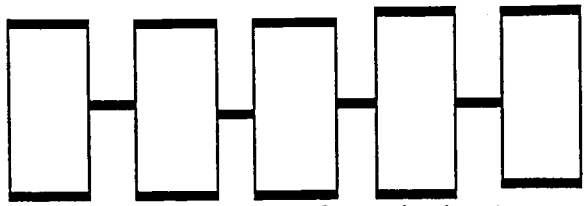


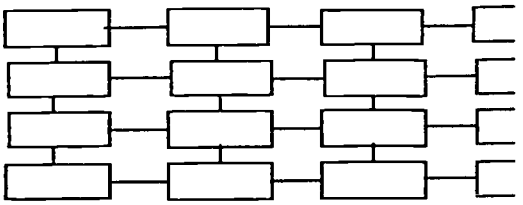
Axial 11/20 (55%)



Flat 0/20 (0%)

Matrix 3/20 (15%)



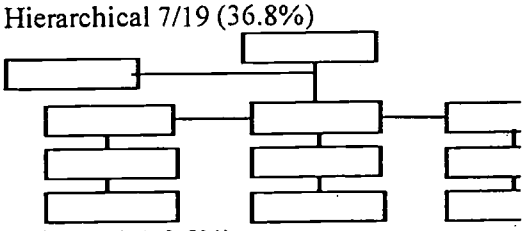


2. Below are six pictures of organizational structures. Please mark the one that best illustrates how you think <u>others</u> sense/conceive of the ERIC system structure:

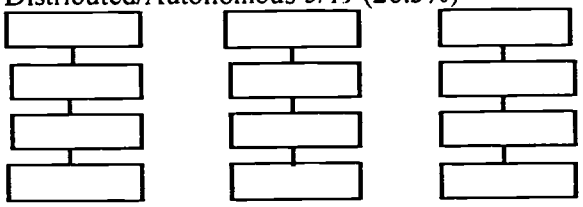
no response 1

Amoeba 3/19 (15.8%)

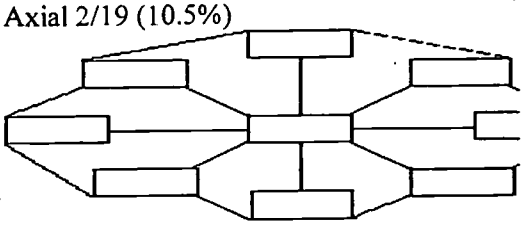
Hierarchical 7/19 (36.8%)



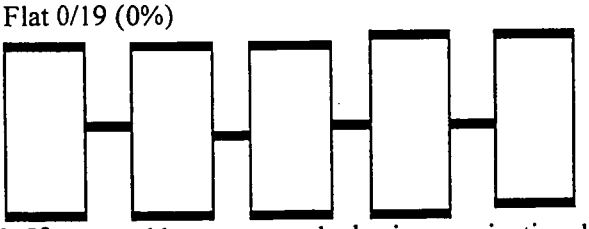
Distributed/Autonomous 5/19 (26.3%)



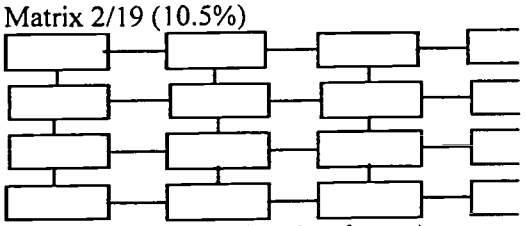
Axial 2/19 (10.5%)



Flat 0/19 (0%)



Matrix 2/19 (10.5%)



3. If you could restructure the basic organizational structure of ERIC, would you: *(mark only one)*

no response	1
Move towards a more distributed structure.	9/19 (47.4%)
Move towards a more hierarchical structure.	2/19 (10.5%)
Other, please describe:	8/19 (42.1%)

<u>view other structure descriptions</u>

4. What aspects of the organizational structure of ERIC need to be streamlined for greater efficiency? *(mark all that apply)*

	N=17 no response=3
Administration	9
Support Components	11
Clearinghouses	4
Adjunct Clearinghouses	8
Affiliates	4
Partners	3
Other, Please identify:	4

<u>view list</u>

Explain any responses to this question, if you wish:

<u>view explanations</u>

5. In your opinion, what needs to happen in order for changes to ERIC's organizational structure to become useful?

No changes are needed.	9/20 (45%)
Change in organizational structure is needed, but need not be accompanied by any other changes.	2/20 (10%)
Change in organizational structure is needed, but will be ineffective unless:	9/20 (45%)

view responses

6. Should the Clearinghouse components be changed in terms of numbers? *(mark only one in each category)*

a. Clearinghouses:

We should not change the current number of Clearinghouses.	11/20 (55%)
We need **fewer** Clearinghouses, each with a **broader mission.**	9/20 (45%)
We need **more** Clearinghouses, each with a **narrower mission.**	0/20 (0%)

b. Adjunct Clearinghouses:

no response	2
We should not change the current number of Adjunct Clearinghouses.	3/18 (16.7%)
We need **fewer/no** Adjunct Clearinghouses.	11/18 (61.1%)
We need **more** Adjunct Clearinghouses.	4/18 (22.2%)

c. Affiliates:

no reponse	4
We should not change the current number of affiliates.	4/16 (25%)
We need **fewer/no** affiliates.	6/16 (37.5%)
We need **more** affiliates.	6/16 (37.5%)

7. The National Library of Education is composed of the Reference and Information Services Division, the Collection Development and Technical Services Division, and the Resource Sharing and Cooperation Division (composed primarily of ERIC), all overseen by the Office of the Director.

a. How integrated are ERIC structures and services with the other Divisions of the National Library of Education (Reference and Information Services, Collection Development and Technical Services)? *(place your ranking in box provided below)*

very well integrated — very poorly integrated

10 9 8 7 6 5 4 3 2 1

Your assessment:

mean=3.842105
median=4
N=19
no response=1

b. How much overlap is there between the kinds of work done by ERIC components and the kinds of work done by the other NLE Divisions (Reference and Information Services, Collection Development and Technical Services)?

much overlap of work — little overlap of work

10 9 8 7 6 5 4 3 2 1

Your assessment:

mean=4.684211
median=4
N=19
no response=1

c. How frequently do you interact with the other divisions (Reference and Information Services, Collection Development and Technical Services) of the National Library of Education? *(select only one)*

no response	1
Once a day or more.	2/19 (10.5%)
Once a week.	2/19 (10.5%)
Once a month.	2/19 (10.5%)
Bimonthly.	1/19 (5.3%)
Once a year.	1/19 (5.3%)
Once every six months.	2/19 (10.5%)
Less than once a year.	9/19 (47.4%)

III. Resources

A. Financial

1. With 10 million dollars at your disposal (FY1999), how would you distribute financial support within the ERIC system? Use the entire 10 million dollars and use only half or whole numbers between 0 and 10; thus, 3.5=$3,500,000.

	N=16
disqualified (did not add up to 10)	2
no response	2
Clearinghouses	mean=7.59375 median=8
Adjunct Clearinghouses	mean=0.03125 median=0
Support Components	mean=0.45 median=0
AccessERIC	mean=0.44375 median=0.5
Processing and Reference Facility	mean=0.525 median=0.5
EDRS	mean=0.14375 median=0
Administration/OERI/NLE	mean=0.386538 median=0.5
ERIC Publications	mean=0.184375 median=0.025
Other, please identify:	mean=0.2125 median=0

view other funding categories identified

2. In percentages adding up to 100%, how would you redistribute the use of funds within ERIC Clearinghouses:

	N=16
no response	4
Database development (presently 23%)	mean=22.6875 median=23
Clearinghouse management (presently 18%)	mean=17.5 median=18
System improvements and special projects (presently 17%)	mean=15.8125 median=15

Publications (presently 15%)	mean=15.3125 median=15
User services (presently 15%)	mean=16.0625 median=15
Outreach and training (presently 10%)	mean=9.25 median=10
Travel and per diem (presently 2%)	mean=3.4375 median=3
Other, please identify:	mean=2.125 median=0

100% **TOTAL**

B. Collections

1. Are there categories of materials that are solicited and/or added to the Clearinghouse collections that have **relatively little** value?

no response	2
No.	14/18 (77.8%)
Yes.	4/18 (22.2%)

Please explain briefly:
view explanations

2. Overall, please assess the importance of the education-related items collected by the system by assigning percentages of resources (adding up to 100%) that should be spent on each of the 9 types of materials given below, or add your own using the "other" category:

	N=16
no response	4
Conference papers	mean=10.4375 median=10
Research/technical reports	mean=16.375 median=15
Project descriptions	mean=6.571429 median=5
Opinion papers	mean=5.428571 median=5
Non-classroom guides	mean=5.571429 median=5
Books	mean=9.214286 median=10
Evaluation/feasibility reports	mean=10.46667 median=10
Classroom materials for teachers	mean=14.5 median=15
Journal articles	mean=25.4375 median=25
Other, please identify: view explanations	0

100% **TOTAL**

3. If required to decrease the resources available for acquisition by 10%, in what categories would you deduct resources? *(select all that apply)*

no response	1
Conference papers	5

Research/technical reports	0
Project descriptions	10
Opinion papers	11
Non-classroom guides	9
Books	5
Evaluation/feasibility reports	4
Classroom materials for teachers	1
Journal articles	2
Other, please identify:	0

4. If provided with a 10% increase in resources available for materials, in what areas would you spend this increase? *(select all that apply)*

no response	2
Conference papers:	4
Research/technical reports:	8
Project descriptions:	3
Opinion papers:	0
Non-classroom guides:	2
Books:	10
Evaluation/feasibility reports:	5
Classroom materials for teachers:	13
Journal articles:	12
Other, please identify:	2

IV. Overall

1. For each of the principal elements of the ERIC system please assess the level at which you believe "repairs" need to be undertaken:

Components	**Ranking Scale**
	not broken 10 9 8 7 6 5 4 3 2 1 complete overhaul needed
Clearinghouses	mean=7.95 median=8.5 N=20 Specify if desired: view comments
Adjuncts	mean=6.777778 median=8 no response=2 N=18 Specify if desired: view comments
Affiliates	mean=6.222222 median=7 N=20 Specify if desired: view comments
Publishers	mean=7.1875 median=8

	no response=3 N=17 Specify if desired: view comments
Support Components *AccessERIC *Facility *EDRS	mean=5.925 median=6 N=20 Specify if desired: view comments
OERI/NLE	mean=6.473684 median=7 no response=1 N=19 Specify if desired: view comments

2. How well do ERIC's acquisition, processing, and outreach activities work together with the activities of the other divisions of the National Library of Education?

very well very poorly

10 9 8 7 6 5 4 3 2 1

Your assessment:	mean=4.473684 median=4 no response=1 N=19

3. On a scale of 10 (best) to 1 (worst) rank the present health of the ERIC system:

excellent health sick

10 9 8 7 6 5 4 3 2 1

Your assessment:	mean=6.947368 median=7 no response=1 N=19

If you have any questions please email:
Tatia Markland
Graduate Assistant

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U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

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