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SMITH, PEGGY COLLEEN
BOOKS PUBLISHED IN HIGHER EDUCATION: A STUDY OF THE MOST CITED AND SIGNIFICANT.

THE UNIVERSITY OF OKLAHOMA, PH.D., 1979

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GRADUATE COLLEGE

BOOKS PUBLISHED IN HIGHER EDUCATION: A STUDY OF THE MOST CITED AND SIGNIFICANT

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SUBMITTED TO THE GRADUATE FACULTY

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BY

PEGGY COLLEEN SMITH

Norman, Oklahoma

1979

BOOKS PUBLISHED IN HIGHER EDUCATION:

A STUDY OF THE MOST CITED AND SIGNIFICANT

APPROVED BY

Tyrus Evelyn Dewey, Ph.D.

Lorne E. Privett

Herbert R. Hengst

Charles R. McClure

DISSERTATION COMMITTEE

BOOKS PUBLISHED IN HIGHER EDUCATION:

A STUDY OF THE MOST CITED AND SIGNIFICANT

BY: PEGGY-COLLEEN SMITH

MAJOR PROFESSOR: MARY EVELYN DEWEY, PH.D.

This study utilized information science techniques in an attempt to help organize and identify significant works for the field of higher education. Information scientists have developed much needed methods to measure what information, or portions of literature are most heavily used. Library scientists have adapted these techniques to control and maintain collections by determining what facets of the literatures are essential to acquire. A preliminary survey established the parameters of the field, indicating the growth of the field, as well as pertinent publishers for the field.

A citation analysis was conducted for the years 1970-1978, from the three leading journals for the field of higher education, as determined by authorities in the field. The leading journals, The Journal of Higher Education, Educational Record, and Harvard Educational Review, produced 1,174 citations from a twenty-five percent random sample. The twenty-five percent sample yielded a confidence level of .99. When duplication of books was completed, only thirty-nine books had been cited three times or more.

Assumptions could not be made as to the quality of most cited books by frequency of mention alone. Therefore, the significance of the cited books was assessed by requesting authorities in the field to rank the most cited books on a significance scale of one to five.

Statistical analyses were performed to determine the relationship between the most cited books and the significance rankings. A Pearson product moment correlation was computed resulting in a correlation coefficient of .4225, at a significance level of .004. Information regarding publishers was available from the preliminary survey, the citation analysis and the Riegel-Bender study. Jossey-Bass Inc., McGraw-Hill and the American Council on Education emerged as the top three publishers in every examination. Classification information for the most cited books illustrates the diversity of the field, resulting in nine of the thirty-nine most cited books representing areas other than higher education in content.

Further research recommendations from the findings and implications of this study relate to the technique of citation analysis, and further examination of the literature for the field of higher education. Citation analysis needs further empirical study to validate whether the technique is an indicator of quality. Whether citation analysis is adopted, or whether another method proves to be superior is secondary to the pressing need for disciplines to control their own literature. The technique of citation analysis may prove to be of great benefit in assessing quality of published material, critical to evaluation of faculties. When better ways are explored to evaluate faculty, excessive proliferation of materials might possibly be reduced. The technique of citation analysis may prove to be the link between quality of published materials and quantity of materials produced.

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BOOKS PUBLISHED IN HIGHER EDUCATION: A STUDY OF THE MOST CITED AND SIGNIFICANT

CHAPTER I

NATURE OF STUDY

Introduction

The rapid expansion of information in the twentieth century has affected the whole of society. It is estimated that every forty minutes there is enough new information to fill a twenty-four volume set of The Encyclopaedia Britannica. The United States government alone publishes 450,000 articles and books annually. Scientific and technical literature has reached a staggering 60,000,000 pages a year.[1]

Educational institutions, publishing houses, and libraries have all been affected by the surge of information in the twentieth century, initiating cooperative efforts as a check in the flow of information for society. Ortega y Gasset assessed the responsibility of information control as early as 1934: "I imagine the librarian of the future as a filter interposed

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[1]John D. Garwood, "The Wrong Premise for General Education," Intellect CII (October, 1973): 43-44.

between man and the torrent of books."[2]

The burden of information control has become the responsibility of the information/library scientists by default. The source of the proliferation of materials is the outpouring of literature from the various disciplines. The growth of information probably will not increase indefinitely, yet the increase has become "sufficiently alarming that there is ample reason to fear that science will eventually be smothered by its own fecundity."[3] Authorities in the various disciplines need to evaluate their literature in terms of the taxonomy of the discipline. Without the organization of the field there follows an accompanying fragmentation of the literature.

An obvious goal would be to taxonomize a field's knowledge; the first step toward a systematic organization of the field. The task is somewhat easier in the more established disciplines; they exhibit theories lending direction toward organization. Newer fields have developed so rapidly that information has been mushrooming rather than following an orderly pattern of need.

The field of higher education,[4] being both a relatively young field

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[2]Jose Ortega y Gasset, The Mission of the Librarian, (Boston: G. K. Hall, 1961): 22.

[3]Jesse H. Shera, Documentation and the Organization of Knowledge, (Connecticut: Archon Books, 1966): 70.

[4]Higher education is here defined as post secondary education: a professional specialized field of study, including student culture, governance of higher education institutions, curriculum, administration, student personnel administration, etc.

and interdisciplinary, lacks unifying, encompassing theories. Accompanying the lack of direction is fragmentation of literature. "In spite of the fury of activity, or possibly as a consequence of it, little attention has been devoted either to the development of a field of knowledge or to the systematic application of knowledge."[5] Even though the literature of the field of higher education is an example of these problems, organization of its literature is not unapproachable.

A beginning step toward the understanding of this organization is in the identification of significant publications of the field. The advantage of determining the significant works related to a relatively young field is two fold. First, the literature, although fragmented, is still manageable in terms of forming a hierarchy of important publications. Unlike longer established subject areas, the attempt at organization should prove to be an easier process. Second, techniques can be adapted that have been beneficial in organizing other fields. Therefore, this study proposes to utilize information science techniques in an attempt to help organize and identify significant works for the field of higher education.

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[5]Robert J. Silverman, "Communication as the Basis for Disciplinary and Professional Development in Higher Education," Journal of Research and Development in Education, 6 (Winter 1973): 66.

Statement of the Problem

The purpose of this study is to identify those monographs, (excluding periodical literature, government documents, conference proceedings and reports) most cited in higher education journals between 1970 to 1978, that are deemed significant by authorities in the field. Specifically, the following questions will be pursued: (1) What are the most important journals in the field of higher education? (2) What are the most cited books in journal publication? (3) Of those books most cited, which are deemed most significant by authorities in the field? (4) How does this list deemed most significant compare with the most cited? In addition, information concerning publishers in the field as well as subject areas represented by these publications will be analyzed.

Significance of the Study

This study will provide information for persons whose interests are in the field of higher education, publishing, and library/information science. As a result of this study, two lists of importance will be available: a list of books from three major journals in higher education that were most cited, and a companion list of most significant books in higher education.

This study should also prove to be a direct assistance to academic libraries. Lack of funds for university collection expansion requires librarians to be extremely selective in their purchasing requests. Because new funds are generally spent for collection development, academic

libraries have difficult tasks in maintaining present collections. Supplying lists of essential books for any field would aid acquisitions departments greatly. If most cited lists are used as indicators of importance, university libraries might consider these books as necessary duplications in their collections. Eventually it is possible that a university core collection for all disciplines could be established. This study may well assist in providing a needed methodological process for other fields.

This methodology, citation analysis, is recently developed by the information science field. Scientific disciplines have benefited by the directions and techniques citation analysis provides in evaluating information. However, citation analysis has been used predominantly for quantitative analysis. This study, by combining qualitative as well as quantitative data, will provide an innovative approach to addressing the problem.

Finally, the researcher hopes that this study makes a contribution to the monumental work done by information scientists in their attempts to reduce fragmentation and untidiness within the literature. The techniques used are products of the investigations of information science; utilizing the most cited books from journal publications is a relatively new approach to journals. Certainly if this methodology is appropriate for journals, it could become a standard for evaluation of many types of information. Comparing the most cited with assessments utilizing authorities for indices of significance, may amplify the worth of citation analysis.

Assumptions and Limitations

The most basic assumption in this study is that there is an identifiable body of literature for the field of higher education. This research survey has tapped a small portion of the literature that has been produced since the turn of the century. Recognition of this area has been made by the Library of Congress classification scheme for Education (L schedule) allowing a large span of numbers for the literature of higher education.

The Library of Congress (LC) classification scheme adopts the alphabet for the main subject divisions of knowledge. The L schedule, for education, was first published in 1911, being revised in 1928, and again in 1951. Although works pertaining to higher education are scattered throughout the L schedule, Higher Education has two specific sections found in LB 2300-2500, and LA 227. Within this span of numbers, higher education has been divided into 56 subcategories. (e.g. LB 2332 academic freedom, LB 2369 preparation of theses)

It is also assumed that significance of publications can be determined by recognized authorities in the field. Recognition of the most pertinent work in a field has historically been the domain of the scholar. Scholars in every field make regular evaluations of significance, both for journal and book publications. Acceptance of an article into a refereed journal is a procedure of evaluation by an editorial staff, comprised of experts from a field. Book publications are reviewed by colleagues in major journals for each field. Often, before a book is accepted by a publisher,

the manuscript is circulated to colleagues for their expert opinion on the quality of the manuscript. Although these are accepted efforts, a more unified effort on a larger scale should be beneficial.

Essential to this study are works which will produce enough citation duplications to distinguish them as the most cited books for the field. Previous citation analysis studies have provided lists of most cited journal articles. Since journal articles carry both book and journal citations, it is assumed that journal articles reviewed will produce enough book citations to supply a list of duplications.

It follows in assuming there will be overlaps in the most cited and most significant lists. The most cited works are an indication of some agreement of the importance of those works. The extent to which there is agreement will be determined by the study. Authorities for a field are commonly awarded this prestige, in part, for their own contributions by publications. It is logical that authorities would be well acquainted with the literature of the field. Since their publishing contributions, and the most cited books are drawn similarly from leading journals, it would be logical to expect a similarity in the two lists.

Finally, it is assumed that bibliometric techniques applicable to journal citation analysis can be easily adapted tc book analysis. Citation analysis has been used predominantly with journal publications. However, by definition, bibliometric techniques quantify gross bibliographical units; whether they are books or journals should not limit the effectiveness of the method.

There are three limitations for this study. First, this study on books published for higher education is limited to the English language. In addition, the journals considered for inclusion of this study, are published in the United States.

Second, only book citations will be represented, excluding citations concerning other journal articles. Commentaries, book advertisements and book reviews will not be considered, since they do not comply with the article citation definition. Article citations are generally for providing background information germane to the topic discussed in the article.

Finally, those citations which relate to Government Printing Office publications and dissertations will not be represented. Dissertations that have become landmarks for a field have usually resulted in at least a journal article, and quite often a book. Government Printing Office publications rarely distribute what is defined as a "book" publication. This study intends to show the concentration of the publishing industry and leading publishers for the field of higher education. Both the major journals as well as the major commercial publishers for the field should be identified.

CHAPTER II

PUBLISHING AND HIGHER EDUCATION

Introduction

This chapter includes a review of publishing for the field of higher education. The development of the field has a close association with publishing activities. Since higher education is a relatively new field; the literature has coincided with the trends in the field, from the impacts of the founders of the field, to present information explosion influences. In addition, an overview of quantitative evaluation of literature, the techniques of bibliometrics, will be discussed.

The profession of higher education has been in existence since the turn of the century. Accompanying the development of the field has been the corresponding literature pertinent to the growing field. Yet, the literature has grown to such dimension that it is impossible for any one individual to master. This fecundity is not unique to the field of higher education; it is consistent with the growth of other disciplines. Since the "knowledge bank of any field is its published literature,"[6] professional

[6] Donald A. Windsor and Diane M. Windsor, "Citation of the Literature by Information Scientists in Their Own Publications," Journal of the American Society of Information. 24 (September-October 1973): 377.

higher education can be examined through the study of its published literature. Also essential to the study of any aspect of publishing, the impacts and projections of the information explosion on all published literature should be considered. The quantity of information for any field results in a greater difficulty in isolating the quality of information.

A critical factor in understanding literature and the subsequent control and handling is the distinction between knowledge, information and publishing "explosions". Clarification of these terms has become important in recent years. Excessive proliferation and reiteration of literature has place added importance on clarification of these terms since often the terms "knowledge" and "information" have been used interchangeably.[7]

Information and Knowledge

The knowledge explosion relies upon publishing as its vehicle for communication, since "claims to knowledge are...restricted to communicable public constructions of reality within systems of widely shared and accepted thought processes."[8] Daniel Bell further clarifies knowledge as "a set of organized statements, setting forth a reasoned judgment as an

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[7]Bruce J. Whittemore and M. C. Yovits, "A Generalized Conceptual Development for the Analysis and Flow of Information", Journal of the American Society for Information Science (May-June, 1973): 222.

[8]Daniel Bell, "The Measurement of Knowledge and Technology," Indicators of Social Change: Concepts and Measurements, Eleanor Bernart Sheldon and Wilbert E. Moore, ed. (New York: Russell Sage Foundation, 1968): 161.

experimental result, which is transmitted to others through some communication medium in some systematic way." This knowledge communication "consists of new judgments (research and scholarship) or new presentation of older judgments (texts and educational (sic))."[9]

Knowledge is generally considered to be of greater value than information. Knowledge goes beyond information in that it is interpreted[10] and its potential resides in the user.[11] The connection between knowledge and information resides in information being a prerequisite to knowledge.

Information is a collection of recorded symbols that does not imply organization or processing necessary to explain the information.[12] Since knowledge depends on information, the value of disseminating has a broader urgency for the functioning of society. This importance carries distinct and serious problems simply because of the amount of information in existence, and the availability of the information. Compounding this problem is the cost required to maintain, process, and run information systems.

The concern of disciplines and their related literature is in the

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[9]Daniel Bell, Indicators of Social Change, 161.

[10]Manfred Kochen, ed. Information for Action: From Knowledge to Wisdom, (New York: Academic Press, 1975): 5.

[11]Manfred Kochen, Principles of Information Retrieval, (California: Melville Publishing Company, 1974): 51.

[12]Edward C. Weiss, ed. The Many Faces of Information Science. AAAS Selected Symposium 3, (Colorado: Westview Press, 1977): 77.

desire to transmit knowledge, rather than mere information.[13] However, this transmitting amplifies the complexity of information control. "The reasons for the modern information problems are usually perceived as a quantitative/qualitative paradox: overabundance at the source ("information explosion") and scarcity of relevant information at the user end."[14] The growth of information and knowledge has suffered by the lack of continuity and comprehensiveness. If priorities and organizations of knowledge fail to exist society will suffer:

> A postindustrial society is organized around information and utilization of information in complex systems, and the use of that information as a way of guiding the society. Without the organization of knowledge (sic) we can no longer know where we are going to be going.15

Although the growth process occurs naturally in society, under what conditions is growth normal and stable?[16] A better understanding of the information explosion is necessary in order to promote society and an efficiency of science. Efficiency and comprehension is aided by

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[13] Fritz Machlup, The Production and Distribution of Knowledge in the United States, (New Jersey: Princeton University Press, 1962): 14.

[14] Tefko Saracevic, "A Study of Information Utility: Progress Report From Project Infut." Proceedings of the American Society for Information Science. 10 (1973): 203.

[15] Daniel Bell, "The Management of Information and Knowledge," The Management of Information and Knowledge, The Panel of Science and Technology, (Washington, D. C., McGrath Publishing Co., 1971): 14.

[16] Manfred Kochen, Integrative Mechanisms in Literature Growth, (Connecticut: Greenwood Press, 1974): 19.

attempting "to explain the widest range of phenomena with the fewest unique models or allegories."[17]

The surge of new knowledge has been the direct outcome of advancements in specific disciplines. This occurrence has provided extensive opportunities in publishing, yet it can also be considered responsible for promoting fragmentation of what was formerly a relatively manageable classification of knowledge. The unfortunate consequence "is that knowledge, instead of being pursued in depth and integrated in breadth, is pursued in depth in relative isolation. Instead of getting a continuous and coherent picture, we are getting fragments - remarkably detailed by isolated patterns."[18]

Every discipline contributes to this fragmentation by propagation of increasingly esoteric material. "The quality of the explosion in each discipline must be known and understood. Before the explosion of knowledge is accepted as a premise in discussions of educators or as a basis for practical educational decisions, it must be understood as something more than a geometrically increasing quantity."[19] Perhaps it would be more appropriate to relate the knowledge explosion difficulties as a lack of theory development; knowledge should not be viewed in the same light as information in that we can never acquire an excess of knowledge. Every

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[17]Manfred Kochen, Integrative Mechanisms in Literature Growth, 19.

[18]Ervin Laszlo, Systems View of the World, (New York: George Braziller, 1972): 4.

[19]Ralph W. Lewis, "Implosions of Knowledge," Intellect, 102 (April 1974): 429.

discipline needs to evaluate the explosion in terms of the taxonomy of the discipline.

A consequence of the increase in the quantity of knowledge relevant to a discipline "is a greater strain on the integrative capacities of theory in that discipline - so that the quantity of material added to the literature is limited by a discipline's ability to organize this information."[20] The taxonomy of knowledge has become an increasing concern in all disciplines. Since literature in all fields is expanding rapidly, the need for systems[21] to help reintegrate the fragmented literature "is greater than the need for systems to help us gain access to the fragments."[22] The problems with control of information have more to do with the organization and reorganization of knowledge in the sense of deepening understanding, than in better cataloging or indexing of unassimilated, specialized fragments.[23]

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[20]Norman W. Storer and Talcott Parsons, "The Disciplines as a Differentiating Force," The Foundations of Access to Knowledge, Edward Montgomery, ed. (New York: School of Library Science, Syracuse University 1968): 119.

[21]Systems is here defined as comprising "interrelated and interacting components which are employed to function in an integrated fashion to attain predetermined purposes." Bela H. Banathy, Instructional Systems, (California: Fearon Publishers, 1968): 2.

[22]Manfred Kochen, Integrative Mechanisms in Literature Growth, xiii.

[23]John W. Sutherland, A General Systems Philosophy for the Social and Behavioral Sciences, (New York: George Braziller, 1973): 25.

As individual disciplines become inundated with literature, sufficient concatenation with other disciplines becomes even more difficult. The logical foundation for assimilating any discipline is an orderly comparison or relationship to other disciplines. Lewis believes that the outcome of the knowledge explosion will eventually remedy itself by what he terms "implosions". Implosions of knowledge, in the form of theories, simplify and make knowledge easier to learn.[24] This self adjusting attitude is problematic in that it does not elicit direct aid in the control of the literature, and is not altogether unlike what has been done in the past to control information, resulting in our present situation. This should be viewed skeptically, as it is reactive rather than proactive in attempting solutions.

> Does the explosion consist only of miscellaneous details that defy organization except into categories? Does the organization permit only one-to-one thought connections between category and detail? Or is there truly a growth of intellectual structures that provide patterned systems of ideas, facts and reasoning? These questions must be answered with some unanimity by the most competent scholars in each discipline before educators, who work at lower levels of scholarly competence, (sic) can speak with any assurance about their educational task.[25]

Thus, a lack of theory building exists among disciplines, while even grander organizations remain an ideal. The literature of higher education has been categorized by Hobbs and Francis into three areas; (1) descriptive materials, (2) value statements, and (3) theoretical statements. Logically,

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[24] Lewis, "Implosions of Knowledge", 428.

[25] Ibid.

descriptive and value statements should flow from the theoretical bases of the field, "otherwise the field will continue to grow but not to develop, to remain forever vulnerable to the influence of pervasive spokesmen whose arguments can not be tested - until too late."[26]

Theory building has not kept pace with the proliferation of aggregate literature in any discipline, therefore the knowledge explosion and information explosion difficulties, are, by default, left to maintenance persons: library/information scientists.

From Library Science to Information Science

The organization and dissemination of information has historically been the domain of library science. Proliferation of materials has made traditional hopes of obtaining all printed materials an impossibility. Sophisticated information control systems are thus a direct outcome, intended to control the influx of materials. These information control systems have gained such importance that government and industry have instigated more than 600 such projects in Current Research in Scientific Documentation.[27]

As the quantity of information increased time lags in the processing and availability of materials, from publication to dissemination, became

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[26]Walter C. Hobbs and John Bruce Francis, "On the Scholarly Activities of Higher Educationists." Journal of Higher Education 44 (January, 1973): 57.

[27]Manfred Kochen, ed. The Growth of Knowledge, (New York: John Wiley and Songs, Inc., 1967): ix.

an increasing concern. This urgent problem led to automated devices to remedy the situation, resulting in specialist concerns, whose interests were pursued under the term "documentation." The formulation of documentation as a disciplinary system is recognized to be the publication of an article written by S. C. Bradford in 1948. Bradford defined documentation as "the process of collecting and subject classifying all the records of new observations and making them available, at need, to the discoverer or the inventor."[28] The term "documentation" has been adapted in colloquial speech as well as technical terminology, resulting in a slew of definitions and applications for the word. There are thirteen definitions listed for documentation in the Librarian's Glossary and Reference Book, however the four listed here present the scope of the term:

> (1) The act of collecting, classifying and making readily accessible the records of all kinds of intellectual activity (2) the recording, organization and dissemination of specialized knowledge, (3) the selection, classification and dissemination of information, and (4) the group of techniques necessary for the ordered presentation, organization and communication of recorded specialized knowledge, in order to give maximum accessibility and utility to the information contained.[29]

Documentation was considered a functional extention of librarianship[30]

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[28]Glynn Harmon, "On the Evolution of Information Science", Journal of the American Society for Information Science, (July-August 1971): 235.

[29]L. M. Harrod, comp. The Librarian's Glossary and Reference Book, fourth edition, (Colorado: Westview Press, 1971): 37.

[30]Th. P. Loosjes, On Documentation of Scientific Literature, (England: Butterworths, 1973): 3.

since its application centered upon expediting traditional library services. However, this phase produced spectacular practices. The Library of Congress led major efforts with a study of automation, culminating in the established program for computerized cataloging, the Machine Readable Cataloging Program, (MARC).[31]

The National Library of Medicine, by producing MEDLARS, (Medical Literature Analysis and Retrieval System) has provided an excellent example of a discipline oriented indexing network. "As a computer based medical journal citation index and retrieval tool, MEDLARS is one of the outstandingly successful examples of the application of computer technology to bibliographic control."[32]

These two programs are cited as providing significant operational prototypes[33] and early awareness of the problems of, and possible solutions to, the access to information. Since the beginning stages in the early 1960's of these two programs, it has become difficult to remain abreast of the many other projects that have been instigated.

The emphasis changed from effective disseminating to one of

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[31]Edward M. Heilinger and Paul B. Henderson Jr., Library Automation: Experience, Methodology, and Technology of the Library as an Information System, (New York: McGraw-Hill, 1971): 9.

[32]David Bishop, "Control and Dissemination of Information in Medicine," Advances in Librarianship, Melvin J. Voight, ed. 2 (New York, 1971): 49.

[33]Heilinger and Henderson, Library Automation, 9.

investigating "the properties and behavior of information, and the processing of information for optimal storage retrieval."[34] The problems of transmitting information is a social responsibility, being answered by information science,[35] applying such areas as communication, information theory, general systems and cybernetics, to a core of subjects for understanding.[36]

Information science and librarianship have been closely associated and hence, similarly defined, since the library is an information system of an "organization of people, materials and machines that serve to facilitate the transfer from one person to another."[37] Librarianship operates through the systematic organization of knowledge. Information science has attempted to grapple with all aspects of information, from its initial stages of communication, to the final process of dissemination. Information science has assumed a much broader scope of the interactions and properties of information, and from a general viewpoint, "serves as the

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[34]Harold Borko, "Information Science: What is it?" American Documentation 19 (No. 2 April, 1968): 139.

[35]Nicholas J. Belkin and Stephen E. Robertson, "Information Science and the Phenomenon of Information" Journal of the American Society for Information Science, (July-August, 1976): 197.

[36]Glenn Harmon, "On the Evolution of Information Science", Journal of the American Society for Information Science, (July-August, 1971): 236.

[37]B. C. Vickery, Information Systems, (Connecticut: Archon Books, 1973): 1.

theoretical foundation for the operation of librarianship."[38]

Information science efforts in the examination of information impacts, should provide important insights pertaining to the literature of all disciplines. The study of the flow of information should be beneficial to disciplines, beyond the traditional library science aspects of organizing and disseminating information. Critical to the advancement of any discipline is the availability of information. Information science provides a new aspect of literature study by observing the flow of information.

Information scientists have developed much needed methods of measuring what information, or portions of literature, are most heavily used. Library scientists have adapted these techniques to control and maintain collections by determining what facets of the literatures are essential to acquire. At one time, scholars and scientists within each discipline were able to adequately evaluate information by individual author. The increase in information makes this impractical within a single discipline, let alone those subject areas which might have overlapping concerns.[39] Excessive publication, resulting in an overabundance of

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[38]Linda H. An, "Information Science and Librarianship," Seminar in Information Science, Rutgers University, May 15, 1973: 8.

[39]Robert R. Freeman, Alfred Pietrzyk, and A. Hood Roberts, ed. Information in the Language Sciences. (New York: American Elsevier Publishing Co., Inc. 1968): 12.

information, has thrust the control of literature to information/library scientists.

This concern, however, should be shared with the various disciplines, since they, after all, should control and prioritize the information in their respective fields:

> Transfer of information is an inseparable part of research and development. All those concerned with research and development - individual scientists, engineers, industrial and academic research establishments, technical societies, government agencies - must accept responsibility for the transfer of information in the same degree and spirit that they accept responsibility for research and development itself.[40]

By combining the knowledge and techniques available concerning literature control established by information/library science experts, as well as input from the field of higher education as to significance of specific publications, some of the dilemmas of literature control should be alleviated.

Higher Education Publishing

The history of educational publishing should not be construed as a minor component of the publishing industry. "Education is the reason why most publishers exist. Two out of three books sold in the United States are purchased in some educational context. Even trade houses have become heavily dependent on the distribution of their titles into

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[40]Jesse H. Shera and Donald B. Cleveland, "History and Foundations of Information Science," in Annual Review of Information Science and Technology, Volume 12, Knowledge Industry Publications Inc. (New York: 1977): 258.

educational titles."[41] Also, educational publishing has never been centralized; "unlike many other American industries, publishing is not concentrated in three or four giant industries. The largest American publishing company has less than ten percent of the total market."[42] This publishing industry is comprised of over 3,600 publishers in the United States.[43]

Higher education publishing predates the formal emergence of the field. Although "there is an offensive lack of hard data about virtually every area of publishing,"[44] there are publishing events that lend perspective to the history of higher education publishing. The earliest publishing by professors can be traced through university presses rather than commercial presses that dominate the field's literature at present. University presses were initially established to serve as the dissemination vehicle for academe.

Establishment of university presses reflected the influence of research, broadening the expectations and demands on the university. Providing rationale for the establishment of a university press, Nicholas Murray Butler informed Columbia's trustees that, "a university has three

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[41]John P. Dessauer, "Books in Education Issue", Publishers Weekly, 206 (No. 26, December 30, 1974): 27.

[42]Association of American Publishers. NIE Planning Unit. Publishing in Education, Report of a Planning Conference for the NIE Planning Unit.

[43]Philip G. Altbach and Sheila McVey, ed. Perspectives on Publishing, (Massachusetts: Lexington Books, 1976): 232.

[44]Ibid., 231.

functions to perform...to conserve knowledge; to advance knowledge; and to disseminate knowledge. It falls short of the full realization of its aim unless, having provided for the conservation and advancement of knowledge, it makes provision for its dissemination as well."[45]

This concept of dissemination although intending to aid the advancement of all disciplines, had a direct impact on the literature for the field of higher education, since every university press began to encourage the publications of institutional histories. From 1920 to 1940, eighteen institutions established university presses. There are three explanations for the surge of new presses. The most obvious is the expansion of universities with their accompanying increase of research. The number of graduate students indicates the shift in research endeavors, rising from 5,831 in 1900 to 106,119 in 1940.

Second, the increase in the competition of the commercial publishing market made it unprofitable for university presses to publish in the narrowly defined fields of research activity. This competition eventually resulted in the decline of university presses dominating the publishing activities for the field of higher education. And finally, scholars began producing information of interest to the educated layman, as well as other specialists.[46]

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[45]Chester Kerr, The American University as Publisher: A Digest of a Report on American University Presses, (Oklahoma: University of Oklahoma Press, 1949): 4.

[46]Ibid., 5.

The oldest university press in continuous operation in the United States is the Johns Hopkins' Press, established in 1878. (The first university press was established at Cornell in 1869. It was discontinued in 1884 and reestablished in 1930). Johns Hopkins' Predisent Daniel Coit Gilman explained, "it is one of the noblest duties of a university to advance knowledge, and to diffuse it not merely among those who can attend the daily lectures - but far and wide."[47] President Gilman, being considered as one of the "giants" in the emergence of the field of higher education, promoted the university by submitting the history of Johns Hopkins and his presidential papers to Johns Hopkins' press for publication. This established the precedent for university presses being the expression of faculty interests. Eventually, trade publishers began capitalizing on textbook dissemination, which university presses could not produce in the magnitude that was needed.

The new outlet for higher education publications between 1887 and 1903 was the United States Bureau of Education.[48] Much of this literature was the work of professional historians. However, many pre-twentieth century publications were done by presidents of colleges. These were institutional and presidential histories, in which the university presses played a most vital role. There have been at least 222 histories of American colleges

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[47]Gene R. Hawes, To Advance Knowledge: A Handbook on American University Press Publishing, (New York: American University Press Services, Inc. 1967): 3.

[48]Frederich Rudolph, American College and University, (New York: Vintage Books, 1962): 497.

universities published.[49] Much of the credit for the interest and documentation of the institutional histories belongs to the "giants" of the universities, notably: Henry P. Tappan, University Education, 1851; Charles W. Eliot, Educational Reforms: Essays and Addresses, 1893; and Daniel Coit Gilman, University Problems in the United States, 1889. These histories are the beginnings of the literature of the field of higher education. Many of the discussions which were of interest in the early histories are still being debated, however, from curriculum reform to vocational training.

Early Literature of Higher Education

Two of the more noteworthy events for the profession, or study of, higher education at the turn of the century had impetus for publishing: (1) the establishment of the first professional course of higher education at the University of Minnesota in 1909; and (2) the publication of The Trend in Higher Education, by the president of the University of Chicago, William Rainey Harper, in 1905. These two events left their impact by illustrating the need for studying the area of higher education.

The "giants" in the field were gradually being recognized for their writing as well as their professional achievements. This new surge of important writings consisted mainly of descriptive, evaluative and analytical studies, "premised in the belief that scholarly examination of a

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[49] John S. Brubacher and Willis Rudy, Higher Education in Transition, (New York: Harper and Row, 1958, 1976): 515-529.

complex educational phenomenon could provide a basis for policy formulation."[50]

There are a few individuals whose thoughts and writings had a major impact on the emerging field of higher education. John Dewey, Thorstein Veblen, Abraham Flexner, and Robert M. Hutchins all described higher education and the goals and directions that should be attempted. These individuals are mentioned because they initiated an interest not only from the academic community but also the entire society. Interestingly, many sectors of society began to have vested interests in the directions of higher education, as enrollments increased. Alumni endowments were initiated, yet their generosity often aided specific interests. The private sector of American higher education flourished by both individual benefactors, such as John D. Rockeffer, and the broader religiously affiliated endowments.[51]

These interest groups were concerned with the clarifications of philosophies and goals of higher education. Rudolph believes that it is because of the not so subtle directives of society's interest groups in professional and vocational demands, that led the professionals in the field to respond with lengthy treatises on the purposes of higher education.[52] During this era of development of the field, the four

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[50]Paul L. Dressel, Higher Education as a Field of Study, (San Francisco: Jossey-Bass, 1971): 22.

[51]Frederich Rudolph, American College and University, 431.

[52]Ibid., 432.

individuals previously mentioned are easily identified for being leading writers in the emerging philosophies of higher education.

Abraham Flexner provided counter evidence to the inherent value of the popularity and increase in enrollment of higher education, by examining the quality of medical education in the United States. He was commissioned by the Carnegie Foundation for the Advancement of Teaching to study and evaluate the quality of the influx of medical schools in the United States. The Report was published in 1910,[53] and has been called the "most startling and epoch-making force for the improvement of professional education."[54] The study evaluated the quality of the influx of medical schools, with those more established medical schools, which subsequently led to the closing of twenty schools. The book that followed, Universities: American, English and German,[55] was a combination of the discoveries of the study, and a comparison with practices of higher education of the three countries.

Thorstein Veblen and Flexner were similar in philosophies concerning the unique function of higher education as having long-range theoretical

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[53]Abraham Flexner, Medical Education in the United States, (Carnegie Foundation, Bulletin No. 4, 1910).

[54]John Brubacher and Willis Rudy, Higher Education in Transition, 207

[55]Abraham Flexner, Universities: American, English and German, (New York: Oxford University Press, 1930).

perspectives.[56] Veblen, in The Higher Learning in America, 1918,[57] refused to acknowledge the legitimacy of special interest groups to influence the directions in which higher education should attempt. He was specifically annoyed with the management of higher education, since he believed it to be dominated by those individuals whose chief qualification was the attainment of wealth.[58]

Robert M. Hutchins was a unique contributor to the literature, since he was, like the nineteenth century "giants" of the field, directly associated with the field of higher education as the president of the University of Chicago. Hutchins' prestigious position aided in promoting his belief that "without exception the most important job that can be performed in the United States is first to establish higher learning on a rational basis, and, second, to make our people understand it."[59] Hutchins published his lectures while president, entitled The Higher Learning in America, the same as Veblen's title, but much later, in 1936. His book had a large appeal for both lay and professional people, as he professed that metaphysics was the direction for our educational philosophy. This

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[56]John Brubacher and Willis Rudy, Higher Education in Transition, 295.

[57]Thorstein Veblen, The Higher Learning in America, (New York: Hill and Wang, 1918, 1957).

[58]Ibid., 48.

[59]Robert Maynard Hutchins, The Higher Learning in America, (New Haven: Yale University Press, 1936, 1970): cover.

philosophy, that truth is everywhere the same, had a calming effect for society, since the country had lost a great deal of confidence, because of the depression, in economic and political institutions.[60] The appeal of the ideologically based curriculum, as well as the sameness of the curriculum proposed, provided assurance to many, that higher education could be the salvation of the society's problems. Hutchins focused "lay and professional attention on the underlying philosophy of higher education in America as had never before ocurred in the over three hundred years of its existence."[61]

Although Hutchins initiated his philosophy at one of the leading universities in the country, he was opposed by many academicians who disagreed with him on his philosophies of academic freedom, the elective system and the rationale that higher education could be based on a metaphysic of ultimate first principles. John Dewey debated vigorously with Hutchins, based upon his pragmatic philosophy; education should be brought close to life.[62] Dewey's impact on educational issues resulted partially because of his extensive writing on the subject, as well as his unique ideas. By the time Dewey "left Chicago for Columbia the school had become the most interesting experimental venture in American education; indeed there are those who insist that there had been nothing to match it in

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[60]John Brubacher and Willis Rudy, Higher Education in Transition, 295.

[61]Ibid., 136.

[62]Lawrence A. Cremin, The Transformation of the School, (New York: Knopf, 1961): 239.

excitement, quality and contributions."[63]

These individuals, as well as others, are an example of the change in emphasis for higher education literature from histories of institutions, to the emergence of the philosophies for the field. The reception and attention given these individuals from society, was due, primarily, to the increase of enrollments in higher education. Although the total population showed an increase of 100 percent between 1900 and 1948, the college population increased almost 1,000 percent.[64]

Growth in Higher Education

Chart II-1 provides statistical information concerning increases in higher education through number of institutions, enrollment, and number of bachelor's and first professional degrees conferred. These increases have doubled in each of the periods (1870, 1930, 1964 and 1976) yet the doubling increase resulted in only twelve years from 1964 to 1976, and approximately thirty-five years from 1930 to 1964. However, from 1870 to 1930, there is a sixty year span of time before the enrollments, institutions and degrees conferred doubled.

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[63]Lawrence A. Cremin, The Transformation of the School, 136.

[64]John Brubacher and Willis Rudy, Higher Education in Transition, 401.

II-1

Growth in Higher Education[65, 66, 67]

Type	Date			
	1869-70	1929-30	1963-64	1975-76
Number of Institutions	563	1,409	2,132	3,075
Enrollment	52,286	1,100,737	4,234,092	11,300,000
Number of Bachelor's and first professional degrees	9,371	122,484	498,654	909,000

Brubacher and Rudy report that during the Second World War, democracy was summed up by Ralph E. Turner as "the free access of all individuals to the full content of the advancing body of knowledge."[68] This doctrine was protected by legal status in 1948 and 1949 with the establishment of the first educational practices act, making discrimination illegal in admissions.

American higher education was opening its doors to a broader curriculum

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[65]Seymour E. Harris, A Statistical Portrait of Higher Education, Carnegie Commission on Higher Education, (California: McGraw-Hill, 1971): 265.

[66]Education Directory, Colleges and Universities, 1976-77, (Washington D. C.: Government Printing Office):

[67]Mary A. Gollady, comp. Conditions of Education, 1977 ed., (Washington D. C.: National Center for Educational Statistics, Government Printing Office 1977): 49.

[68]John Brubacher and Willis Rudy, Higher Education in Transition, 401.

base than had the prototypes, English and German universities. This was a direct outcome of the American egalitarian society, which balked at the concept of an intellectual elite. This stretched the term profession to accomodate a number of vocations that could be trained at the post secondary level. In addition to this, a large number of new students in higher education was a product of the first G. I. Bill, passed by Congress in 1944.

Since the public supported higher education financially, and saved for their children's future to enable them to attend, citizens began to place more emphasis on the outcomes that the educational institution could offer. By the late 1950's and early 1960's society "expected higher education to be able to solve most vexing social problems and research on it to produce the answers it needed to do so. That bull market period resulted in the first flowering of higher education as a field of study."[69]

Society lost confidence in higher educational institutions again in the sixties as a result of the student protest movements. College and university administrators in higher education received a great deal of attention and criticism because of what was seen as mishandling. The tide of literature again surged, centering on events pertinent to the protests, the need to reexamine higher education, and future needs.

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[69]Paul L. Dressel and Sally B. Pratt, The World of Higher Education, (San Francisco: Jossey-Bass, 1971): 22.

From the late 1960's to the present, the outpouring of books in higher education has been fantastic. The Publications Catalog of the American Council of Education (1971-72) lists 98 items. Kelsey (1969) compiled a bibliography of 5,888 listings in higher education which were in print between 1965 and 1969. A year later (1970) he published a similar bibliography of selected items published for the most part since 1966 which had 1473 items.[70]

II-2

Degrees Conferred in Professional Higher Education, 1974-75[71]

Major Field of Study	Bachelor's Degrees	Master's Degrees	Doctor's Degrees
Higher Education	9	342	313
Student Personnel	111	(16,427) 714	(631) 125[72]
Adult Education	20	613	87
Junior and Community College	1	184	95

Chart II-2, degrees conferred, illustrates the number of potential contributors to the literature of higher education. The field of higher education has become an area of specialized educational study. There are relatively few bachelor's degree programs, indicated by only a total

[70]Collins W. Burnett, "Higher Education as a Specialized Field of Study," Journal of Research and Development in Education, 6 (Winter 1973): 11.

[71]Marquis Academic Media, Yearbook of Higher Education, 1977-78, 9th edition, (Chicago: Marquis Who's Who, Inc., 1977): 596, 602.

[72]William Packwood, "College Student Personnel Graduate Placement", Journal of College Student Personnel 17 (January 1976): 24.

of one hundred forty one higher education degrees out of 166,969 total education degrees being granted for the year 1974-75, at the bachelor's level. However, at the graduate degree level, there were over 1,853 higher education degrees given for masters degrees and 620 doctorates. The figures presented in parenthesis are reflections of educational counseling rather than stricker definitions of student personnel.

The growth of any field or discipline's literature is reflected through the increase in journal literature as well as book publications. Although the first higher education quarterly, Education, was published as early as 1800, there were only ten more periodicals in publication forty-five years later. "During the second forty-five year period (1925-1970) sixty periodicals were being published. The years 1952-1970 produced fifty percent of all higher education journals.[73] Although this is a sizable increase, it does not resemble the increase of journals in the hard sciences. This reflects the social sciences emphasis on the book as opposed to the predominance of the journal for the dissemination of information.

Current Publishing in Higher Education

Essential to the development of any discipline is publishing companies' willingness to publish pertinent works. Research studies have

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[73]Robert Lee Knowles, Bibliographic Citation Analysis of Selected Higher Education Journal Literature, (Florida State University, Ph.D. 1974): 3.

become more available with the appropriate publications outlets. In the past decade the field of higher education has been fortunate to interest several publishers. The publishers generally acknowledged as providing most outlets for higher education are, The Jossey-Bass Series in Higher Education, The American Council on Education, McGraw-Hill Carnegie Commission Reports, Praeger, McCutchan, and the Southern Regional Educational Board.[74]

The leading publishers by quantity does not assure acceptance by the field, as an indicator of quality. To examine this question, a list of books established as a basic reading list for students in higher education were examined for publisher and publishing date. The Riegel and Bender study of 1970 determined a basic reading list from surveying 650 professors of higher education. Each professor listed 10 books considered to be basic reading. The books were rated by vote, with the first 25 books easily identified. The overwhelmingly first selection was Nevitt Sanford's The American College (48.2 percent or 130 faculty votes.) The study lists 59 books in total that are considered basic reading in higher education. Included here are the first ten books from the list. (See appendix A for entire list.)

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[74]Paul L. Dressel and Sally Pratt, The World of Higher Education, 20.

1. Sanford, Nevitt (ed.) The American College: A Psychological Social Interpretation of the Higher Learning. New York: John Wiley and Sons, 1962.

2. Jencks, Christopher; and Riesman, David. The Academic Revolution. Garden City, New York: Doubleday and Co., 1968.

3. Brubacher, John S.; and Rudy, Willis. Higher Education in Transition: A History of American Colleges and Universities, 1936-1968. New York: Harper and Row, 1968.

4. Rudolph, Frederick. The American College and University: A History. New York: Alfred A. Knopf, 1962.

5. Kerr, Clark. The Uses of the University. Cambridge: Harvard University Press, 1963.

6. Corson, John J. Governance of Colleges and Universities. New York: McGraw-Hill Book Co., 1960.

7. Hofstadter, Richard; and Metzger, Walter P. The Development of Academic Freedom in the United States. New York: Columbia University Press, 1955.

8. Hofstadter, Richard; and Smith, Wilson (eds.) American Higher Education: A Documentary History. 2 vols. Chicago: University of Chicago Press, 1961.

9. Feldman, Kenneth A.; and Newcomb, Theodore M. The Impact of College on Students. 2 vols. San Francisco: Jossey-Bass, 1969.

10. Blocker, Clyde E. The Two-Year College: A Social Synthesis. Englewood Cliffs, New Jersey: Prentice-Hall, 1965.[75]

[75]Paul Riegel and Robert L. Bender, "Basic Readings in Higher Education", Educational Record, 53 (Winter, 1972): 87-88.

Chart II-3 provides information for the dates of publication and publishers from the Riegel and Bender study. Almost half the books were published after 1967. The leading publishers for the Riegel-Bender basic reading list for higher education were McGraw-Hill, Jossey-Bass, and the American Council of Education.

II-3

Publishers of the Basic Books in Higher Education

Riegel and Bender Study

Publishers		Publishing Date
McGraw- Hill	11	1936 - 1
Jossey-Bass	8	1945 - 1
ACE	5	1950 - 1
Houghton-Mifflin	4	1955 - 1
Harper and Row	3	1957 - 1
Columbia University	2	1960 - 6
Harvard University	2	1961 - 3
Oxford University	2	1963 - 2
U. of Chicago	2	1965 - 5
Doubleday	2	1966 - 6
Knopf	2	1967 - 4
Wiley and Sons	2	1968 - 14
Rinehart	2	1969 - 8
Glencoe	1	1970 - 1
AAHE	1	
Free Press	1	One publishing date not indicated
Delacorte	1	
McCutchan	1	
Prentice-Hall	1	
Hazen Foundation	1	
McKay	1	
Johns Hopkins	1	
W. W. Norton	1	
Hill and Wang	1	
Yale University	1	

The field of higher education has interested several major publishing companies, although many are noted for a variety of publishing interests. It is helpful to ascertain what kinds of materials the publishers are most interested in publishing about the field.

> Book publishing in our field ranges from notes upon the retirement of university presidents, to the collected speeches and studies of our prolific colleagues, many of whom have three to five books in production at all times, to the more sophisticated studies, such as those sponsored by the Carnegie Commission. Little if any attention is devoted by the authors or publishers to the generation or modification of bodies of knowledge with their appropriate theories, models and methodologies.[76]

The production of theory oriented literature was the focus of the study by Hobbs and Francis. Hobbs and Francis divided the scholarly production of higher education literature into three categories: (1) descriptive materials, (2) value statements, and (3) theoretical statements. Although the study did find theory-oriented research, "little of it is conducted by higher educationists per se, and almost none of it is published in higher educational channels."[77] Further, "the field of higher education needs a massive reorientation of its present scholarly interests, especially of its interest in analysis-and-recommendation, to the development and refinement of theory."[78]

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[76]Robert Silverman, "Communication as the Basis for Disciplinary and Professional Development in Higher Education", Journal of Research and Development in Education 6 (Number 2, Winter 1973): 69.

[77]Hobbs and Francis, "On the Scholarly Activities of Higher Educationists", 55.

[78]Ibid, 56.

A partial explanation of why there is a lack of theory production in the literature is the wide interest exhibited from many disciplines in the social institution of higher education in the late 1960's. These individuals studying aspects of higher education were more interested in reporting how higher education affected their own disciplines, and as an aside, how their own studies might contribute to higher education literature. Gustad and Burnett (1965) have suggested the possibility of linking the field of higher education with eleven subject matter areas: history, psychology, sociology, economics, business administration, anthropology, statistics, political science, philosophy, law and education.[79] Many works typically combine several areas.

In order to discuss the current literature, experts have had to establish their own subject categorizations. "Anyone attempting to classify the literature of the complex phenomenon which is American higher education would develop his own categories."[80] Two authors, Lewis Mayhew and Paul Dressel, have considered the literature of higher education and have each established their own categories for organization. The topics used in Mayhew's discussion of the trends in the literature, 1965-70,[81] are

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[79]Collins W. Burnett, "Higher Education as a Specialized Field of Study," Journal of Research and Development in Education, 6 (Number 2, Winter 1973): 11.

[80]Lewis B. Mayhew, The Literature of Higher Education, 1971. (San Francisco: Jossey-Bass, 1971): 6.

[81]Ibid.

compared with Dressel's categories for the literature in 1971 and 1972.[82] Chart II-4 compares the Mayhew and Dressel categories for higher education. There appears to be some agreement by these writers as to most important areas for inclusion in higher education literature taxonomy. However the areas are not subdivided sufficiently to aid in a higher education literature taxonomy. Since there is an authoritative classification scheme for the United States, the Library of Congress classification scheme, it is logical to begin classifying within this larger work to better enable the literature to become part of a systematic organization for all the various field's literatures.

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[82]Paul L. Dressel and Sally B. Pratt, The World of Higher Education, (San Francisco: Jossey-Bass, 1971).

II-4

Category Comparison for the Field of Higher Education

MAYHEW	DRESSEL
Collegiate organization, administration and governance	Administration, organization and governance
	Faculty and their affairs
College Students	Student Protest-Campus unrest
	Economic analyses
Curriculum and Instruction	Curriculum and Instruction
	History
Institutional Studies	
Physical Plant	
Nature of Collegiate Institution	Types of Institutions
Services for Students	Student Affairs
	Reflections
Philosophy or Psychology	
	Educational Opinion and Policy
	Conference Proceedings and Symposia
	Bibliographies
Novels and Fiction focusing on Higher Education	

Quantitative Evaluation of Literature: Bibliometrics

The abundance of information has placed new pressures and priorities on the field of library/information science. Methods of measuring the quantity of materials have been developed; a primary aspect of quantitative-evaluation is bibliometrics. Bibliometrics has become a reputable method of research for the field of library/information science.

Although the process of bibliometrics has a long history, the term applied to this process is generally credited to Pritchard in 1969.[83] Bibliometrics is the quantitative analysis of written communications, highlighting features of a literature that aid in its description.[84] Bibliometrics is used in "reducing the quantitative untidiness of scientific documentation, information systems and library services to a more orderly state of affairs capable of being rationally and economically planned and organized."[85] Since bibliometrics isolates sections of a literature to analyze, it is evident that the technique could provide insights to disciplinary specialists, as well as information/library scientists.

The process of bibliometrics precedes its definition. As early as 1917, Cole and Earles presented a paper analyzing comparative anatomy publications

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[83]Narin, Francis, and Moll, Joy K. "Bibliometrics", ARIST, Volume 12: 35.

[84]Nicholas, David and Ritchie, Maureen, Literature and Bibliometrics, (London: Clive Bingley, 1978): 9.

[85]Brooks, B. C. "Bradford's Law and the Bibliography of Science," Nature 224, (1969) cited by Donahue, Joseph C. "A Bibliometric Analysis of Certain Information Science Literature," Journal of the American Society for Information Science, September-October, 1972.

by country, and counting the number of publications, including both books and journal articles.[86] For the last two decades there have been numerous bibliometric studies, identifying similarities among subject literatures. These similarities, (predominantly science literature) showed a regularity of behavior, resulting in the emergence of empirical laws and theories.[87] One of the more notable empirical laws is the work Bradford pioneered in 1934. He observed that there is a "high degree of concentration of related papers in a relatively small number of journals."[88]

Bradford's work is an example of descriptive bibliometric studies. This emphasis describes characteristics or features of a literature. The second type of bibliometric study is concerned with examining relationships of a body of literature. These are most often represented as citation studies.[89]

Citation Analysis

Most activity in bibliometrics is citation analysis. Citation analysis manipulates data incorporated in citations that have been used in preparation of articles. Most of the citation analysis studies have been done by researchers interested in specific subject literatures, rather

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[86]Narin, Francis and Moll, Joy K. "Bibliometrics", ARIST, 36.

[87]Saracevic, Tefko. "A Study of Information Utility: Progress Report from Project Infut." Proceedings of the American Society for Information Science. Volume 10, 1973: 121.

[88]Narin, 37.

[89]Nicholas and Ritchie, Literature and Bibliometrics, 10.

than aspects of the flow of literature, which concentrates on the transmitting of information through endeavors such as user studies.

The early efforts demonstrated by index services prompted the interest in the adaptability of citations for related efforts. Science Citation Index, (SCI) and Social Science Citation Index, (SSCI) produced by the Institute for Scientific Information, popularized the usefulness of citations and references. Increasing concern with citation count has strengthened the popularity of indexing services. The indexing services became more than a reference aid; they began to be viewed as a device to measure scientific activity.[90]

As the methodology of citation analysis has increased in adaptability, its validity has been questioned. Critical to the utility of citation analysis is the ability to assess the quality of materials. Traditionally, literatures are evaluated both by quantity and quality. The two approaches are intended to measure different aspects of the literature. Qualitative evaluations are based on application of value systems and standards. Qualitative evaluations uncover regularities and patterns in behavior.[91] Citations have recently been used for both quantitative evaluations, and to some degree, qualitative evaluations.

Credibility of citations is important since citation analysis has been used as a criterion for identification of significant researchers

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[90]Narin and Moll, "Bibliometrics," 59.

[91]Saracevic, "A Study of Information Utility," 120.

and rankings of schools in various disciplines. For example, Cole and Cole determined for the field of sociology: "straight citation counts are highly correlated with every refined measure of quality."[92] Clark, similarly approached the field of psychology to ascertain if the most significant contributors in journal publications are also the most cited, and concluded: "the citation count is the best available indicator of the worth of research by psychologists."[93] One of the more noteworthy studies, both in the adaption of citation analysis as well as arousing negative assessments of the methodology, was the study produced by Cole and Cole on the Ortega Hypothesis.

The Ortega Hypothesis espouses the belief that science has progressed partially because of the work produced by mediocre researchers, rather than the work of an "elite". Cole and Cole tested this theory by incorporating citation analysis to determine "how many scientists are contributing through their published research to the movement of science, and how many are not."[94] The results concur with their belief that there is an elite; physicists in the top strata of their survey were far more likely to be cited than those

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[92] Broadus, Robert H. "The Application of Citation Analysis to Library Collection Building" in Advances in Librarianship Volume 7, ed. by Melvin J. Voight and Michael H. Harris, (New York: Academic Press, 1977): 307.

[93] Robert Lee Knowles, Bibliographic Citation Analysis of Selected Higher Education Journal Literature, (Florida State University, Ph.D. 1974): 17.

[94] Cole, Jonathan R. and Cole, Stephen. "The Ortega Hypothesis", Science (Volume 183, January 11, 1974): 369.

below the top. However, they received a great deal of criticism for their basic assumption that citations are a valid indicator of significance.[95]

The question whether citation is an indicator of significance has been addressed and speculated about, by many individuals. Praise for being a most cited author, unfortunately, was extended before sufficient critical examination of the significance of citations was considered. For example, it was suggested that a "citation laureateship" be conferred on Professor Oliver H. Lawry, since his 1951 paper on protein has been the most frequently cited item in scientific literature. This honor, was viewed skeptically by Lowry because, to be the most cited author, he stated "...does not signify great scientific accomplishment...Once a substantial number of people use a certain method, then others feel obliged to at least check their results with the same procedure...there is really almost nothing original in the paper. It happened to be a trifle better or easier or more sensitive than other methods."[96]

Garfield illustrated the connection between papers which were cited and most significant papers, for the year 1972. Only 25 papers were cited 18 times or more for 1972. However, very little empirical evidence has been presented to support the idea of citations equaling significance. In fact, Cole and Cole asked only one well-known physicist to assess the

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[95]Ibid

[96]Garfield, Eugene. Essays of an Information Scientists. Volume: 1962-1973. (Pennsylvania: Institute for Scientific Information, 1977): 407.

significance of the citations in their study.

> We admit that in many ways this procedure falls short of the rigorous study needed to test the hypothesis further. It would be useful, for example, to have a broad, stratified panel of judges evaluate the merits of various pieces of research and then look at the citation patterns in papers judged to be of highest impact.[97]

Critics of citation analysis question the utility of the methodology to measure quality. The reasons for citing a paper are generally accepted to be for support of the author's point of view or in recognition of a previous work, reasons loosely associated with the quality of the citation. However, there are instances where citations are illustrations of a variety of other reasons for inclusion. There are at least seven flaws in citation analysis which make the method questionable as an indicator of significance.

(1) Work or author could be cited for inaccuracy, rather than authority
(2) Work or author could be cited for availability
(3) Work or author could not be cited because of geographic or political barriers
(4) Journals that are monthly publications are apt to be cited more often than quarterly publications
(5) Recent articles are cited more often than older works because there are more works being published
(6) Self citations
(7) Humorous letters and retorts cited

Citation analysis has been used almost exclusively in evaluating citations from periodical literature. Listings of journals ranked

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[97] Cole, Jonathan and Cole, Stephen, "The Ortega Hypothesis", 371.

according to the number of citations are used as a guideline for selection, however, the extent of the usefulness has not been validated. Pauline Scales compared frequency rankings of journals with lists of the same journals according to frequency of use. The rank order correlation was found to be low, suggesting that frequency of journals cited may "not constitute a valid guide for journal selection by libraries."[98]

Little attention has been afforded non-serial in connection with citations. An obvious explanation lies in the fact that the majority of citation analysis studies have been conducted with hard science literatures in mind.[99] The journal is the most common form of communication for these disciplines. In contrast, social science literatures place emphasis on book materials.

Gerry Smith approached the business and management field of literature, by a bibliometric analysis of core books for business schools. His concern was in determining which books should be considered for additional purchase to the core collection, and in determining what criteria to adopt for retiring certain books. In short, what discernible characteristics were inherent in heavily used books for the field of business and management.[100]

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[98]Scales, Pauline A, "Citation Analysis as Indicators of the Use of Serials: A Comparison of Ranked Title Lists Produced by Citation Counting and From Use Data." Journal of Documentation 32 (Number 1, March, 1976): 17.

[99]Nicholas, David and Ritchie, Maureen. Literature and Bibliometrics: 63.

[100]Smith, Gerry M. "Key Books in Business and Management Studies: A Bibliometric Analysis", ASLIB Proceedings, (Volume 29, Number 5, May 1977): 175.

The most frequently cited single source of communication for the field of higher education was determined in one study to be books,[101] again reflecting the type of literature that has been produced. Writers apparently produce more opinion pieces than pure research, which typically is presented initially in periodical works. Therefore, it was reasoned appropriate to adapt the methodology of citation analysis, used predominantly for periodical science literature analysis, to the central concern of the field of higher education, the book publication.

Summary

Current literature for the field of higher education reflects the nature of the early literature; descriptive and evaluative. Several authors have deplored the lack of theoretical, organizing works for higher education. Although these works are valuable, the influx of new information increases the need for producing works that might be conducive to a systematic organization.

If literature control is not provided from within the field, it will eventually be provided from information/library scientists. Cooperative efforts between library/information science and the various fields should aid in the difficulties between disseminating and collecting information and productivity of the materials. One avenue of evaluating literature is the newly evolved methodology of citation analysis. By adopting evaluation techniques provided by the information/library scientists,

some connections may be drawn to insights discovered about all literatures. In addition, by investigating higher educational literature, perhaps some of the results will aid in the integrating of a systematic organization of all literatures.

CHAPTER III

PROCEDURES AND METHODOLOGY

The intent of this study was to determine the most cited books, and in turn, most significant books, in higher education, from article citations[102] provided by three major higher education journal[103] publications. Accumulation of the citations should provide a list of most cited books for the field of higher education. This list of most cited books, however, could not be considered the most significant books for the field on the basis of citations alone. Therefore, the most cited list must be evaluated by selected authorities recognized in the field, to ascertain if the books that are most cited are also most significant.

Essential to the rationale of this study is the recognition of a distinct body of literature for the field of higher education. A preliminary survey was employed in order to grasp the parameters of the literature for the field. The survey included the years 1968-1976. The Library of Congress

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[102] For the purpose of this study a citation is defined as a reference occurring in footnotes, or in lists or references, which were used in preparation of the source paper.

[103] A journal is here defined as a publication with planned, sequential numbering which is promulgated at regular intervals under a common name, and supplies citations for the articles included.

Subject Guide to Books in Print[104] was consulted to provide a list of all books in print under the general category of Higher Education.

The Subject Guide arranges Books in Print by subject. Books in Print includes more than 500,000 books published in America.[105] The Subject Guide follows the subject headings assigned by the Library of Congress. All books listed in Books in Print, 1970, were assigned into at least one subject heading, and often two, three or more, depending on the appropriateness to other categories. The general subject category of Higher Education included "works of a general and miscellaneous character, e.g. treatises on higher education in relation to life and its various phases, to individuals, classes, professions, etc.[106] Within the general category of higher education, the Subject Guide provided for five subdivisions of interest for the preliminary survey, as follows:

Education, Higher
Education, Higher - Aims and Objectives
Education, Higher - Bibliography
Education, Higher - Curriculum
Education, Higher - 1965 -

The initial survey provided the scope of the literature for the field of higher education. A citation analysis was the technique used to obtain the most cited books in the field. The journal was the vehicle selected to supply the citations for analysis.

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[104] R. R. Bowker. Subject Guide to Books in Print, Volume 1, A-J, 1977-78. (New York: Bowker Co., 1977).

[105] William Katz. Your Library, A Reference Guide, (New York: Holt, Rinehart and Winston, 1979).

[106] R. R. Bowker. Subject Guide to Books in Print, Volume 1, A-J, 1978-79. (New York: Bowker Co., 1978): 1362.

Journal Selection

The years to be surveyed, 1968-1976, were determined to be most pertinent, since the outpouring of books in higher education from the late 1960's to the present, has been extreme.[107] The decision was made to cover a greater time span through fewer journals rather than fewer years and more journals. Since the field has only thirty-six journals relating to the field, analysis of the leading three most closely reflecting the field, was deemed sufficient representation of the field's literature.

Authorities from the field were solicited to determine the most influential journals for higher education. Authorities had been identified in Change magazine, September, 1974. The Change study polled 4,000 colleges and university presidents, government officials, journalists and foundation executives to nominate their choices of who "contribute most significantly to the thoughts and actions of American higher learning."[108]

From the 1,400 nominations, forty-four individuals were identified as leaders for the field[109] on the basis of frequency of mention. From the list of forty-four leaders, authorities were considered for participation in this study on the basis of their direct involvement with the field of higher education. Direct involvement is interpreted to mean those individuals

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[107] Collins W. Burnett, "Higher Education as a Specialized Field of Study", Journal of Research and Development in Education, 6 (Winter 1973): 11.

[108] Change Magazine, "Who's Who in Higher Education", Change, (Volume 7, February, 1975): 24-31.

[109] Change has provided an update to the initial survey of 1974. However, the 1978 study identified emerging leaders for the field rather than those who contribute most heavily to the field.

which are professors in higher education, administrators in higher education, or association leaders. Seven of the forty-four leaders were political leaders, and thus excluded from the survey. Of the remaining thirty-seven, only sixteen were directly associated with institutions, and five more were association heads. To assure representation from all three types of leaders, one third of the twenty-one individuals most directly involved with higher education were requested to participate. Four of the seven individuals responded to the initial request to identify the leading journals for higher education.

Each authority was requested to rank order the five leading journals for the field of higher education. (See appendix B) The results are presented in Chart III-1.

III-1

Authority Selection of Five Leading Journals

Response A:

1. College and University
2. Educational Record
3. Journal of Higher Education
4. Graduate Education
5. Change Magazine

Response B:

1. Journal of Higher Education
2. Change Magazine
3. Educational Record
4. Community and Junior College Journal
5. Harvard Educational Review

Response C:

1. Chronicle of Higher Education
2. Change Magazine
3. Harvard Educational Review
4. Teachers College Record
5. Liberal Education

Response D:

1. Chronicle of Higher Education
2. Journal of Human Resources
3. Journal of Higher Education
4. ERIC Reports
5. New Directions, Jossey-Bass Inc.

Before weighting and tallying the responses, several selections were eliminated from the list. Graduate Education has gone out of print, and three selections are not journals; the Chronicle of Higher Education is a weekly newspaper, ERIC Reports are generally unpublished materials without continuity, and New Directions, Jossey-Bass Inc., is a quarterly publication in which each issue is focused upon a central theme. Although Change magazine was selected by three out of four authorities, Change does not include citations in articles on a regular basis. Three journals were added to the fourth authorities list, since the authority supplied more than the five journals requested. The authority indicated these additional selections were also ordered according to rank order of significance. The modified list is as follows:

III-2

Modified List of Leading Journals

Response A:

1. College and University
2. Educational Record
3. Journal of Higher Education

Response B:

1. Journal of Higher Education
2. Educational Record
3. Community and Junior College Journal
4. Harvard Educational Review

Response C:

1. Harvard Educational Review
2. Teachers College Record
3. Liberal Education

Response D:

1. Journal of Human Resources
2. Journal of Higher Education
3. Educational Record
4. Harvard Educational Review
5. Liberal Education

journals were still suitable for the study. The journals were given a score by weighting the rank order; a first choice was given five points; second choice given four, and so on, resulting in the following:

III-3

Weighted Score of Leading Journals

Score	Journal	Number of Times Listed
12	Journal of Higher Education	3
11	Educational Record	3
9	Harvard Educational Review	3
5	College and University	1
5	Journal of Human Resources	1
4	Liberal Education	2
3	Community and Junior College	1

On the basis of score and number of times listed by authorities, the journals to be included in this study were, the Journal of Higher Education, Educational Record, and the Harvard Educational Review. In addition to the authority evaluation, specific criteria had to be met to ensure the journals value for a citation analysis. The journal had to be in existence for at least fifty years, they had to be included in indexing services and needed to be published at regular intervals being issued more than once a year.

All three journals have been in existence for at least fifty years. This lends credibility to the general nature of the journal, rather than reflecting a trend of the field, which would establish a specific interest journal. All three journals were found to be included in Ulrich's International Periodical Directory.[110] Ulrich's is a broad, comprehensive directory that

[110]R. R. Bowker, Ulrich's International Periodicals Directory, 17th ed. 1977-78. (New York: Bowker, Xerox Publishing Co., 1977.)

includes periodicals that are published at regular intervals, currently in print, and are issued more than once a year. The three journals are indexed by at least four professional indexing services. Inclusion of the journals for indexing services is dependent upon journal citations, which verifies the use of these three journals for this citation analysis.

Collection of Data

The three leading journals in higher education were the basis of the list of books most cited in higher education. The data were collected with the number provided by the table of random numbers, producing a twenty-five percent sample, which was sufficient for the analysis of citations in three selected higher education journals.

There was not a need to establish a representative sample, since authorities were used to establish the most prestigious journals for the field. The leading journals should promote a higher level of quality than the majority of journals. However, to establish the twenty-five percent sample was sufficient from the three journals to be analyzed, a confidence interval was determined.[111] The four hundred articles to be surveyed yielded a .99 confidence interval.

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[111] J. P. Guilford and Benjamin Fruchter, Fundamental Statistics in Psychology and Education, fifth edition, (New York: McGraw-Hill, 1973): 187.

A random sample of the articles contained in the three journals from 1970 to 1978 was selected by using the table of random numbers. The total number of articles contained in each issue of a journal for a particular year was determined. The number was divided by four to obtain a twenty-five percent sample, the number of articles to check. The table of random numbers was entered where it was last left off to obtain which articles to study. For example, if an issue contained eleven articles, two numbers would be supplied from the table of random numbers from which to obtain citations. (Twenty-five percent of eleven) The remaining three articles were added to the total number of the next issue. The twenty-five percent random sample was surveyed for citations of the articles which referred to books. Article citations referring to articles were not recorded. The following information was recorded for each book citation from the journal articles:

1. Author
2. Title of Book
3. Place of Publication
4. Date of Publication
5. Publisher

There were 1,174 citations collected in the individual journals. Citations were collected by individual journal and divided by year, resulting in twenty-four lists, one from each journal for each of the eight years. The twenty-four lists were arranged alphabetically by author, recording duplications. Only those books mentioned three times or more were considered for inclusion, resulting in thirty-nine books most cited for this citation analysis.

Evaluation of Most Cited Books by Authorities

In order to determine the significance of the books on the most cited list, authorities in the field were again requested to participate. A response from ten authorities was considered sufficient for comparison needs. The Change study of 1974, providing the forty-four leaders for higher education, was consulted to supply the list of authorities. As determined for the selection of leading journals of the field, twenty-one individuals listed were directly associated with institutions or were association heads, and thus assumed to be scholars in higher education. Of the one third (seven) requested to participate in the initial survey, four replied. In addition to the four authorities who assisted in journal identification, ten more were contacted to assure a response from ten authorities.

The most cited list was sent to the authorities, with a cover letter requesting their participation in ranking the thirty-nine books in terms of their significance for the field. (See appendix B). The list was compiled alphabetically by author, omitting the frequency with which the book was cited to avoid the possibility of biasing the opinion of the authorities as to the significance of the book. Each authority was requested to rank each book on a scale from one to five. A book receiving a "one" was deemed most significant for the field, and a "five" would indicate the book had the least significance for the field of higher education.

Of the fourteen authorities invited to participate, ten responded. In order to compare the most cited score (frequency of mention) with the significance, a single score was needed for the significance responses in order to compute a correlation. In order to obtain a single score indicating significance for each book, the responses were given a numerical weight. As mentioned previously, each book was to be evaluated from one to five, with one being most significant. However, an additional zero category was included because there were eighty times in which books were not evaluated at all. In order to obtain a single score which would equal to combined evaluations for each book, the categories were given a numerical value, with the one category, most significant, receiving a five for each response, and the books that were not recorded at all in the zero category, receiving no score at all. The highest possible score, if selected by all ten authorities as most significant, would be fifty. The lowest score any book might receive would be zero, meaning that no evaluation as to significance was made at all. However, this does not necessarily indicate a lack of significance. On the other hand, a score of ten would indicate unanimous agreement that a work is "least significant."

Comparison of Most Cited and Significance: Correlation

With the accumulation of the significance rating of the most cited books, and the frequency list of the most cited books, the question of whether most cited books are an indicator of significance could be addressed. In order for this to be determined, a correlation coefficient was produced.

The correlation coefficient is a single number that tells the extent in which two things are related, and to what extent a variation in one relates to a variation in the other.[111]

The two lists provided an interval and ordinal set of variables to be compared. The subprogram used was provided by the Statistical Package for the Social Sciences.[112] The program used was the PEARSON CORR, which computes the Pearson product-moment correlation coefficients for pairs of interval variables. As mentioned previously, although the frequency cited list is interval data, the significance list is ordinal data. However, the Pearson product-moment correlation is still appropriate for use, since Labowitz provided a justified rationale for treating ordinal level data as interval with an interval statistic, without distortion of the data.[113]

Classification of Materials

Since the field of higher education is interdisciplinary in nature, it is conceivable that some of the books on the most cited list might also reflect an interdisciplinary nature. To accomodate this inquiry, an attempt was made to determine the subject of each of the books included on the most cited list.

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[111]J. P. Guilford and Benjamin Fruchter, Fundamental Statistics in Psychology and Education, (New York: McGraw-Hill, 1973): 79.

[112]Norman H. Nie, et al. Statistical Package for the Social Sciences, second edition, (New York: McGraw-Hill, 1975).

[113]Sanford Labovitz, "The Assignment of Numbers to Rank Order Categories", American Sociological Review, 35 (June, 1970): 515.

The Library of Congress classification scheme is the most authoritative scheme to classify content of a work in the United States. There are different schedules for the various subject areas, however the majority of the most cited books were classified in the L schedule, which is the schedule for education. Each book was assigned the corresponding classification number which has been determined by the Library of Congress. This information includes the identification of the subject matter contained in the most cited books.

Summary

This chapter has provided the bases of the methodology for addressing the problem of most cited and significant books for higher education. Before collection of data was initiated, a preliminary survey was used to establish the parameters of the literature. A citation analysis was employed to ascertain the most cited books. Authorities were solicited for input in determining the leading journals for the field as well as evaluation of the most cited books in terms of their significance. A correlation was computed to determine the relationship between most cited and significance. In addition, the contents of the books were investigated by using the Library of Congress classification number. The results of the procedures will be presented in the following chapter.

The following is a flowchart explanation of the procedures used in collecting the data for this research study:

Flowchart of Procedures for Data Collection

Step	Task	Procedure	Results
1.	PRELIMINARY SURVEY: Establish parameters of literature	Preliminary survey of Higher Education in Subject Guide to Books in Print, 1968-1976.	Total number of books in print concerning higher education and number of new books published in the last decade
2.	CITATION ANALYSIS: Journal Selection	(1) Solicit input from authorities (2) weighting and tallying responses (3) support for selections from reference aids	Three leading journals in higher education
3.	CITATION ANALYSIS: Collection of Data	A twenty-five percent random sample of three leading journals for years 1969-1976. Included 1,174 book citations by author, publisher, title, date of publication. Combined lists by duplication of author.	Thirty-nine most cited books in higher education
4.	SIGNIFICANCE OF MOST CITED BOOKS: Authority evaluation	(1) Letter to authorities with most cited books to evaluate from one to five in terms of significance (2) weighting and tallying responses	Significance score
5.	CORRELATION: Comparison of most cited with significance	SPSS program PEARSON CORR	Correlation coefficient .4225
6.	CLASSIFICATION: Contents of most cited books	Determine Library of Congress classification number and corresponding subject area	Subject areas of the most cited books

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This study has determined a most cited list of books for the field of higher education. The extent to which the most cited books are significant, was determined by authorities in the field. The findings presented here come from (1) data collected from a preliminary survey on the nature of the literature of higher education and (2) data designed to elicit and highlight book citations identified from the Journal of Higher Education, Educational Record, and Harvard Educational Review, 1970 to 1978, and (3) significance of books on the citation list, determined by authorities in the field of higher education.

Preliminary Survey

The preliminary survey attempted to illustrate to nature of the published literature of the field. Publishers were identified for comparison for the years 1968-1976, to determine emphases as well as the scope of the field. In order to compare the impact of publishing companies on the literature in higher education, Books in Print subject areas pertaining to higher education were examined. The Subject Guide annually lists by subject, all books included in Books in Print. The subject headings are those given by the Library of Congress. This study covered all those books in the

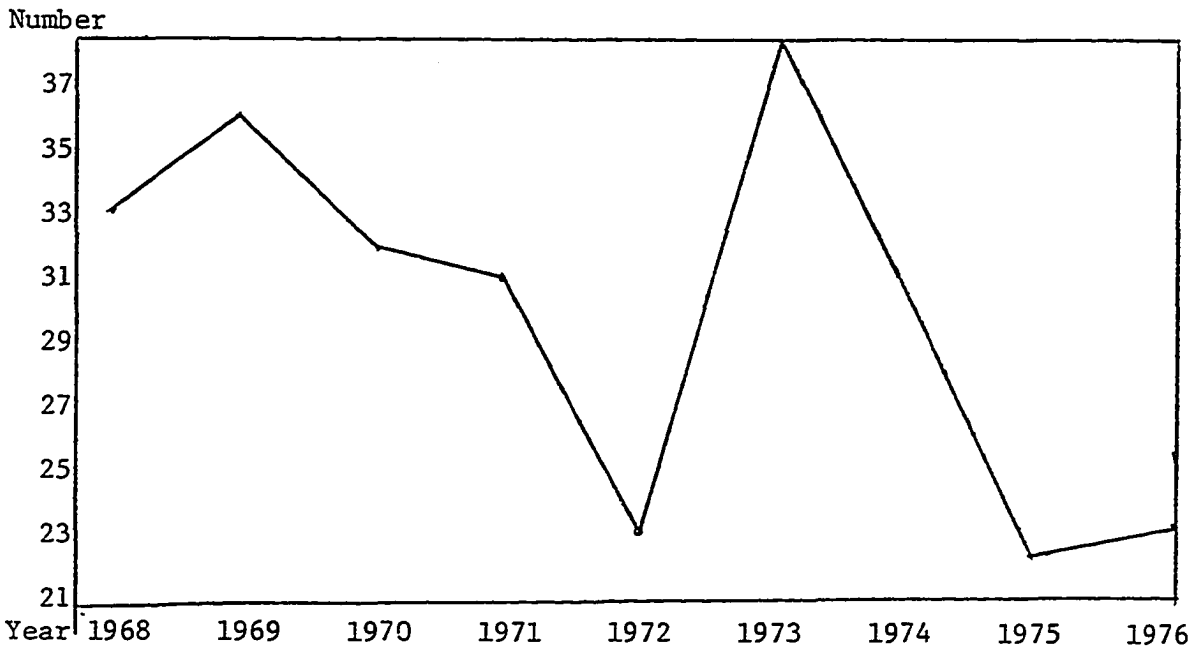
category of Higher Education, emphasizing publications of a general nature. (This does not include books that deal with specific areas in higher education that do not reflect the larger scope of higher education, e.g. municipal colleges. See page 52).

Chart IV-1 illustrates numbers of books by publication date of books. In 1976 there were twenty-three books published within the general category of higher education in print. The years 1969 and 1973 indicate that more new books were published in those years than any other.

IV-1

New Books Published By Year

In Higher Education



IV-2

Total Number of Books in Print in Category

Higher Education

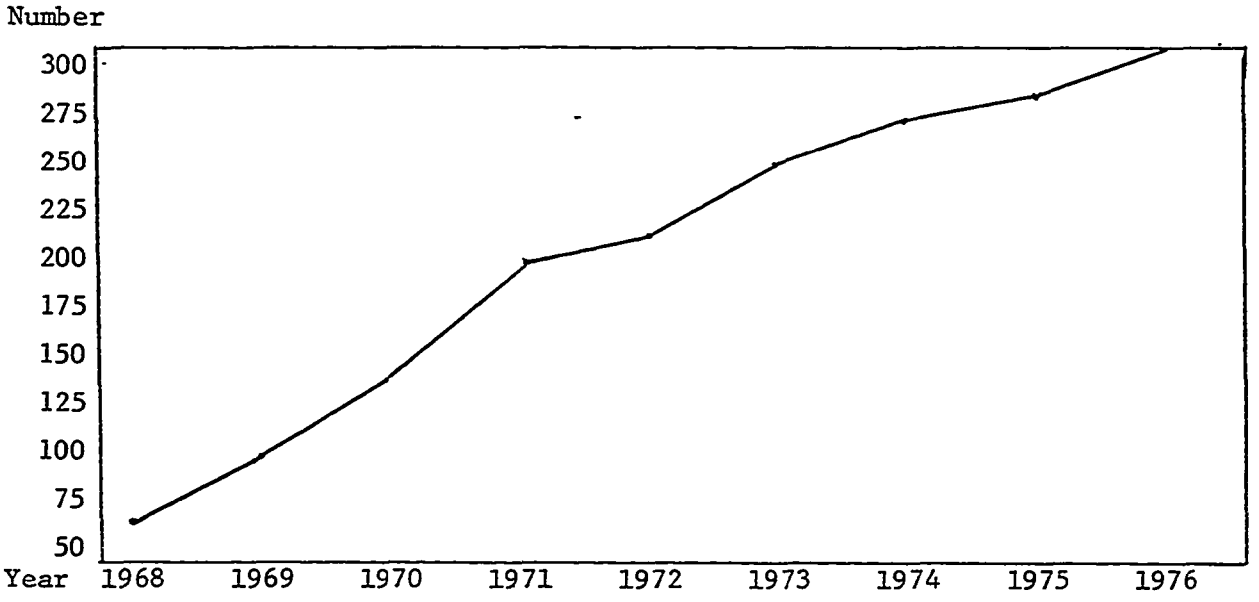


Chart IV-2 indicates the total number of books listed in print for general higher education. In 1976, there were three hundred and eight books in print, which is the peak year from 1968 to 1976. From 1968 to 1976 the increase in higher education books in print amounts to two hundred and forty-four. The total number of books in print illustrates the steady increase in higher education literature.

Charts IV-1 and IV-2 include information for commercial publishers, excluding works by university presses. University presses publish many of the history and reprint books on higher education, but rarely have

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114 R. R. Bowker. Subject Guide to Books in Print, Volume 1, A-J, 1970-1978. (New York: Bowker Co., 1970-1978).

large distributions. For this reason information for University press publications on higher education should be isolated. Charts IV-3 and IV-4 itemize the information for University press publications on higher education. In Chart IV-3 the largest number of books was published in 1969. The number has decreased over the nine year period, until in 1976, there were only twenty-six books published by university presses with a central theme of higher education.[115] Chart IV-4 lists all books in print for the years indicated, regardless of publication data, with the nine year period indicating the middle years as being the peak years.

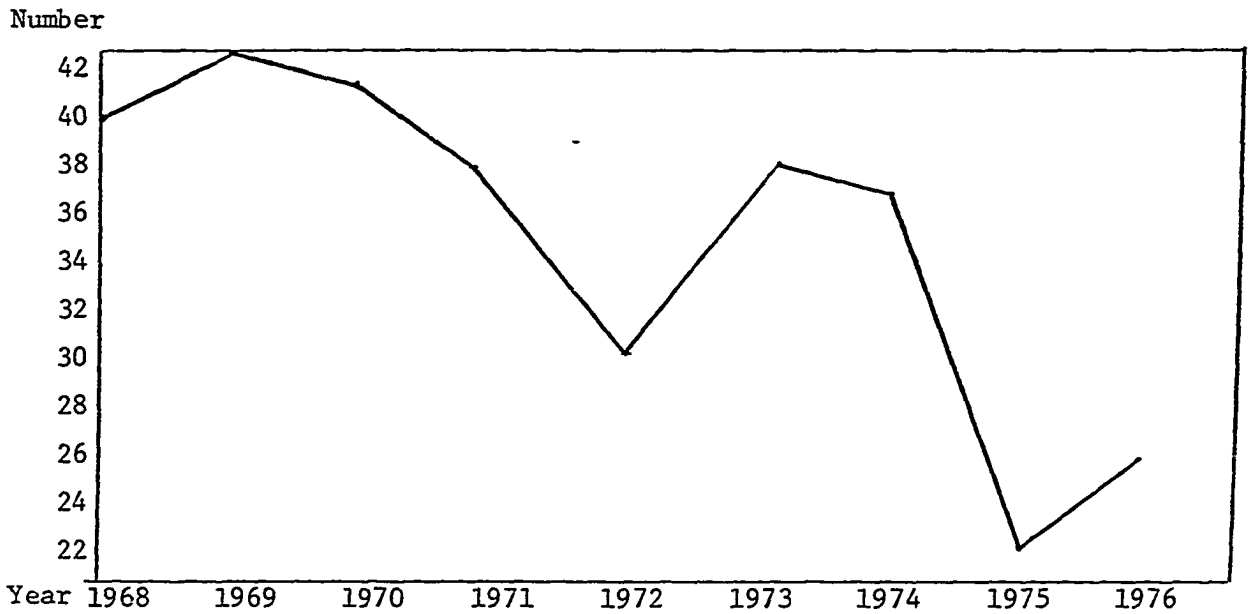
As mentioned previously, commercial publishing companies have replaced university presses in producing new books about higher education. Although this change began at the turn of the century, the past decade has exemplified the trend. Chart IV-3 shows a drop in new books being published from the university presses from the highest, forty-two in 1968, to only twenty-two in 1975. Chart IV-4 however, illustrates a fairly even number of total books in print from university presses for the nine year period. This is probably due to the kind of publication that universities have historically considered to be in their domain to publish. University presses have specialized in institutional histories which tend to have a timeless quality, requiring occassional revising.

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[115] R. R. Bowker. Subject Guide to Books in Print, Volume 1, A-J, 1977-78. (New York: Bowker Co., 1977).

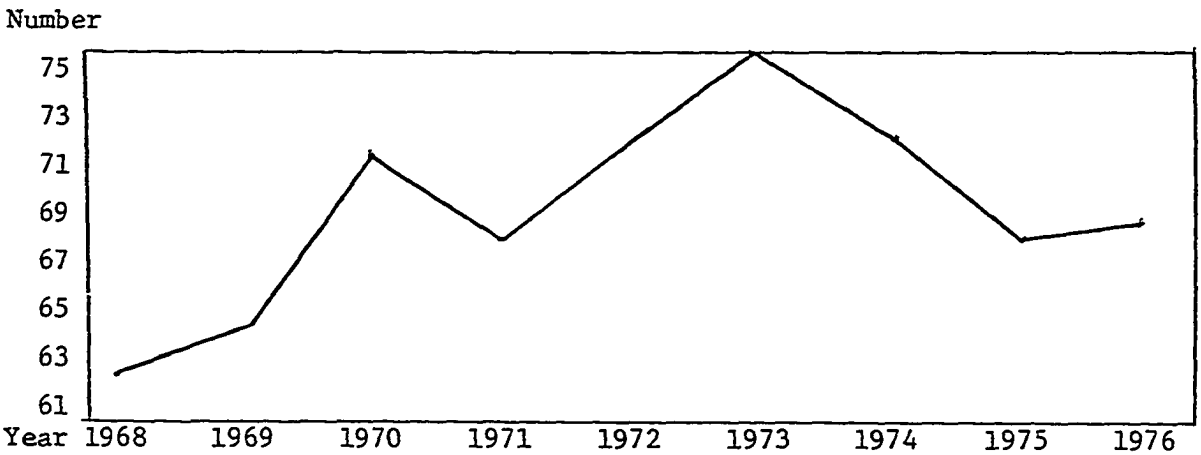
IV-3

Books in Print from University Presses with Higher Education Subject Publication Dates in Year Indicated



IV-4

Books in Print from University Presses in Higher Education



Critical to the understanding of the literature of the field is the recognition of publishers which have a continuing concern for publications in the field. In order to isolate these publishers the books in print survey results for Charts IV-1 and IV-2 were viewed and tallied by publisher. Only the most prolific publishers are listed in Chart IV-5.

IV-5

Leading Publishers in Higher Education - Books in Print

	1968	1969	1970	1971	1972	1973	1974	1975	1976
A.C.E.	5	6	7	9	13	14	16	16	16
AMS Press			1	1	11	12	5	5	7
ARNO		6	4	6	7	9	11	11	11
Books for Libraries	2	6	9	10	13	16	19	19	19
Greenwood			4	7	9	10	10	10	10
Har-Row			5	6	5	5	7	6	11
Jossey-Bass	1	7	14	28	32	40	44	44	49
McGraw-Hill	6	7	7	17	19	24	30	33	29
TOTAL	14	32	51	67	109	130	142	144	152

The number of books that were in print from the leading publishers has increased from fourteen in 1968, to one hundred fifty-two in 1976. The dominant publisher, Jossey-Bass Inc., published at least forty new books a year from 1973 to 1976. McGraw-Hill also flourished since 1973, principally because it was the publisher of the Carnegie Commission reports. Although this is an impressive increase, many of these works could be those classics that are reprinted continuously. To determine if there are publishers which have increased the number of new books published, Chart IV-6 reveals the most prolific publishers with number of books published in the year cited.

IV-6

New Books Published by Major Publishers

	1968	1969	1970	1971	1972	1973	1974	1975	1976
A.C.E.	3	2	1	1	2	2	1	1	1
AMS Press									
ARNO		6			1				
Books for Libraries	1	1							
Greenwood					2				
Har-Row	2		1				1		1
Jossey-Bass	7	9	7	8	4	7	6	2	4
McGraw-Hill	2	5	4	4	4	10	5	3	
TOTAL	17	23	13	13	13	19	13	6	6

Jossey-Bass Inc., and McGraw-Hill again emerge as the leading publishers for new books in the general category of higher education. The fact that leading publishers can be ascertained illustrates that the literature for the field has indeed grown. Yet, the fact that there is an increase in books does not guarantee there is an increase in the quality of the literature.

The preliminary survey established the scope of the literature for the past decade, in terms of quantity and publishers. Yet, the survey could not provide sufficient data to reveal the value of the increase of new books for the field. To determine the worth of the book literature for the field of higher education, this researcher pursued the discovery of the most cited books in journal literature, as well as the significance of these most cited books, according to established authorities.

Most Cited Books in Higher Education

Book citations were collected from the Journal of Higher Education, Educational Record, and Harvard Educational Review, 1970 to 1978. Citations accumulated from the three leading journals from 1970 to 1978, amounted to 1,174 total citations. This number reflected all books recorded from the twenty-five percent random sample. However, the majority of these citations were single listings.

The highest total citation count in any year for a single periodical was for the year 1972, from the Harvard Educational Review: ninety-eight book citations. Educational Record produced the lowest citation count of 7, for the year 1976. Educational Record for the eight year survey, produced

many citations of books with two hundred forty-six, as either Harvard Educational Review with four hundred forty-two, or the Journal of Higher Education, with five hundred eighty-six citations.

IV-7

Total Citations From Leading Journals

	Journal of Higher Education	Educational Record	Harvard Educational Review	Year Totals
1977	47	24	53	124
1976	76	7	50	133
1975	86	59	55	200
1974	67	26	62	155
1973	47	29	53	129
1972	48	41	98	187
1971	47	39	40	126
1970	68	21	31	120
TOTAL	486	246	442	1,174

From this list of 1,174 citations, duplications were identified, to determine a most cited book list for the field of higher education. Books which were mentioned three times or more were considered for inclusion. From the total 1,174 books cited, there were one hunderd sixty-three duplications, resulting in thirty-nine books which were cited at least three times. Chart IV-8 lists the most cited books with accompanying frequency of mention. (Full bibliographic information for the thirty-nine books is included in Appendix E.)

IV-8

Most Cited Books

	Number of Citations
Feldman and Newcomb, Research on the College Student	11
CCHE, Less Time, More Options	7
Roose and Anderson, A Rating of Graduate Programs	7
Brubacher and Rudy, Higher Education in Transition	6
Chickering, Arthur, Education and Identity	6
Corson, John, Governance of Colleges and Universities	6
Gross and Gambsch, University Goals and Academic Power	6
Gage, Handbook of Research on Teaching	6
Cartter, A., An Assessment of Quality in Graduate Education	5
Jencks and Riesman, The Academic Revolution	5
Gould, S., Diversity By Design	5
Lee, C., Improving College Teaching	5
Rudolph, F., The American College	5
Bennis, W., Organization Development	4
Dunham, A., Colleges of the Forgotten Americans	4
CCHE, Priorities for Action	4
Eble, K. Professors as Teachers	4
Hodgkinson, H., Institutions in Transition	4
Folger, J., Astin, H., and Bayer, A., Human Resources and Higher Education	4
Rossi, A. and Calderwood, A. Academic Women on the Move	4
Sanford, N., The American College	4
Baldridge, J. V., Power and Conflict in the University	3
Bell, Daniel, Toward the Year 2,000	3
Coser, L., The Function of Social Conflict	3
Cross, K. P., Beyond the Open Door	3
Dressel, P., and DeLisle, F., Undergraduate Curriculum Trends	3
CCHE, Open Door Colleges	3
Kerr, Clark, The Uses of the University	3

IV-8

continued

	Number of Citations
Freeman, R., Market for College Trained Manpower: A Study in the Economics of Career Choices	3
Nichols, David, Perspectives on Campus Tension	3
Jencks, C., Inequality	3
Schein, E., and Bennis, W., Personal and Organizational Change Through Group Methods	3
Smith, K., Agony and Promise: Current Issues in Higher Education	3
Veysey, L., The Emergence of the American University	3
McConnell, T., Redistribution of Power in Higher Education	3
Laurence, P., and Lorsch, J., Developing Organization: Diagnosis and Action	3
Cole, M. et al., Cultural Context of Learning	3
Dressel, Paul and Johnson, F., The Confidence Crisis	3
Eble, Kenneth E., Recognition and Evaluation of Teaching	3

Feldman and Newcomb's book, Research on the College Student, was clearly the most cited book, being mentioned eleven times, five more than the second most cited book. Of the thirty-nine most cited books, twenty had been mentioned four to seven times, while seventeen of the books had only three citations each.

Significance of Most Cited Books

To determine if the thirty-nine most cited books were considered significant by leaders in the field of higher education, the list was sent to ten authorities for their significance ranking. These authorities were asked to rank each book on a scale of one to five, with one being the most significant for the field of higher education. The zero column indicates that there was no ranking given for the book.

The score for each book was computed by placing a value of five points for books selected as most significant, or one category, four points for books selected in the two category, and so on, to least significant evaluations, or a one rating. The zero category did not receive a value because it could not be ascertained if the lack of a rating meant the authorities were not familiar with the book, or that the book was not worthy of a significance evaluation. The total weighted significance score was derived by adding the ten individual scores for each book. (See appendix D for distribution of authorities scores.) A book that was given the highest rating by each authority could conceivably receive a score of fifty.

There were eighty times in which the authorities did not choose to rank a book at all. The categories which elicited the largest number of responses were the middle (two or three) categories with seventy-three and sixty-two respectively. The highest category, (one) interpreted as books deemed most significant, received fifty-seven selections from the three hundred forty possible points. Chart IV-9 gives the scores and the rank for each of the thirty-nine most cited books.

IV-9

continued

Author	Title	Rank	Score
Gage, N.	Handbook of Research on Teaching	22	25
Dressel and DeLisle	Undergraduate Curriculum Trends	24	23
Bennis, Warren	Organization Development	24	23
Brubacher and Rudy	Higher Education in Transition	26	22
Smith, Kerry	Agony and Promise: Current Issues in Higher Education	27	21
Eble, Kenneth	Recognition and Evaluation of Teaching	28	20
Veysey, L.	The Emergence of the American University	28	20
Eble, Kenneth	Professors as Teachers	30	18
Baldridge, J.V.	Power and Conflict in the University	31	17
Schein and Bennis	Personal and Organization Change Through Group Methods	31	17
Dressel and Johnson	The Confidence Crisis	33	16
Coser, L.	The Function of Social Conflict	34	14
Lee, Calvin	Improving College Teaching	34	14
McConnell, T.	Redistribution of Power in Higher Education	36	12
Laurence and Lorsch	Developing Organization: Diagnosis and Action	37	10
Cole, M. et al	Cultural Context of Learning	37	10
Nichols, David	Perspectives on Campus Tension	39	8

Authorities determined The Uses of the University, by Clark Kerr, to be the most significant book of the thirty-nine listed. Seven of the ten authorities selected this book as most significant, resulting in a score of forty-three. The Carnegie Commission Report, Less Time, More Options, also

IV-9

Significance Rank and Score of Most Cited Books

Author	Title	Rank	Score
CCHE	Less Time, More Options	1	43
Kerr, Clark	The Uses of the University	1	43
Feldman and Newcomb	Research on the College Student	4	41
Jencks and Riesman	The Academic Revolution	4	41
Sanford, Nevitt	The American College	4	41
Chickering, Arthur	Education and Identity	6	35
Cartter, Alan	An Assessment of Quality in Graduate Education	7	34
Jencks, Christopher	Inequality	8	33
Gould, Samuel	Diversity By Design	9	32
Bell, Daniel	Toward the Year 2,000	11.5	31
CCHE	Open Door Colleges	11.5	31
Cross, K.P.	Beyond the Open Door	11.5	31
Gross and Gambsch	University Goals and Academic Power	11.5	31
CCHE	Priorities for Action	14	30
Corson, John	Governance of Colleges and Universities	16	29
Dunham, Aldine	Colleges of the Forgotten Americans	16	29
Rudolph, F.	The American College	16	29
Freeman, R.	Market for College Trained Manpower:	18	27
Folger, J.	Human Resources and Higher Education	19	26
Hodgkinson, H.	Institutions in Transition	22	25
Roose and Anderson	A Rating of Graduate Programs	22	25
Rossi and Calderwood	Academic Women on the Move	22	25

accumulated a score of forty-three, yet only five of the ten authorities considered it as most significant. Three books were considered most significant by five of the ten authorities, resulting in a score of forty-one. Research on the College Student, The Academic Revolution, and The American College each scored forty-one, tying for the fourth ranked position. From the sixth ranked book through to the thirty-ninth, the scores are quite gradual in decline. The largest accumulation of scores were predominantly in the twenties, with thirteen books.

There were ten books which received low ratings, ranging from eight to eighteen. A partial explanation of the three lowest scores is in the number of times the authorities did not rank them at all. Two books which were not ranked at all by six authorities were M. Coles Cultural Context of Learning, and Developing Organization Diagnosis and Action, by Laurence and Lorsch. David Nichols Perspectives on Campus Tension and L. Cosers The Function of Social Conflict, were not evaluated by five of the authorities.

Correlation of Most Cited and Most Significant

A correlation was computed to determine if there was a relationship between the most cited and the most significant scores for the thirty-nine books. The Pearson product-moment correlation was computed using the Statistical Package for the Social Sciences,[116] program PEARSON CORR,

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[116] Norman H. Nie, et al. Statistical Package for the Social Sciences, second edition, (New York: McGraw-Hill, 1975).

which computes Pearson product-moment correlation coefficients for pairs of interal level variables. Correlation analysis determines the extent to which there is variation in one variable linked to variation in the other.

The correlation coefficient (r) in this study was .4225. This coefficient reveals a modest correlation between number of times cited and weighted scores of books on the list of books most cited in the three leading journals for the field of higher education. The PEARSON CORR program computes significance using t distributions with N-2 degrees of freedom. Each score for the t distribution, is converted to a standard score.[117] In this study, the number of degrees of freedom was 37, and a one tail test of significance was used. Although there was a modest correlation, the significance was .004, which indicates that only four times out of a thousand would one expect this correlation to occur. When the product-moment correlation is squared, there is a direct estimate of the amount of the variance shared by the variables. The r^2 indicates the amount of overlap between the two variables, revealing seventeen percent of the variance of frequency of citation is explained by significance scores.

Publishers for Higher Education

Since information concerning the publisher of each of the 1,174 books cited in the initial survey was collected, a pattern could be established as to the most frequently mentioned publisher for the field of higher education. However, Chart IV-10 list will not correspond to the total number of books cited, because publishers have not been included that were not reported at least eight times. Similar to the results pertaining to the

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[117]Nan Lin, Foundations of Social Research (New York: McGraw-Hill, 1976): 283.

frequency of duplications for the books, the preponderance of publishers were listed only one to four times.

IV-10

Most Cited Publishers

Publisher	Rank	Journal of Higher Education	Educational Record	Harvard Educational Review	Total Cites
McGraw-Hill	1	49	38	11	98
Jossey-Bass	2	45	29	2	76
American Council on Education	3	34	34	2	70
Harper and Row	4	23	4	17	44
Prentice-Hall	5	17	7	11	35
Wiley and Sons	6	14	7	13	34
Free Press	7	16	7	9	32
University of Chicago	8	9	2	12	23
Basic Books	9	5	5	12	22
Harvard University	10	6	7	8	21
Addison Wesley	11	13	4	1	18
Holt, Rinehart	12	8	4	6	18
Columbia University	13	7	2	8	17
Oxford University	14	6	5	4	15
American Association for Higher Education	15	10	4		14
Rand McNally	16	5	4	5	14
Doubleday	17	11	1	2	14
Yale University	18	3	1	9	13
Norton	19	5		8	13

IV-10

continued

Publisher	Rank	Journal of Higher Education	Educational Record	Harvard Educational Review	Total Cites
Random House	20	2	2	8	12
Harcourt Brace	21	5	2	5	12
Sage	22	7	4	1	12
U. of California	23	9	1	1	11
Teachers College	24	2	4	5	11
Brown, Little	25	3	3	5	11
Macmillan	26	4	1	5	10
Knopf	27	2	2	5	9
Praeger	28	4	3	2	9
Aldine	29	4	2	3	9
Academic	30	1	1	6	8
Houghton-Mifflin	31	5	1	2	8
TOTAL		334	191	188	713

Just as the Journal of Higher Education produced the largest number of citations of the three journals investigated, it also produced the most duplications in the publishers cited. The thirty-one publishers listed here are distinguished from the remaining publishers by being listed at least eight times in the survey. From the thirty-one publishers listed, McGraw-Hill was cited the most, receiving ninety-eight citations from the three journals. McGraw-Hill received a boost in publications in the higher education field by the many Carnegie Commission reports, published for the

most part between 1970 and 1974. Jossey-Bass published seventy-six of the books cited, and the American Council on Education published seventy. Few of the major publishers were cited in the Harvard Educational Review.

Publishers for Most Cited Books

There were seventeen publishing companies represented by the thirty-nine most cited books. Accordingly, the major publishers from the total citation sample, and the publishers of the thirty-nine most cited books were quite similar in frequency ranking. Chart IV-11 lists the frequency of publishers from the most cited list. While Jossey-Bass is listed as the most cited, American Council on Education and McGraw-Hill are tied for the ranking of second most cited publisher of the most cited books for the field of higher education.

IV-11

Publishers of Most Cited Books

Publisher	Citations	Publisher	Citations
Jossey-Bass	7	Doubleday	1
American Council on Education	6	Free Press	1
McGraw-Hill	6	Harper and Row	1
Harvard University	3	Houghton-Mifflin	1
John Wiley and Sons	3	Knopf	1
Addison-Wesley	2	Project to Improve College Teaching, Salt Lake City	1
Russell Sage	2	Rand McNally	1
Basic Books	1	University of California	1
		University of Chicago	1

Duplicate Authors

In addition to determining frequencies for books and publishers, duplications among authors also could be ascertained. Although an individual might be best known for one book, there are a number of prolific writers who have produced many works. The possibility that a well known author might not be included in the most cited book list was the reason for providing an author citation list from the initial 1,174 book citations.

There were three hundred twenty-six authors with two or more citations from the total number of citations. To identify more prolific authors, only those authors whose name appeared five or more times were considered for inclusion in Chart IV-12. These authors were tallied according to the number of times their names were cited in a journal article, rather than the number of times a specific book was mentioned. Of the thirty authors included in the duplicate list, twenty-four are also on the most cited book list. Those authors that appear five times or more, that were not included on the most cited book list were D. Tyack, M. Katz, Lewis Mayhew and M. Mortimer.

IV-12

Authors Cited at Least Five Times

Author	Duplications	Author	Duplications
Feldman, Kenneth A.	13	Chickering, Arthur	6
Newcomb, Theodore	12	Corson, John	6
Riesman, David	12	Gage, N. L.	6
Jencks, Christopher	11	Gross, Edward and Gambsch, Paul	6
Schein, Edgar	10	Astin, A.	5
Bennis, Warren	9	Bell, Daniel	5
Rossi, Alice and Calderwood, Ann	8	Bayer, Alan	5
Roose, Kenneth and Anderson, Charles	7	Tyack, D.	5
Nichols, David	7	Katz, M.	5
Eble, Kenneth	7	Mortimer, M.	5
Dressel, Paul	7	Mayhew, Lewis	5
Gould, Samuel	6	Folger, John	5
Lee, Calvin	6	Hodgkinson, Harold	5
Sanford, Nevitt	6	Cartter, Alan	5
Brubacher, John and Rudy, Willis	6	Rudolph, Frederick	5

Subject Contents of Most Cited Books

Subject classification of the most cited books was derived from the Library of Congress classification scheme.[118]

[118]Library of Congress, Classification, Class L, Education, third edition. (New York: Library of Congress, 1951)

Each book process by the Library of Congress is classified according to subject content, with an accompanying notation indicating the subject of the book. The majority of the most cited books have been classified by the Library of Congress in the L schedule, which is the classification scheme for education. More specifically, LB 2300 and LA 173-230 are the classification areas for books whose content deals with higher education. The last two numbers in the notation indicate an even more specific area, within the larger category of higher education.

Chart IV-13 lists the most specific categories for the most cited books. (See appendix for classification information on each of the thirty-nine books.) Of the thirty-nine books, there were only nine which were not considered higher education content related. Topics dealing with subjects related to the history of higher education totaled twelve books out of the thirty general higher education books.

IV-13

Classification of Most Cited Books

Higher Education: (LB 2300; LA 173-230)

Education - History	5
General Works - 1965	4
Supervision and Administration	4
General works - History	4
Teaching Personnel	3
History - Addresses, Essays, Lectures	1
Educational Research	1
History of Higher Education	1
Junior College	1
Municipal College	1
Graduate Education	1
Curriculum - General	1
Teaching - College and University	1
History - Student Life	1
Addresses, Essays, Lectures	1

Education: (LC 1567 and LC 205)

Education of Women, Higher Education	1
Sociological Aspects of Education	1

Other areas represented: (HM 131, 136; HD 31, 6278; E 169; BF 637, 731)

Social Science, Sociology	2
Social Science, Economics	2
Psychology	2
American History	1

Comparison of Most Cited and Riegel and Bender study

The Riegel and Bender study, (referred to in Chapter Two) identified a list of twenty-five basic books for the field by surveying six hundred fifty professors teaching higher education. The list of books reflects authorities' choices of books significant to the literature of the field.

This research study also attempted to determine basic books for the field, however, using the most cited books as the basis for significance evaluation by the authorities. By comparing the Riegel and Bender study with this study, another avenue of determining if most cited is an indicator of significance can be pursued.

Chart IV-14 compares the rank given to the Riegel-Bender twenty-five books, with the corresponding rank of this research study, providing the book was included in the thirty-nine most cited books. Fifteen of the Riegel-Bender books were not on the most cited list, however, the six top ranked were all included.

The first ranked book for the Riegel-Bender study was also tied for the first selection in terms of significance rank. However, Sanford's The American College was ranked fourteenth on the most cited list. Other interesting inconsistencies were obvious with Brubacher and Rudy's Higher Education in Transition and Frederick Rudolph's The American College. Higher Education in Transition ranked third in the Riegel and Bender study and fourth on the most cited list, yet received only twenty-sixth significance rank. Conversely, Clark Kerr's The Uses of the University, ranking fifth on the Riegel and Bender study ranked only twenty-second on the most cited list, while tying for first rank on the significance list.

IV-14

Comparison of Most Cited and Riegel and Bender Study

	Riegel and Bender Rank	Citation Frequency	Most Cited Rank	Significance Rank
Sanford, Nevitt, ed. The American College	1	4	14	1.5
Jencks and Riesman, The Academic Revolution	2	5	9	4
Brubacher and Rudy, Higher Education in Transition	3	6	4	26
Rudolph, Frederick, The American College	4	5	9	16
Kerr, Clark, The Uses of the University	5	3	22	4
Corson, John, Governance of Colleges and Universities	6	6	4	16
Hofstadter and Metzger, Development of Academic Freedom in the United States	7	-	-	-
Hofstadter, R. and Smith, American Higher Education	8	-	-	-
Feldman and Newcomb, The Impact of College On Students	9	11	1	4
Blocker, Plummer and Richardson, The Two-Year College: Social Synthesis	10	-	-	-
Thornton, James, The Community Junior College	11	-	-	-
Barzun, Jacques. The American University: How It Runs	12	-	-	-
Bell, Daniel. The Reforming of General Education	13	-	-	-
Eurich, Alvin C. (ed.) Campus 1980.	13	-	-	-
Henderson, Algo. Policies and Practices in Higher Education	13	-	-	-

IV-14

	Riegel and Bender Rank	Citation Frequency	Most Cited Rank	Significance Rank
Newman, John H. The Idea of a University	13	-	-	-
Sanford, Nevitt. Where Colleges Fail	13	-	-	-
Smith, K. Current Issues in Higher Education	13	3	22	27
Veysey, L. The Emergence of the American University	19	3	22	28
Wilson, L. Emerging Patterns in American Higher Education	20	-	-	-
Chickering, A. Education and Identity	21	6	4	6
Hutchins, R. The Higher Learning in America	22	-	-	-
Yamamoto, K. The College Student and His Culture	23	-	-	-
Mayhew, L. Colleges Today and Tomorrow	24	-	-	-
Medsker, Leland, The Junior College: Progress and Prospect	24	-	-	-

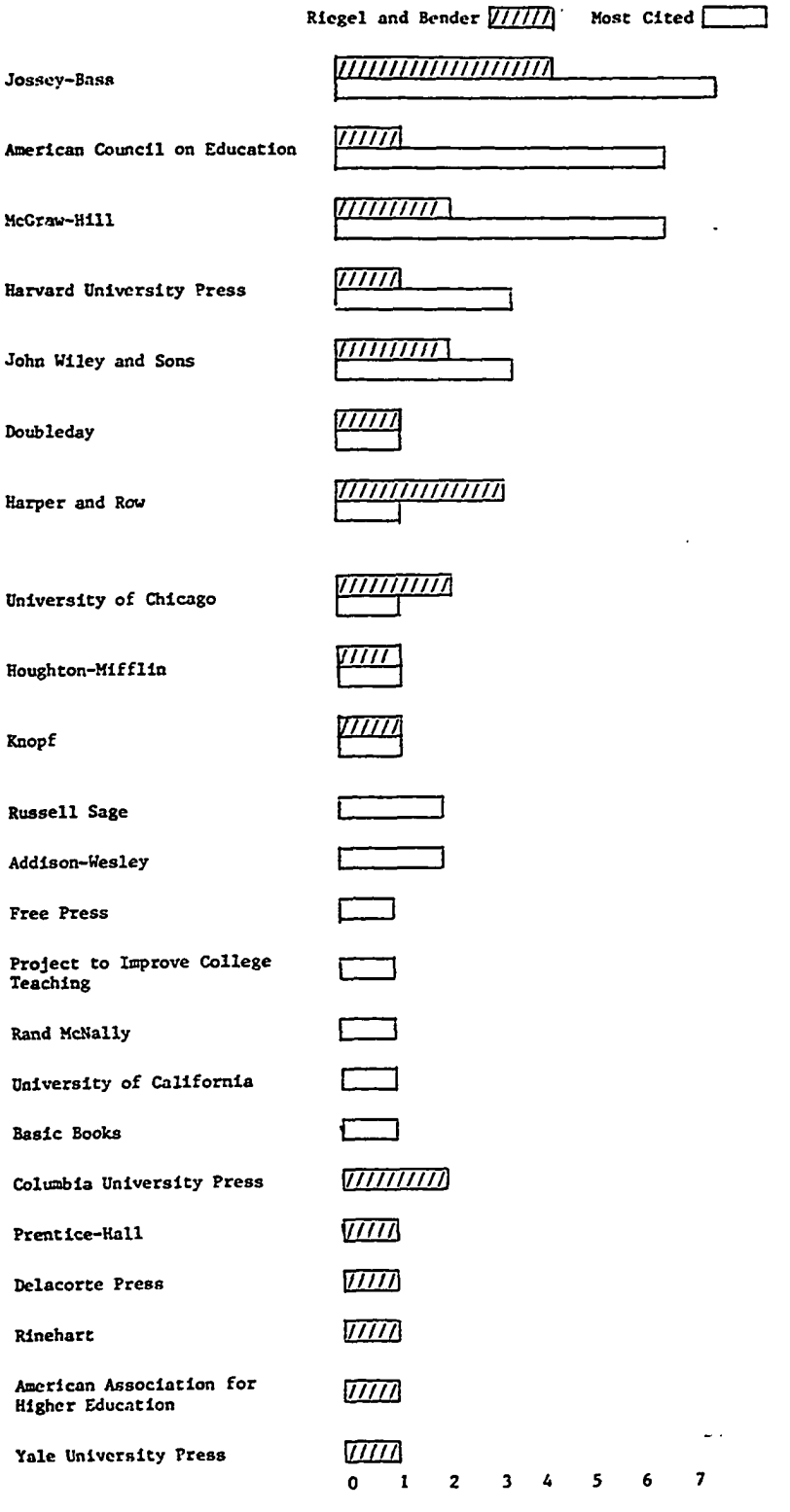
Publishers: Riegel and Bender study and Most Cited

Although the Riegel and Bender study provides only twenty-five books and the most cited book list from this study results in thirty-nine, significant publishers can be identified and compared. Jossey-Bass Inc. has the largest number of publications for both studies. Chart IV-1 illustrates the leading publishers for each study.

IV-1

Comparison of Publishers:

Riegel and Bender study with Most Cited List



The leading publishing companies for both the Riegel-Bender study and most cited books is clearly Jossey-Bass Inc. As indicated previously in the preliminary survey, American Council on Education and McGraw-Hill are worthy of mention as leading publishers for the field. The remaining list reflects those publishers who are active in publishing materials concerning higher education.

Summary

The data presented here has been the results of a citation analysis of three leading journals for the field of higher education; the Journal of Higher Education, Harvard Educational Review and Educational Record. However, a preliminary survey established the parameters of the field's literature. The preliminary survey showed that from 1968 to 1976 there was an increase in higher education books in print amounting to two hundred forty-four. Information was also collected which revealed the prominent publishers, notably Jossey-Bass Inc. and McGraw-Hill.

The citation analysis of the three leading journals resulted in 1,174 citations for the years 1970 to 1977. From this list, a most cited book list was determined by including all the books which were mentioned at least three times. The most cited list included thirty-nine books, with a frequency of mention ranging from a high of eleven, to the low of three mentions. To determine the significance of the books, the list was sent to authorities in the field, requesting them to rank their selections from one, (most significant) to five. Upon determining a single score for each book, a correlation was computed to determine the relationship, resulting in a correlation coefficient (r) of .4225. In addition, the most cited list was analysed for prominent publishers and the subject content of each of the books.

CHAPTER V

DISCUSSION AND CONCLUSIONS

LIMITATIONS AND RECOMMENDATIONS

The purpose of this study was to identify the most cited books in higher education between 1970-1978. Authorities in the field were requested to nominate leading journals for the field for the citation analysis. The list of most cited books, however, could not be considered books most significant for the field on the basis of citations alone. Therefore, the most cited books were rated by authorities in terms of significance. In addition, information concerning publishers and subject areas represented by these publications was analyzed.

The preliminary survey of all general higher education books in print for the years 1968 to 1976 revealed a consistent increase in the literature for the field. The survey indicated an increase of two hundred forty-four books in print from 1968 to 1976. Although the information explosion has bolstered the proliferation of all materials, higher education received increased attention because of the student protests in the sixties. Not only has the number of graduates in the field increased in the last decade, interest in higher education from scholars from other disciplines has also increased. Associations and institutions began to center an enormous number

of their studies on higher education. From examining this growing literature, insights may be gained regarding the field of higher education, since the literature reflects the directions and trends of the field.

Discussion and Conclusions

Prioritization of the field's literature is a necessary component in organization of any literature. Since higher education has relied heavily on book oriented literature, a citation analysis was used to identify the most cited books in the field.

The three leading journals for the field of higher education provided the communication vehicle in which the citation analysis was employed. Selection of the journals was made by requesting authorities in the field to nominate and rank order the five leading journals. Since there are only thirty-six journals related to the field, it was anticipated that there would be agreement on selection. Of the thirteen journals nominated by the four authorities, seven selections were not considered journal publications. The four authorities were not in unanimous agreement on any one journal. Since they were requested to rank order their selections, a weighting scale was devised to determine the three leading journals for the field. These were the Journal of Higher Education, Educational Record and Harvard Educational Review.

A twenty-five percent random sample of articles published in the three journals provided the citations for this analysis. The twenty-five percent random sample was determined to have a .99 confidence level of assuring representativeness from the literature published in the three journals.

The citation analysis resulted in 1,174 citations which referred to books for the years 1970-1978. Yet, when duplication of books cited was examined, only thirty-nine books had been cited three times or more. That there is duplication of such a small number of books for the field, from such a large total, might be explained by the interdisciplinary nature of the field, or by the varied backgrounds of individuals contributing to the literature of the field, suggested by Knowles.[119] Burnett suggests that the scope of the field is so broad as to include eleven subject matter areas.[120] Only those books that were mentioned at least three times were included on the list. However, the book that was the most cited, Feldman and Newcomb's Research on the College Student, was only mentioned eleven times, while nearly half of the list was mentioned only three times.

Assumptions could not be made as to the quality of these books by frequency of mention alone. Citation analysis is a relatively new technique, which is appropriate for identification of recurring materials, but needs further research in determining significance of the identified materials. This is why this study asked known authorities in the field to rank the most cited books on a significance scale of one to five.

The list of most cited books was sent to fourteen authorities requesting that they rank each book on a scale from one to five, with one

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[119]Robert Lee Knowles, "Bibliographic Citation Analysis of Selected Higher Education Journal Literature." Ph.D. dissertation, Florida State University, 1974: 47.

[120]Collins W. Burnett, "Higher Education as a Specialized Field of Study," Journal of Research and Development in Education, 6 (Number 2, Winter 1973): 11.

being the most significant for the field. In order to obtain a single score indicating significance for each book, the responses were given a numerical weight. An additional category appeared since there were eighty times in which books were not evaluated at all. The researcher therefore, assigned a "zero" rank to these books. The neglect to rate a book could mean that the authority had not read the book. It could also mean that the authority did not feel the book was significant at all. There is also the possibility that the avoidance of ranking a book could result in a highly significant book receiving a lower ranking than it deserved.

The highest ranking (one category) was received fifty-seven times from the three hundred forty possible, while the largest number of responses were in the middle range (two or three). The books tied for most significant were Clark Kerr's The Uses of the University, selected by seven out of ten authorities as most significant, and the Carnegie Commission publication, Less Time, More Options. Although these books totaled the same significance score, Less Time, More Options only received five selections out of the ten as being most significant. Research on the College Student, the most cited book, ranked fourth in significance out of the thirty-nine books.

Statistical analyses were performed to determine the relationship between the most cited books and the significance rankings. A Pearson product moment correlation was computed resulting in a correlation coefficient of .4225 at a significance level of .004. Although this is a modest correlation, the significance level is reassuring in that this correlation would only occur four times out of a thousand by chance.

Information regarding publishers was available from the preliminary survey, the citation analysis of the 1,174 citations, the most cited books, and the Riegel-Bender study. Jossey-Bass Inc., McGraw-Hill and the American Council on Education emerged as the top three publishers in every examination. From the 1,174 total citations reviewed, those publishers which had been mentioned eight times or more were isolated for examination. Jossey-Bass Inc., was cited ninety-eight times, McGraw-Hill cited seventy-six times and American Council on Education, was mentioned seventy times. The next highest mention was Harper and Row, cited forty-four times. Seven of the thirty-one publishers cited eight times or more were university presses.

The subject classification of the most cited books reaffirms the inter-disciplinary nature of the field. Nine out of the thirty-nine books represented areas other than higher education in content; sociology, economics, psychology and history. The most books in any classification area had to do with the history of higher education. A strong second was the area of supervision and administration of higher education.

Limitations of Study

The results of the citation analysis, the most cited book list, can be generalized only to the three journals selected. However, this is offset somewhat by the process of selection of the three journals by the authorities in the field.

The ambiguity of the process by which determination of significance of the most cited books was decided by authorities, is a limitation of this

study. In asking authorities to rank the most cited books, no definition was preassigned. Each authority was to determine his/her own definition of significance for the field of higher education. It is possible that if a set of criteria had been provided the authorities, an even higher correlation might occur.

Identification of the leading journals for the field was made by only four authorities for the field. Additional authority participation might result in greater overlap of selection.

In addition, criteria for selecting authorities were not specifically predetermined. They were selected from a list identified by Change Magazine in a request to 4,000 professionals to list those who contribute most significantly to the field. It was assumed but not verified that some variation in the authorities opinions might be due to the casualness of the criteria for determining the authorities.

Implications of Study

One of the central problems addressed in this study was in determining if citations of works are an indicator of significance of works. As has been mentioned in the literature review, the appropriateness of citation analysis is beginning to be questioned as an indicator of quality of published work.

The study is unique in attempting to determine utility of citation analysis in indicating quality. Based on the correlation computed, it may be assumed that the technique of citation analysis correlates well with significance. Indeed, the correlation indicates this to be a

fruitful area for further investigation and verification. Previous studies have often assumed an inherent value of citations. This study tested this assumption in an attempt to determine if citations reflect quality.

The technique of citation analysis may prove to be the link between quality of published materials and quantity of materials produced. The expression "publish or perish" has been closely aligned with faculty evaluations for tenure and promotion. Heretofore, the quantity of materials produced has appeared to be of most importance to faculty members. Perhaps if there were a convenient way to assess quality, quantity alone would diminish in importance. The emphasis on quality should be the critical factor in evaluation of faculty. Ways to assess the quality of a work are quite often subjective. When better avenues are found to evaluate quality, excessive proliferation of materials might be reduced.

The literature of the field of higher education reflects a criticism that is commonly directed at most social science literature; the predominant written vehicle for communication is the book. It has been assumed that this typically reflects the nature of the information as being more nearly philosophical and descriptive in nature, as opposed to research oriented literature, which is typically reflected in periodical literature. Yet, the most cited book in this study was Research on the College Student, which is a forty year compendium of research.

One explanation of the continued emphasis on book literature might be the number of journal outlets provided for research endeavors. The authorities established the leading journals for the field, all of which

have been in publication for fifty years. New journals related to the field have most often been related to a specific area interest in higher education. The increase of journals has not kept pace with the increase of the book literature, as illustrated by the fact that there are only thirty-six journals specifically relating to the general field. In comparison, the field of sociology has at least one hundred and fifty-six English language periodicals relating to the field.[121] It is possible when all of the subset journals are counted, such as student personnel and adult education journals, that the field is not very different from sociology literature. However, since the field of higher education reflects an interdisciplinary nature as was discovered by the subject classification of the most cited books, it is reasonable to assume that many research studies concerning higher education might frequently be reported in a variety of journals from other disciplines. Fortunately, indexing services have alleviated some of the problems of discovering works associated with the field. It might, therefore, prove beneficial to investigate the possibility of establishing a journal indexing service specifically for higher education.

The preliminary survey established the major publishers for the field as being commercial publishers. The early history of higher education publishing however, had a stronger reliance on university presses than

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[121] R. R. Bowker, Ulrich's International Periodicals Directory. 17th ed. 1977-1978. (New York: Bowker Co., 1978).

commercial publishing houses. In a time when publishing is of crucial importance to faculties, greater awareness of university press publishing interests might provide a needed outlet for some types of research.

The social sciences have received benefits in dissemination of information needs initially demanded by the hard sciences. The urgency of the information, albeit research discoveries such as medical breakthroughs, has placed pressure on the information/library science profession. Perhaps, if the social science literature needs were as clearly displayed, information dissemination services might more nearly satisfy the uniqueness of the social science literature as opposed to adopting and adapting techniques and services appropriate for the hard sciences. Research investigations into the flow of information should be done from an appreciation and understanding of the social sciences, rather than forcing the literature into models appropriate for the hard sciences.

Whether citation analysis is adopted, or whether another method proves to be superior is secondary to the pressing need for disciplines to manage their own literature. If basic collections can be determined for public schools and junior colleges, determination of core collections can also be established for colleges and universities. To date only subdivisions of fields have been considered for basic collections.

If networking and sharing of resources is to become a reality, research must be done to prioritize the totalities of the various literatures. Core collections could aid in the development of networking for academic libraries. Academic libraries have realized the need to be quite selective

in acquisitions, therefore there has been added emphasis on the participation in more cooperative activities in the acquisition and dissemination of materials with other libraries. Duplication of effort is costly; establishing core collections could allow greater diversity in collections and eventually become financially advantageous.

The implications of the study stress the importance of literature control in various ways. The technique of citation analysis may prove to be of great benefit in evaluating faculty publications. The predominant form of communication for the field of higher education is the book, which provokes speculation about the need for other forms. Creation of additional outlets for research, as well as special indexing services might alter the relaince on the book. University presses could provide avenues for publishing some types of materials. Finally, core collections could aid in the promotion of sharing of resources, which is an inevitability for the future.

Recommendations for Further Research

Further research recommendations from the findings and implications of this study relate to the technique of citation analysis, and further examination of the literature for the field of higher education.

Replication of this study using strict criteria for significance such as what should be a basic reading list, or the books which reflect the philosophies and theories of the field, might well increase the size of the correlation between most cited work and significance rankings. Indeed a variety of types of significance could be established such as research based materials, theoretical analyses of the field, or even current trends

of the field. It might prove interesting to compare the results of the different ways in which significance could be interpreted. By providing specific criteria, or by allowing authorities to generate the criteria, emphasis and directions of the literature could be outlined more effectively. This might possibly be an improved way to assess the quality of materials.

A second recommendation relates to the worth of citations. Before citations can be used comfortably as an indicator of significance, critical exploration needs to determine why researchers cite materials. Some of these reasons are not approvals of the work, they are in disagreement with the value of the work. There might be the possibility that a citation to a journal article might have a different meaning than a citation to a book. Also, citations to social science literature might have a different worth than citations to an article or book in the hard science literature.

The third recommendation considers the twenty-five percent sample size. Most citation analysis studies have used twenty-five percent, and this study established that this is indeed a sufficient representation, perhaps overly generous. Further investigation needs to be done to identify the smallest sample size that will yield valid data. Collection of data is time consuming, therefore, if a smaller sample proves to be sufficient, citation analysis might be more readily used for research.

A fourth recommendation suggests that a companion study would employ a citation analysis to examine the periodical literature for the field. This process would provide information concerning the most cited journals for the field.

Finally, investigating the flow of information is a new area of study. Further research might suggest answers to such questions as why there is an apparent predominance of book literature for the field of higher education. An initial query might survey scholars in the field to see if there is a need for additional publication outlets. A thorough examination, perhaps in the form of content analysis, of all the subset journals might explain why the research is not heavily referred to in the general journals for the field. A similar study might determine if there would be sufficient interest to establish an index specifically for the field of higher education. The fact that there are contributors from related fields, might mean those individuals are publishing in related journals, alleviating the pressure to establish additional journals for the field.

Summary

The influx of new information has led to the proliferation of various literatures. The control of the various disciplinary literatures should be the concern of not only the disseminators of the literature, but also those who rely on the information. Since the acquisition of all material pertinent to a field is an impossibility, identification of pertinent works is essential. If this prioritization of the literatures is not provided from the fields, it will be provided by default, from library/information scientists.

This research study has attempted to examine the impact of new information on the field of higher education by discovering the parameters of the literature of the field, and the significant book publications

within the literature.

It has attempted to evaluate the process of citation analysis in the field of higher education as an indicator of the significance of cited materials.

It has provided several potentially fruitful areas in which additional research might be pursued to help us analyze literature. It has served to attest to the value of cooperative efforts between subject specialists and information/library scientists.

The increase in the amount of literature being produced has reached such a proportion that research attempts must determine better ways in which to manipulate and control the literature. It is hoped that this study will be of benefit to those pursuing the study of literature, and specifically, those individuals concerned with the literature for higher education.

APPENDIX A

RIEGEL AND BENDER STUDY

Appendix A

Riegel and Bender Study

1. Sanford, Nevitt (ed.) The American College: A Psychological Social Interpretation of the Higher Learning. New York: John Wiley and Sons, 1962.

2. Jencks, Christopher; and Riesman, David. The Academic Revolution. Garden City, New York; Doubleday and Co., 1968.

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6. Corson, John J. Governance of Colleges and Universities. New York: McGraw-Hill Book Co., 1960.

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10. Blocker, Clyde E.; Plummer, Robert H.; and Richardson, Richard C. Jr. The Two-Year College: A Social Synthesis. Englewood Cliffs, N.J.: Prentice-Hall, 1965.

11. Thornton, James W. Jr. The Community Junior College. New York: John Wiley and Sons, 1966.

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13. Tied:
    Bell, Daniel. The Reforming of General Education. New York: Columbia University Press, 1966.

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Henderson, Algo. Policies and Practices in Higher Education. New York: Harper and Row, 1960.

Newman, John Henry. The Idea of a University. New York: Rinehart, 1960.

Sanford, Nevitt. Where Colleges Fail. San Francisco: Jossey-Bass, 1967.

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20. Wilson, Logan. Emerging Patterns in American Higher Education. Washington: American Council on Education, 1965.

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Mayhew, Lewis B. Colleges Today and Tomorrow. San Francisco: Jossey-Bass, 1969.

Medsker, Leland L. The Junior College: Progress and Prospect. New York: McGraw-Hill Book Co., 1960.

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27. Baskin, Samuel (ed.) Higher Education: Some Newer Developments. New York: McGraw-Hill Book Co., 1965.

28. Berelson, Bernard. Graduate Education in the United States. New York: McGraw-Hill Book Co., 1960.

29. Bloom, Benjamin S. et al. Taxonomy of Educational Objectives: The Classification of Educational Goals, Cognitive and Affective Domains. Two handbooks. New York: David McKay Co., 1969.

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46. Lee, Calvin B. T. (ed.) Improving College Teaching. Washington: American Council on Education, 1967.

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52. Rourke, Francis E.; and Brooks, Glenn E. The Managerial Revolution in Higher Education. Baltimore: Johns Hopkins Press, 1966.

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55. Veblen, Thorstein. The Higher Learning in America. New York: Hill and Wang, 1957.

56. Whitehead, Alfred North. The Aims of Education and other Essays. New York: Free Press, 1967.

57. Williamson, E. G. Student Personnel Services in Colleges and Universities. New York: McGraw-Hill Book Co., 1961.

APPENDIX B

1. MEMBERS OF THE AUTHORITY POOL

2. LETTERS REQUESTING PARTICIPATION

Appendix B

Members of the Authority Pool

Stephen Bailey
Vice-President, American Council on Education
One Dupont Circle, N. W. Suite 800
Washington D.C., 20036

George Bonham
Change Magazine
NBW Tower
New Rochelle, N. Y. 10801

Howard R. Bowen
Claremont Graduate School and University Center
Claremont, California 91711

Kingman Brewster Jr.
President, Yale University
New Haven, Connecticut 06520

Arthur Cohen
School of Education, UCLA
405 Hilgard Avenue
Los Angeles, California 90024

Joseph Cosand
Director, Center for the Study of Higher Education
University of Michigan
Ann Arbor, Michigan 48104

Lawrence A. Cremin
President, Columbia Teachers College
525 West 120 St.
New York, N. Y.

K. Patricia Cross
Education Testing Service
1947 Center Street
Berkeley, California 94704

Edmund Gleazer Jr.
President, American Association of Community and Junior Colleges
One Dupont Circle, N. W. Suite 410
Washington, D. C. 20036

Appendix B

Theodore M. Hesburgh
President, University of Notre Dame
Notre Dame, Indiana 46556

Roger W. Heyns
President, American Council on Education
One Dupont Circle, N. W. Suite 800
Washington D. C. 20036

Clark Kerr
Carnegie Foundation
437 Madison Avenue
New York, N. Y. 10022

Lewis B. Mayhew
School of Education
Stanford University
Stanford, California 94305

Alan Pifer
President, Carnegie Corporation
437 Madison Avenue
New York, N. Y. 10022

Paul C. Reinert
Chancellor, St. Louis University
St. Louis, Mo. 63103

David Riesman
William James Hall 380
Cambridge, Massachusetts 02138



The University of Oklahoma

Appendix B

601 Elm, Room 520 Norman, Oklahoma 73069

Center for
Studies In Higher Education
College of Education

May 19, 1978

Dear

As a Ph.D. candidate in Higher Education at the University of Oklahoma, I am collecting data for my dissertation entitled, "Books Published In Higher Education: A Study Of The Most Cited And Significant." Using the bibliometric technique of citation analysis with three leading journals in Higher Education, identification will be made of those books most cited. This list will be sent to authorities to determine the books deemed significant for the field.

As a leading authority in the field may I request your assistance in identifying the five leading journals for the field of Higher Education. Please rank order your choices on the enclosed form.

Enclosed please find a stamped, self-addressed envelope.

Thank you for your assistance,

Peggy C. Smith

Doctoral candidate
Center for Studies
in Higher Education
University of Oklahoma

Appendix B

The University of Oklahoma 630 Parrington Oval, Room 558 Norman, Oklahoma 73019

Center for
Studies in Higher Education
College of Education

Name _____

Institution _____

Address _____

Rank order of five leading journals for the field of Higher Education

1. _____

2. _____

3. _____

4. _____

5. _____

Appendix B

The University of Oklahoma
601 Elm, Room 520 · Norman, Oklahoma 73069

Center for
Studies In Higher Education
College of Education

July 5, 1978

Dear

As a Ph.D. candidate in Higher Education at the University of Oklahoma, I am collecting data for my dissertation entitled, "Books Published In Higher Education: A Study Of The Most Cited And Significant." Using the bibliometric technique of citation analysis with three leading journals in higher education, identification has been made of those books most cited. This list is being sent to authorities in the field to determine if those most cited are also the most significant for the field.

As a leading authority in the field may I request your assistance in ranking these books from one to five, with one being most significant.

Enclosed please find the form for ranking and a stamped, self-addressed envelope.

Thank you for your assistance,

Peggy C. Smith

Doctoral candidate
Center for Studies
in Higher Education
University of Oklahoma

Appendix B

Please rank these books from one to five, with one being those books most significant for the field of higher education.

Baldridge, J. Victor	Power and Conflict in the University	1 2 3 4 5
Bell, Daniel (ed.)	Toward the Year 2,000	1 2 3 4 5
Bennis, Warren G.	Organization Development: Its Nature, Origins, and Prospects	1 2 3 4 5
Brubacher, John and Rudy, Willis	Higher Education in Transition	1 2 3 4 5
Carnegie Commission on Higher Education	Less Time, More Options	1 2 3 4 5
Carnegie Commission on Higher Education	Priorities for Action	1 2 3 4 5
Carnegie Commission on Higher Education	Open Door Colleges	1 2 3 4 5
Cartter, Allan	An Assessment of Quality in Graduate Education	1 2 3 4 5
Chickering, Arthur	Education and Identity	1 2 3 4 5
Cole, M. et al.	Cultural Context of Learning and Thinking	1 2 3 4 5
Corson, John J.	Governance of Colleges and Universities	1 2 3 4 5
Coser, Lewis	The Function of Social Conflict	1 2 3 4 5
Cross, K. Patricia	Beyond the Open Door	1 2 3 4 5
Dressel, Paul L. and Johnson, F. Craig	The Confidence Crisis	1 2 3 4 5
Dressel, Paul L. and DeLisle, Frances H.	Undergraduate Curriculum Trends	1 2 3 4 5
Dunham, E. Aldine	Colleges of the Forgotten Americans	1 2 3 4 5
Eble, Kenneth E.	Professors as Teachers	1 2 3 4 5
Eble, Kenneth E.	Recognition and Evaluation of Teaching	1 2 3 4 5

Appendix B

Feldman, Kenneth A. and Newcomb, Theodore M.	The Impact of College on Students	1 2 3 4 5
Folger, John K., Astin, Helen S., and Bayer, Alan E.	Human Resources and Higher Education	1 2 3 4 5
Freeman, R. B.	Market for College Trained Manpower: A Study in the Economics of Career Choices	1 2 3 4 5
Gage, N. L. (ed.)	Handbook of Research on Teaching	1 2 3 4 5
Gould, Samuel B. (ed.)	Diversity By Design	1 2 3 4 5
Gross, Edward and Gambsch, Paul V.	University Goals and Academic Power	1 2 3 4 5
Hodgkinson, Harold L.	Institutions in Transition	1 2 3 4 5
Jencks, Christopher and Riesman, David	The Academic Revolution	1 2 3 4 5
Jencks, Christopher et al.	Education and Inequality	1 2 3 4 5
Kerr, Clark	Uses of the University	1 2 3 4 5
Laurence, Paul R. and Lorsch, Jay W.	Developing Organization: Diagnosis and Action	1 2 3 4 5
Lee, Calvin B.	Improving College Teaching	1 2 3 4 5
McConnell, T. R.	Redistribution of Power in Higher Education	1 2 3 4 5
Nichols, David C. (ed.)	Perspectives on Campus Tension	1 2 3 4 5
Roose, Kenneth D. and Anderson, Charles J.	A Rating of Graduate Programs	1 2 3 4 5
Rossi, Alice S. and Calderwood, Ann (eds.)	Academic Women on The Move	1 2 3 4 5
Rudolph, Frederick	The American College	1 2 3 4 5
Sanford, Nevitt	The American College	1 2 3 4 5
Schein, Edgar and Bennis, Warren	Personal and Organizational Change Through Group Methods	1 2 3 4 5
Smith, Kerry G.	Agony and Promise: Current Issues in Higher Education	1 2 3 4 5
Veysey, L. R.	The Emergence of the American University	1 2 3 4 5

APPENDIX C

CLASSIFICATION OF MOST CITED BOOKS

Appendix C

Classification of Most Cited Books

	Classification Number	Subject Area
1. Baldridge, J. Victor Power and Conflict in the University	LB 2341	Supervision and Administration
2. Bell, Daniel, ed. Toward the Year 2,000	E 169	American History
3. Bennis, Warren Organization Development: Its Nature, Origins, and Prospects	HM 131	Social Science Sociology Social Groups
4. Brubacher, and Rudy, W. Higher Education in Transition	LB 2321	History of Higher Education 1801-
5. Carnegie Commission Less Time, More Options	LB 2328	General Works 1965-
6. Carnegie Commission Priorities for Action	LA 227	Education- History
7. Carnegie Commission Open Door Colleges	LB 2328	The Junior College
8. Cartter, Allan An Assessment of Quality in Graduate Education	LB 2371	Graduate Education
9. Chickering, Arthur Education and Identity	LB 2322	General Work 1965-
10. Cole, M. et al Cultural Context of Learning and Thinking	BF 731	Psychology
11. Corson, John Governance of Colleges and Universities	LB 2341	Supervision and Administration
12. Coser, Lewis The Function of Social Conflict	HM 136	Social Sciences Sociology-Individualism
13. Cross, K. Patricia Beyond the Open Door	LA 227	History-Education

Appendix C

	Classification Number	Subject Area
14. Dressel, P. and Johnson, F. *The Confidence Crisis*	LB 2341	Supervision and Administration
15. Dressel, P. and DeLisle, F. *Undergraduate Curriculum Trends*	LB 2361	Curriculum-General
16. Dunham, Aldine *Colleges of the Forgotten Americans*	LB 2329	Municipal University
17. Eble, Kenneth *Professors as Teachers*	LB 2331	Teaching Personnel
18. Eble, Kenneth *Recognition and Evaluation of Teaching*	LB 2331	Teaching Personnel
19. Feldman, Kenneth and Newcomb, T. *The Impact of College on Students*	LA 226	General works
20. Folger, J., Astin, H. and Bayer, A. *Human Resources and Higher Education*	LB 2322	General Works-1965
21. Freeman, R. B. *Market for College Trained Manpower A Study in the Economics of Career*	HD 6278	Social Science Economics-History Labor
22. Gage, N. L. ed. *Handbook of Research on Teaching*	LB 1028	Educational Research
23. Gould, Samuel B. ed. *Diversity By Design*	LB 2322	General works 1965-
24. Gross, E. and Gambsch, P. *University Goals and Academic Power*	LB 2331	Teaching Personnel
25. Hodgkinson, Harold L. *Institutions in Transition*	LA 227	History
26. Jencks, C., and Riesman, D. *The Academic Revolution*	LA 226	History-Higher Education-General
27. Jencks, Christopher *Education and Inequality*	LC 205	Sociological Aspects of Education

Appendix C

	Classification Number	Subject Area
28. Lawrence, P., and Lorsch, J. Developing Organization Diagnosis and Action	HD 31	Social Science Economics
29. Lee, Calvin Improving College Teaching	LB 1778	Teaching-College and University
30. McConnell, T. R. Redistribution of Power in Higher Education	LB 2341	Supervision and Administration
31. Nichols, David, ed. Perspectives on Campus Tension	LA 229	History of Higher Educ. - Student Life
32. Roose, Kenneth, and Anderson, C. A Rating of Graduate Programs	LA 227	History of Higher Education
33. Rossi, A., and Calderwood, Ann Academic Women on the Move	LC 1567	Education of Women Higher Education
34. Rudolph, Frederick The American College	LA 226	History of Higher Education - General
35. Sanford, Nevitt The American College	LA 228	Addresses, Essays, Lectures
36. Schein, Edgar and Bennis, W. Personal and Organizational Change Through Group Methods	BF 637	Psychology
37. Smith, Kerry G. Agony and Promise: Current Issues in Higher Education	LA 227	General Works
38. Veysey, L. R. The Emergence of the American University	LA 226	History of Higher Education - General
39. Kerr, Clark The Uses of the University	LB 2325	History - Addresses, Essays, Lectures

APPENDIX D

SIGNIFICANCE RANK OF MOST CITED LIST BY AUTHORITIES

Appendix D

Significance Rank of Most Cited

List by Authorities

	1	2	3	4	5	0	Total Weighted Significance
Baldridge		1	1	5		3	17
Bell, D.	1	4	2	2		1	31
Bennis, W.	1		4	2	2	1	23
Brubacher & Rudy	1	3	1		2	3	22
Less Time More Options	5	3	2				43
Priorities for Action	3	4	3				30
Open Door	2	2	3	2		1	31
Cartter, A.	2	4	1	2	1		34
Chickering	3	1	5		1		35
Cole, M.	1				1	6	10
Corson, J.		4	3	2		1	29
Coser, L.	1		1	3		5	14
Cross, K.P.	2	3	2	1	1	1	31
Dressel & Johnson		1	3	1	1	4	16
Dunham, A.		2	7			1	29
Eble, K. Professor		3	1	1	1	4	18
Dressel & DeLisle		3	2	2	1	2	23
Eble, K. Recognition	1	1	2	2	1	3	20
Feldman & Newcomb	5	4				1	41
Folger	1	2	3	2		2	26

Appendix D

Continued

	1	2	3	4	5	0	Total Weighted Significance
Freeman, R.	2	2	1	3		2	27
Gage, N.	3	1		2	1	3	24
Gould, S.	2	2	2	4			32
Gross & Gambsch	1	4	1	3	1		31
Hodgkinson, H.	1	4	1		1	3	25
Jencks & Riesman	5	4				1	41
Jencks, C.	4	2		2	1	1	33
Kerr, C.	7	1	1			1	43
Laurence & Lorsch		1	1	1	1	6	10
Lee, C.			3	1	3	3	14
McConnell, T.		3	2	1	2	2	12
Nichols, D.				3	2	5	8
Roose & Anderson	2	2	1	1	2	2	25
Rossi & Calderwood	1	2	3	1		3	24
Rudolph, F.	2	2	3	1		2	29
Sanford, N.	4	3	3				41
Schein & Bennis	1	1	1	2	1	4	17
Smith, K.		2	2	2	3	1	21
Veysey, L.	3	2	1	2		2	20
Totals	57	73	62	48	20	80	340

APPENDIX E

MOST CITED BOOKS - BIBLIOGRAPHIC INFORMATION

APPENDIX E

Baldridge, J. Victor. Power and Conflict in the University. New York: Wiley, 1971.

Bell, Daniel (ed.). Toward the Year 2,000. Daedalus Library, Volume II. Boston: Houghton-Mifflin, 1968.

Bennis, Warren G. Organization Development: Its Nature, Origins, and Prospects. Reading, Massachusetts: Addison-Wesley, 1969.

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Chickering, Arthur. Education and Identity. San Francisco: Jossey-Bass, 1969.

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Cross, K. Patricia. Beyond the Open Door. San Francisco: Jossey-Bass, 1971.

Dressel, Paul L. and Johnson, F. Craig. The Confidence Crisis. San Francisco: Jossey-Bass, 1970.

Dressel, Paul L. and DeLisle, Frances H. Undergraduate Curriculum Trends. Washington, D.C.: American Council on Education, 1969.

Dunham, E. Aldine. Colleges of the Forgotten Americans: A Profile of State Colleges and Regional Universities. New York: McGraw-Hill, 1969.

Eble, Kenneth E. Professors as Teachers. San Francisco: Jossey-Bass, 1972.

Eble, Kenneth E. Recognition and Evaluation of Teaching. Salt Lake City: Project to Improve College Teaching, 1970.

APPENDIX E
(continued)

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