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AN INVESTIGATION AND IDENTIFICATION OF
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AN INVESTIGATION AND IDENTIFICATION OF HIGHER EDUCATION
AS A GRADUATE FIELD OF STUDY AND RESEARCH

ABSTRACT OF
DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Andrew Carnegie Currie, Jr., B.A., M.S.

* * * * *

The Ohio State University
1968

Approved by

[Signature]
Adviser
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CHAPTER I

BACKGROUND OF THE STUDY

Introduction

The modern American University draws primarily from three strains of history: (1) the British tradition of high quality training for select undergraduates, (2) the German tradition of research and specialized training for graduate students, and (3) the American concept of service to constituent publics and a democratization and popularization of higher education.

The function, attractiveness, and availability of American higher education, both undergraduate and graduate, have in the past two decades altered considerably the traditional concept of the university. Size and numbers, however, have not provided the only marked characteristics of today's colleges and universities.

As one modern college president recently remarked, the quaint, ivy-covered institutions with their "Mark Hopkins and the log" traditions are "fossils of the past".
Today's academic community is inextricably bound, not only with such classical concepts as the trivium and quadrivium, but with the complex matrices of social, industrial, political, cultural, and technological problems and projections of the moment.

A recent publication by the Carnegie Foundation for the Advancement of Teaching points out one of the major reasons for this involvement from the academic community:

This phenomenon is explainable in part by the almost symbiotic relationship between science and art, or in simpler terms, knowing and doing. A few decades ago a lengthy hiatus between the discovery of knowledge and its application was normal. Today in many fields . . . the process is nearly instantaneous, to such a degree has ours become a knowledge-oriented society.¹

Almost all phases of society look to colleges and universities, with their research capabilities and their problem-oriented methodologies and systems, for answers to today's questions. Research, graduate training, and

service are directed forward through specialization. Specialization has provided the key to avenues of publication, consultation, and research contracts for individuals or departments, and consequently to distinction for themselves and their institutions.

The emphasis toward specialization in American higher education, or more specifically, graduate education, has been based upon the principle, according to Hutchins, that "any subject is as good as any other." Hutchins further points out that this principle has led to an armed truce among departments where "live and let live became the slogan."

Evidence of much of the dramatic change toward specialization in American higher education can be found in the number of "fields of study" recognized, accepted, accepted, accepted,

2Robert M. Hutchins, "The Issues", an article included in The University in America, an occasional paper published by the Center for the Study of Democratic Institutions, Santa Barbara, California, 1967, p. 6.

3Ibid.

4For the purposes of this study, "fields of study" will be defined as departmental or interdepartmental programs of study leading to a graduate or professional degree from an accredited college, university, or institute.
and offered in various graduate departments within our universities. In 1958, Brubacher and Rudy, historians of higher education in America, indicated that there were "well over 550 fields" in which the doctorate was awarded by institutions in the United States compared to the "149 fields in 1916 to 1918". It was admitted by Brubacher and Rudy, however, that the vast majority of the fields were "variants, offshoots, or combinations of real fields numbering no more than eighty".

The most common evidence of the burgeoning fields of study are the university or departmental catalogues. One such catalogue, which describes graduate studies in education at The Ohio State University, lists in its table of contents twenty-five fields of study or "specialized programs" in which the Ph.D. degree may be


The principal reasons for such increases in new fields of study have been the development of new theories, new methodologies, and an emphasis toward interdisciplinary or interdepartmental study. A knowledge-oriented

\(^7\)"Graduate Studies in Education," a descriptive pamphlet of specialized graduate programs prepared by the School of Education, College of Education, The Ohio State University, 1967-1968, p. iii.
society has produced graduate student specialists who plan for careers not imagined a decade ago. Thus, new and timely research priorities have emerged and new fields have been born. Many are the result of hybridization, e.g., bio-physics or social psychology, and many are the result of fractionalization, such as many of the "areas of specialization" mentioned in The Ohio State University catalogue.

**Statement of Purpose and Hypotheses**

This study seeks to investigate and identify one of the emerging fields of graduate study, Higher Education,\(^8\) as a field which prepares graduate students for careers in college or university administration and teaching. It further seeks to determine the validity and viability of Higher Education as a field of study.

Traditionally, preparations for a career in higher

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\(^8\)The term "Higher Education" (higher type-case) is used to distinguish the field of study and research from "higher education" (lower type-case) which is used to describe post-high school, degree-granting education provided by colleges, universities, and institutes.
education involved mastery of a particular subject matter and a training in research procedures. Administrators were chosen from academic ranks as persons who displayed an interest or patience for administrative affairs.

In the past decade, however, a revolution has occurred in American higher education. Increasing enrollment (6,900,000 students in 1967 versus 4,800,000 students in 1963)\(^9\) and increasing operating expenses ($13.2 billion in 1966-1967 versus $4.5 billion in 1956-1957)\(^10\) have resulted in burgeoning administrative problems and tasks. These new problems and tasks have required that administrators of today be educated and trained as specialists for their positions.

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Higher Education developed as a field that would provide the specialized education and training now necessary. It provides academic study and research in each of the following sub areas within higher education:

(1) General Description and Analysis - concerned with the history, philosophy, development, foundations, issues, problems, procedures, functions, principles, trends, and objectives of higher education.

(2) Administration and Organization - concerned with organization, administration, finance, policies, control, accreditation, public relations, admissions, records, placement, and fund-raising in higher education.

(3) Curriculum Development - concerned with curricula, general education, liberal education, undergraduate education, graduate education, professional education, specialized programs, and subject matter areas in higher education.

(4) College Teaching - concerned with teaching, preparation, methods, and learning in higher education.
(5) Student Personnel - concerned with counseling, guidance, advising, testing, housing, activities, and the student and student groups in higher education.

(6) The Junior and Community College - concerned with the variables related to the two-year college in higher education.

Unfortunately, little research has been reported concerning Higher Education that would indicate its current status and validity as a field of study. This writer would argue that if a field is to exist, it should exist as a body of information (facts, theories, methodologies, and variables) that is organized, as Kuethe describes, "in a framework of unique concern". It is further argued that if a field does exist, its body of information will be presented by the literature of the field and that this literature will contain terms or concepts, expressed in words or symbols, that establish

its uniqueness of concern.

The purpose of this study will be to determine if Higher Education can be identified as a field of unique concern, and to establish the methodological procedures that will provide a means for this identification. The analysis of the field will essentially be focused on the language or vocabulary of Higher Education. It will seek to determine the denotative nature of the language as it develops toward an exactness which is measurable.

This study will be based upon and will proceed to test the following hypotheses:

1. Is there a core of literature of the field of Higher Education which will yield a specialized set of vocabulary terms and/or concepts for the field?

2. Can a vocabulary-type test be constructed from the core of literature of the field which will meet acceptable standards of test construction?

3. Can such a vocabulary-type test be used to discriminate between graduate students in Higher Education and graduate students from other fields of study as to their ability to identify the specialized terms of Higher Education?

4. Can the results of such a vocabulary-type test be used to identify Higher Education as a field of graduate study and research?
Rationale for the Study

As fields of study emerge and develop they often gain recognition or acceptance through a number of means. Courses of degree programs in these fields are offered by numerous graduate departments. The fields are represented by professional societies or associations, their legitimate areas of concern are discussed through scholarly journals, and extensive bibliographies identify other publications in the area. Recognition is also gained, quite often, by virtue of the sheer numbers of persons interested in, and departments devoted to, the area. Such could be said for Higher Education as a field of study.

While research into the historical development of Higher Education as a field has indicated that its first course was offered in 1893, the development of departments in the area gained considerable momentum from 1945 to the present. Today there are over one-hundred graduate departments in the United States
offering courses and/or degree programs in Higher Education.12

The field identifies with a professional organization entitled, "The American Association for Higher Education" (a division of the United States Office of Education), which maintains national offices in Washington, D.C., and holds a yearly convention.

A number of regularly published journals and monographs are devoted to the research, discussion, and analysis of the theories and issues relating to higher education, including: The Journal of Higher Education, The Journal of Counseling Psychology, Higher Education and National Affairs, College Management, College and University Bulletin, The A.A.U.P. Bulletin, Liberal Education, Journal of Proceedings and Addresses of the...

12A review of graduate school catalogues for 1966-1967 indicates that at least 106 universities were offering courses related to one or more of the six sub-areas of Higher Education. While graduate catalogues are not necessarily accurate, other evidence indicates that 106 departments is not a fallaciously high number. A dissertation by Ewing indicates that in 1962-1963 there were

In addition, a newspaper entitled The Chronicle of Higher Education is published bi-monthly.

There are also numerous books which are devoted to the subject matter of Higher Education. The American Association for Higher Education published a Bibliography on Higher Education\(^\text{13}\) which listed 1205 books concerned

in some way with higher education in America. Additional bibliographies indicate that the total number of books related to the field exceeds 1300.

While the above-mentioned departments, associations, and documents indicate that many people are devoted, either individually or collectively, to Higher Education as a field of study, they must be considered as "face validity" indicators. It is felt that a more systematic or valid identification of the field is necessary, one which analyzes the vocabulary of the field.

The idea that special vocabularies, particular to specific fields, is not new. It is common practice in intelligence and achievement testing to test a knowledge or recognition of vocabulary. This is pointed out by Whipple, who wrote:

... general knowledge of American history is tested by the name "Anthony Wayne," knowledge of French by 'aujourd'hui,' of chemistry by chlorine,
of ethics by 'hedonism,' of golf by 'midiron,' of social usage by 'R.S.V.P.,' and of the technique of photography by 'f-64,' etc.14

Whipple further argued that if students do not familiarize themselves with a given field, they will not know the terms, or at least will not have such a knowledge that will enable to define the terms exactly.15

Barbe also explains that the part of learning which is concerned with the development of concepts "can largely be considered to be vocabulary training. As we have experiences, we develop concepts and hence a vocabulary."16 He further points out:

... In order to read his journals, for instance, a doctor has to understand a great many medical terms which would be a waste of time for the common layman to learn. However, this layman who has no use for medical terms is probably engaged in an occupation which has its own core of vocabulary which the doctor will never learn.17

15Ibid.
17Ibid., p. 67.
Barbe's contentions were apparently what Schwesinger had in mind when she wrote:

... A student of astronomy would have a good vocabulary of astronomical terms at his command; a keen baseball fan can discuss the intricacies of the "diamond" in a language quite unintelligible to the layman.  

As this study seeks to analyze the field of Higher Education through its language or "jargon", it will also attempt to answer a question recently offered by Dibden: "What are the distinctive concepts, emphases, and boundaries which would bring about disciplinary ... self identity."

A Review of the Literature

Before the research for this study could be accomplished or completed, a review of relevant and appropriate literature was necessary to determine if such effort would be duplication of similar research. Published sources from the past ten years were scrutinized to determine if


similar research had been achieved and, in addition, to determine if published materials might be of assistance in the development of this study.

Surveyed were: (1) Doctoral Dissertations Accepted by American Universities, volumes 16-25 (July 1955-June 1965), and Dissertation Abstracts, through volume 28, number 2 (August 1967), to determine if any Ph.D. theses had been researched concerning the subject of Higher Education as a field of study; (2) The Education Index, volumes 9-39 (1953-1967), to determine if any journal articles were published which could relate to the topic; (3) all bibliographical sources with the term "Higher Education" as part of the title or with titles that might imply discussion of the topic.20

A review of the literature revealed that three Ph.D. dissertations were concerned, at least in part, with Higher Education as a field of graduate study and research. Young's study indicated that the first course

20A total of sixty-seven books were analyzed to determine if they discussed Higher Education. None of the sources mentioned the field as an area of graduate study and research.
in the field was offered by G. Stanley Hall at Clark University in 1893, but that this was an isolated course and was shortly discontinued. Young indicated that departments later developed on a regular basis at Columbia University, Stanford University, The University of Chicago, and The Ohio State University. However, Young's research materials were historical catalogues and bulletins which later proved to be somewhat inaccurate.

A study by Davidson included brief information about majors in the field of Higher Education, but his study was concerned with educational philosophies in general.

The most complete study concerning Higher Education as a field of study was by Ewing. Ewing's research

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23 John C. Ewing, op. cit.
provided a more accurate historical analysis of the development of the field plus a description of the recent trends, e.g., the development of institutes and research centers for Higher Education which would serve as the basic research sources for higher education in general. Ewing's research materials were catalogues, questionnaires, and interviews, which provided a descriptive study of the instructional offerings in departments and centers of Higher Education.

There are some additional mimeographed materials prepared by Eckert _et al._, 24 which indicated, at the time they were prepared, either the number of courses offered in the field (as based upon a survey of graduate catalogues) or of the development of a department at the

University of Minnesota.

A review of the Education Index revealed that only two articles have been published concerning Higher Education as a field of study. The article by Ewing and Stickler\(^2^5\) proved to be little more than a summary of Ewing's dissertation and a plea for more research in the area. Dibden's article\(^2^6\) discussed the problems of the field and offered numerous rhetorical questions concerning the field, but provided little information, if any, concerning its development or validity.

A review of the literature was also made of research materials which would provide concepts or methodologies concerning vocabulary testing and its uses.

It was found that a study by Fotheringham\(^2^7\) concerning the development of a graduate achievement test in speech


\(^{26}\)Arthur J. Dibden, *op. cit.*

\(^{27}\)Wallace C. Fotheringham, "A Study of Methodology in the Construction of a Graduate Achievement Test in the Area of Speech and Hearing Disorders," Ph.D. dissertation, The Ohio State University, 1951.
and hearing disorders, and a study by Hulsopple concern ing the development of a graduate achievement test in theatre, were quite useful establishing the methodological procedures for this study.

In addition, a bibliography prepared by Dale and Razik was surveyed to determine what vocabulary testing studies could be used for general reference and assistance in the completion of this study.


CHAPTER II

METHODOLOGY OF THE STUDY

During the winter, spring and summer of 1967, a series of methodological procedures were established through which the hypotheses of the study could be examined. The steps were:

1. Those procedures used to select a core of literature for the field of Higher Education that would yield the specialized terms and concepts for the field.

2. Those procedures used to construct a vocabulary-type test from the terms and concepts of Higher Education.

3. Those procedures used in administration of the test.

4. Those procedures used that composed a plan of test analysis.

Selection of a core literature for Higher Education

The first methodological procedure was to establish a core of literature for the field of Higher Education. This core of literature was to be obtained from a selected bibliography of books in the field (in questionnaire form) by the "experts" of the field. Through an analysis of
the core of literature the terms and concepts of
Higher Education could be obtained.

The selected bibliography to be used by the
"experts" was constructed using the following condi-
tions: (1) it should contain only sources widely used
by departments and graduate students of Higher Education,
(2) it should contain content and discussion which would
include all of the six sub-areas of the field, (3) it
should not be so extensive and complex that it might
discourage adequate consideration and response by those
experts who were asked to respond.

Items placed on the selected bibliography which
met the above conditions were obtained from several
bibliographical sources: (1) the writer's own "Bibliog-
raphy of Books Concerned with Higher Education in the
United States", a 157-item listing of books the writer
felt to be the most important works in the field as of
January 1967, (2) a "Bibliography for Higher Education"
prepared by Ruth E. Eckert, Professor of Higher Educa-
tion at the University of Minnesota, for the Department of Higher Education at Minnesota (1966-mimeographed), (3) a "Selected Bibliography in Higher Education", prepared by the offices of institutional research, State University of New York at Buffalo (November, 1966-mimeographed), and (4) the A.H.E. Bibliography on Higher Education, 1 1967, containing approximately 1200 items. The collected issues of journals related to the field of Higher Education were also surveyed for book reviews and book listings.

With the approximately 1300 possible bibliographical items available, a problem of selection developed. Journal articles were excluded since they would only compound the problem greatly, and it was felt that important articles would be cited by the books of the field. Hundreds of items were not included because they were not generally available, were unpublished or in mimeograph form, or were not particularly applicable by

1 op. cit.
title (as was the case with many sources listed in the A.H.E. Bibliography), e.g., Who's Who in Library Service, The Women in America, and Empathy.

The final bibliography items to be placed on the questionnaire were selected on the following bases: (1) those sources quoted of referred to most often in the books of the field, and (2) those sources which would contain pertinent content for all of the six sub-areas of the field.

A total of fifty-one items were selected and placed on a "Bibliography-Questionnaire". It was felt that the items selected met the conditions stated above. At the end of the questionnaire space was provided to "write-in" any source considered important enough to be included in the selected bibliography.

In January, 1967, the Bibliography-Questionnaire

2Approximately 300 books were reviewed by the writer and their reference sources were noted and tabulated.

3See Appendix A
was sent to fifty-five professional "experts" in the field.\textsuperscript{4} The names of professors teaching in the field were obtained from a list of 193 "Faculty Members Teaching Courses in Higher Education", prepared by the Association for Higher Education in 1966. Only those listed as full professors, departmental chairmen, or who held special professorships were included in the mailing. Also included in the mailing were three members of the executive committee of the Association for Higher Education and the editor of the \textit{Journal of Higher Education}.

A cover letter\textsuperscript{5} was attached to the Questionnaire requesting that the experts choose the "ten most important and widely used" books in Higher Education, books that graduate students "must be familiar with when taking their written Ph.D. examinations in Higher Education". The respondents were also asked to mark the ten books they felt were "least important" from the list.

\textsuperscript{4}See Appendix B

\textsuperscript{5}See Appendix C
By requesting that the respondents indicate both the most important and least important books, it was felt that a weighted frequency distribution or rating could be assigned and thus would more accurately determine the final selection of the ten "most important" books.

Of the fifty-five "experts" surveyed, forty-one, or approximately seventy-five percent, responded.\(^6\) From the forty-one returns, six were discarded as improperly marked,\(^7\) leaving thirty-five available for analysis. Most respondents neglected to indicate the ten "least important" books in the field, thus the considered "weighting" of items was discarded.

A tally of the plus responses indicated that fourteen books were selected as "most important" by at least

\(^{\text{6}}\)Mail was returned from five other sources indicating that the intended respondent no longer was at that address or was on leave.

\(^{\text{7}}\)In all cases the improperly marked questionnaires were caused by the respondents indicating more than ten books as "most important".
thirty-four percent of the experts, including one "write-in". The fourteen texts are listed in Table 1. The selected texts were then quantitatively analyzed to determine if a vocabulary of terms and concepts in the field of Higher Education existed which could be used in a vocabulary-type test.

Selection of a Master List of Vocabulary Entries

To develop a Master list of vocabulary terms and concepts for the field of Higher Education, a methodology adapted from studies by Fotheringham® and Hulsopple® was used.

The fourteen books selected as "most important" were carefully scrutinized, page-by-page and line-by-line, for the distinguishable, denotative, and significant terms or concepts of the field. Proper names, descriptive terms, words-in-combination, abbreviations, symbols, and foreign terms or expressions were considered acceptable, provided

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8Wallace C. Fotheringham, op. cit.
9Bill G. Hulsopple, op. cit.
TABLE 1

THE FOURTEEN "MOST IMPORTANT BOOKS IN HIGHER EDUCATION"


that they were not so common or in such general usage (e.g., higher education, test, professor, university, student, et al.), that they would be instantly recognized by any student in higher education. All words or symbols considered acceptable as part of the language of the field were underlined in the fourteen books, and were considered as "entries" for a master list to be compiled when all of the books were surveyed. The fourteen books provided a total of 5310 pages and approximately 1,756,300 words.

After each of the fourteen books was examined, those words which were underlined were typed on color-coded sheets of paper. Seven different-colored sheets of
paper and two different-colored typewriter ribbons were used making the total of fourteen coding combinations necessary for the "most important" books.

After all entries were recorded, the words or terms from each book were cut into strips to be filed alphabetically. After alphabetization, the entries were then arranged together to determine their frequency of appearance in the fourteen sources. The entries were considered acceptable for inclusion in a "master list of entries" for the field if they met the following frequency-of-appearance criteria: (1) appeared at least six times in one source, (2) appeared in two or more sources, or (3) appeared at least six times in one source and in two or more sources. Of the original 354 terms underlined in the fourteen texts, a total of 262 entries met the frequency-of-appearance criteria.

It was not considered important for this study to know exactly how many times each entry occurred in

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10 For the "Master List of Entries" and their frequency of appearance, see Appendix D.
the sources, only that they met the frequency criteria. It was felt that entries occurring more frequently in the literature of the field would be more valid test material than those which occurred infrequently.

Development of a Vocabulary Test Instrument

Before determining which type of test items were to be used in this study, two authorities in the field of testing were consulted for their recommendations. Dr. Edgar Dale, a prominent authority in testing in higher education and the author of several bibliographies concerning vocabulary testing and research, and Dr. Robert W. Ullman, Director of The Ohio State University Testing Center, were consulted concerning their recommendations for test construction. It was recommended that multiple-choice items with five responses be used, because (1) they provide for a relatively low guessing factor, (2) alternative answers are easily obtained, and (3) they can be machine scored when special answer sheets are provided.

From the master list of entries an attempt was made
to construct a multiple-choice vocabulary test of approximately 125 items.\textsuperscript{11} Reduction from the 261 entries to the 125 which would be used in the multiple-choice items was made using several criteria.

First, an entry was included only if a sufficient and precise definition or explanation was available in the context from which it was obtained, or from a dictionary of educational terms. Second, several entries were concerned with the same concept, e.g., "Pace-Stern" and the "College Characteristics Index," and could provide both the definition-question and correct answer for one item. Third, many proper names that were mentioned in two or more sources (specifically the historical works by Rudolph and by Brubacher and Rudy\textsuperscript{12}) had little importance and were mentioned only in passing by the authors. These names were excluded. Fourth, many of the philosoph-

\textsuperscript{11}It was felt that 125 items would constitute a manageable number for graduate student response during a fifty-minute class period, including the distribution and collection of materials.

\textsuperscript{12}Frederick Rudolph, \textit{The American College and University}, New York: Alfred A. Knopf, 1962; John S. Brubacher and Willis Rudy \textit{op. cit.}
ical terms (e.g., liberal arts, general education, humanities) were found to have ambiguous definitions or explanations, either in context or in several educational dictionaries. In many instances, the precise meaning of these words are subject to continual debate and were therefore discarded for the study.

The 125 entries selected for use in the multiple-choice vocabulary test were typed on individual three-by-five inch note cards and a statement-definition was prepared for each. The statement definitions were taken from their context whenever possible.\[^{13}\] For example, for the entry "mediator-initiator," a statement-definition was prepared: "Clark Kerr's title for a multi­versity president." It could be assumed that a graduate student in Higher Education would be familiar with the

concepts "Clark Kerr" and "multiversity," and would be familiar with Kerr's writings. Kerr's book, *The Uses of the University,*\(^{14}\) was one of the "most important" books selected and was the source for the term and the statement-definition.

When a statement-definition was prepared for each of the 125 entries, the cards were randomly sorted (shuffled) so that test items would be randomly arranged on the test. The cards were then numbered from 1 to 125.

The next step in test construction was to provide the four alternative wrong answers or "distractors" for each item in the test. It was felt important to provide alternative answers that were considered to appear as possible correct answers to those unfamiliar with the item, but which would not be considered as a possible correct answer by someone with item familiarity. It was found necessary to refine both the statement-definitions and the responses so that no clues to

the correct answer would appear, e.g., singular and plural items.

It was also found necessary to randomize the five responses for each item so that no response pattern or key could be determined or predicted. Randomization of the five responses was made by assigning a value of one (1) to five (5) to each of five marbles of the same size and weight, but of different color. The marbles were then placed in a cup and were shaken. After a complete mixing, one marble was selected and its numerical value was then used as the position for the correct response of the five choices possible. This selection process was repeated for each of the 125 items in the test.

When the 125 entry cards were randomly assigned and the correct answers randomly positioned on each card, a Higher Education Instrument Form 1001 was prepared. The Instrument was then administered as a
pre-test to ten "expert" graduate students in Higher Education during the summer quarter of 1967.

Each of the ten "expert" graduate students had (1) just received his Ph.D. in Higher Education, (2) taken his Ph.D. written examinations in Higher Education and was about to receive his degree, or (3) was just going to take the written examinations that quarter or the following quarter. It was felt that those persons should have been familiar with both the fourteen selected books and the 125 items on the test.

The ten "experts" were asked to perform as well as they could on the test and to evaluate the items for possible ambiguity or error. One purpose of the pretest was to refine and improve any statement-definitions and to eliminate any items found to be erroneous in content.

The primary purpose of the pretest was to determine if any items should be eliminated from the instrument due to extreme item difficulty. A tally of the ten responses to each item was made using a modified
item-difficulty index. Any item which did not receive at least four correct responses from the ten "expert" graduate students was discarded, as was any item having at least four responses to an incorrect distractor. On these bases, nineteen items were eliminated from use in the final instrument.

From the pretest results, Form 1002\textsuperscript{15} of the test instrument was developed to test four distinct samples drawn from a universal population.

**Administration of the Test**

The purpose of the Higher Education Instrument Form 1002 was to determine if samples of graduate students from Higher Education and other fields of study could identify the "language of Higher Education." It was hypothesized that graduate students in Higher Education would score significantly higher when responding to the instrument than graduate students from other fields.

\textsuperscript{15}See Appendix E. It was found that there were some misspellings and typographical errors in Form 1002. Form 1003 (Appendix F) provides the necessary corrections.
Four different sample groups of graduate students at The Ohio State University were selected for testing: (1) students majoring in Higher Education, (2) students majoring in elementary education, (3) students majoring in secondary education,16 and (4) students majoring in speech.17 It was felt that the inclusion of two areas within education would lend validity to the test, for if Higher Education is to be of "unique concern" as a research area with its own terms and concepts, these terms should be distinguishable from those in other areas of education. It was also considered important to test an "outside" area not related to Higher Education

16 There is no major, per se, in secondary education at Ohio State. However, State certification distinguishes between the requirements for elementary and secondary education. Generally, those persons preparing for graduate degree programs for teaching on the secondary level will major in a sub-area related to those subjects or administrative duties dealing with secondary education.

17 The graduate students from speech were from several areas: general communication, theatre, speech and hearing, and radio and television.
and that "speech" would serve that purpose. In addition, it was felt that these students would be the same or similar to the test sample in Higher Education with respect to age, maturation, motivation, intelligence, and academic background.

Administration of the Higher Education Instrument Form 1002 to the four sample groups of graduate students occurred during the summer of 1967. Part of the graduate student sample in speech had to be obtained from the Speech Department of Kent State University, due to an inadequate available sample at Ohio State.

A sample of at least twenty-five students was sought for each area which would be acceptable and applicable for analysis by small-group statistical methods.

During or after classroom meetings, students from each of the four sample groups were given a copy of Form 1002, a machine scorable answer sheet, and a special pencil for the answer sheet. Each answer sheet was pre-coded indicating a code number for each group and an identification number for each student within the
groups. The students in each of the non-Higher Education areas were screened to determine if any had received formal course work in Higher Education at Ohio State or any other institution. All those who had received such course work were excused from the test.

The students in each of the four groups tested were given the following directions:

1. The following is a test concerning terms and concepts in Higher Education.

2. You are asked to complete the test and to respond to each of the 107 items even if you must guess.

3. The special pencil provided must be used when completing the test.

4. At the top of the page in the box titled "Identification number," darken the space under "M" if you are working toward a Master's degree or darken the space under "F" if you are working toward a Ph.D. degree.

5. Do not mark anything at the top of the answer sheet in the spaces marked Name, Grade, Date, etc.

6. Remember, the responses on the answer sheet are horizontal, not vertical.

Following the test, the machine-scorable answer sheets were collected. The students were permitted to retain the Form 1002 and were given a key to the correct answers.
The answers were then grouped according to the four samples and were checked to determine if they were completed correctly. Several answer sheets were discarded because they were improperly completed, due almost entirely to a lack of answers for each of the 107 items. Table 2 indicates the final results concerning the N for each sample and their graduate degree classifications.

Procedures Used in the Analysis of the Test

The machine-scorable answer sheets, after being sorted and grouped, were processed at the Test Development Center for the College of Education at Ohio State.

An analysis of the results of the Higher Education Instrument Form 1002 was performed by the "Ohio State University Item Analysis Program" (OSIA), which provided the following:

1. A score analysis giving a score list, frequency distribution, cumulative frequency, and percentiles.

---

18Adapted from the appendix of the "O.S.U. Item Analysis Program," The Ohio State University, Columbus, Ohio, June, 1964 (mimeographed). Complete formulae for the statistical procedures used are detailed in the appendix.
TABLE 2

DISTRIBUTION OF SAMPLE GROUPS BY GRADUATE DEGREE PROGRAMS

<table>
<thead>
<tr>
<th>Sample Groups</th>
<th>Degree Classification</th>
<th>Higher Education</th>
<th>Speech Education</th>
<th>Elementary Education</th>
<th>Secondary Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's degree</td>
<td>12</td>
<td>14</td>
<td>17</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Ph.D. degree</td>
<td>15</td>
<td>11</td>
<td>6</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>25</td>
<td>23</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

2. Item statistics giving item difficulty, item discrimination (phi coefficient and point biserial r), and proportion of the total group answering the item correctly.

3. Summary statistics giving (a) the total number of persons taking the test, (b) the number of persons in each of upper and lower groups, (c) the number of items on the test, (d) mean scores for upper, lower, and total groups, (e) median score for total group, (f) standard deviation for total group, and (g) reliability coefficients and standard error by the Kuder-Richardson formula #20, the Kuder-Richardson formula #21, and the Odd-Even split method corrected by the Spearman-Brown Prophecy Formula.

The above analyses were performed for each group of the four tested plus the total group.
The procedures used in the analysis of the Higher Education Instrument Form 1002 were to determine (a) test reliability for each of the samples and of the total sample, and (b) the difference of scores between the Higher Education sample and the other samples.

The OSIA provided the necessary coefficients to determine test reliability and also provided summary data for proceeding to determine the differences between the four groups tested using $t$ tests for independent means. The $t$ test for independent means was used because (1) it is a powerful parametric test for independent samples and the samples tested were assumed to have a homogeneity of variance, and (2) it is useful in providing data analysis for the sample sizes used in this study.

Results from the $t$ tests could also be used to determine test validity, for it was prophesized that graduate students in Higher Education, with their special experience and orientation, would score significantly higher on the test than the graduate student samples from the other fields.
The methods used in the test analyses were a basic part of the broad plan of methodology for the study. A discussion of the results of these test analyses is presented in Chapter III.
CHAPTER III
PRESENTATION AND EVALUATION
OF RESULTS

The results presented in this chapter are focused on those hypotheses concerned with the construction and use of a vocabulary test to identify Higher Education as a graduate field of study and research.

If conclusions are to be drawn from the results of the Higher Education Instrument Form 1002, statistical evidence must be presented which indicates that (1) the Form 1002 appears to be a valid test instrument and methodology, (2) the Form 1002 appears to be a reliable test instrument, and (3) the test items in Form 1002 meet measurable standards of acceptability.

Results Concerned with Test Construction

Test and item analyses were performed by the OSIA for each of the four groups tested and for the total group. The summary statistics provided by the OSIA are presented in Table 3.

The summary statistics in Table 3 indicate a total
### Table 3

**Summary Statistics for Each Group Tested and for the Total Group**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Taking Test</strong></td>
<td>27</td>
<td>23</td>
<td>23</td>
<td>25</td>
<td>98</td>
</tr>
<tr>
<td><strong>Number of Items</strong></td>
<td>107</td>
<td>107</td>
<td>107</td>
<td>107</td>
<td>107</td>
</tr>
<tr>
<td><strong>Mean Score</strong></td>
<td>61.04</td>
<td>39.57</td>
<td>37.48</td>
<td>35.92</td>
<td>44.06</td>
</tr>
<tr>
<td><strong>Median Score</strong></td>
<td>65.25</td>
<td>40.00</td>
<td>35.00</td>
<td>35.00</td>
<td>40.17</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>15.02</td>
<td>11.62</td>
<td>13.97</td>
<td>5.97</td>
<td>15.98</td>
</tr>
<tr>
<td><strong>1. Reliability (KR-20)</strong></td>
<td>.91</td>
<td>.86</td>
<td>.90</td>
<td>.44</td>
<td>.92</td>
</tr>
<tr>
<td><strong>Standard Error</strong></td>
<td>4.39</td>
<td>4.42</td>
<td>4.31</td>
<td>4.48</td>
<td>4.54</td>
</tr>
<tr>
<td><strong>2. Reliability (KR-21)</strong></td>
<td>.89</td>
<td>.82</td>
<td>.88</td>
<td>.33</td>
<td>.91</td>
</tr>
<tr>
<td><strong>Standard Error</strong></td>
<td>4.93</td>
<td>4.89</td>
<td>4.77</td>
<td>4.87</td>
<td>4.87</td>
</tr>
<tr>
<td><strong>3. Reliability (OD-EV)</strong></td>
<td>.94</td>
<td>.80</td>
<td>.90</td>
<td>.36</td>
<td>.91</td>
</tr>
<tr>
<td><strong>Standard Error</strong></td>
<td>3.68</td>
<td>5.17</td>
<td>4.47</td>
<td>4.79</td>
<td>4.85</td>
</tr>
</tbody>
</table>
group test reliability of above \( r = .91 \) with three separate reliability measures being used. These coefficients indicate a high degree of stability of performance for the independent samples using the instrument. Indications of test validity will be discussed later in the chapter when the differences between the groups tested are presented.

The OSIA also provided statistics indicating item difficulty and item discrimination indices (complete item statistics for the total group are presented in Appendix G). To determine measurable indices of item acceptability, a range for item difficulty and Phi coefficient (item-test reliability) values was assigned. Test items with item difficulty values\(^1\) between \( .30 \)-\( .80 \) and Phi coefficient

\(^1\)When there are five responses to a multiple-choice item, expected item difficulty (\( N=100 \)) is \( .20 \) due to chance alone (it can be predicted that twenty per cent of the sample would pass each item and eighty per cent would fail). To determine a level of acceptability and significance for item difficulty the standard error of a per cent was computed (\( N=100 \)) resulting in a value of four. This number was then multiplied by 1.96 (the area in which ninety-five per cent of the values based upon chance alone would be expected to be distributed) to produce a value of 7.84. Any item difficulty equaling or exceeding 27.84 would equal the two and one-half per cent level of confidence. For the
values equal to or exceeding +.19 were considered to be "acceptable" items. A profile indicating the coordinate values (difficulty and Phi) and distributions for the 107 items is graphically plotted in Figure 1.

It was found that 62 of the 107 test items met acceptable standards of item difficulty and discrimination. An inspection of the items as presented in Appendix G indicates that the large number of unacceptable items is a function of poor item construction and that many of the alternative responses (distractors) are in need of revision. Item 40, for example, has an equal number of responses to the correct choice from both the upper and lower performance groups. In addition, Choice 1 of Item 40 received more responses than the correct choice from the upper purposes of this study, the acceptable base limit for item difficulty was set at .30. (For a discussion of standard error of percentage, see George A. Ferguson, *Statistical Analysis in Psychology and Education*, New York: McGraw-Hill, 1959, p. 128.)

To determine which items are discriminating (correlated with the results on the whole test), a table of "The Critical Values of the Correlation Coefficient" was consulted (Ferguson, p. 315). The table indicated that
FIGURE 1
BI-VARIATE PLOT OF DIFFICULTY INDICES AND DISCRIMINATION INDICES OF TEST ITEMS SHOWING THOSE ACHIEVING ACCEPTABILITY AND THOSE NOT
and lower performance groups. These item characteristics resulted in the unacceptable Phi values and indicate a need to revise (not necessarily discard) the item.

Results Concerned with Differences Between the Groups Tested

It was predicted that graduate students in Higher Education, with their special orientation to the concepts, theories, and methodologies of the field, would perform significantly higher on the Form 1002 than would graduate students from other fields. However, it was also felt that if the field of Higher Education was of "unique concern," students from other backgrounds and orientations would be unable, in general, to identify the language of the field.

To determine the differences of performances between

the .05 level of confidence for a two-tailed test (df=100) is .195. Sample Phi coefficients equal to or exceeding .19 probably represent (at the .05 level) true values in excess of zero (no item-test relationship).
the students in Higher Education and the students from the other fields, \( t \) tests for independent means\(^3\) were computed. The summary statistics provided by Table 3 indicate that there are large differences between the mean scores of the Higher Education group and the mean scores for the other three groups tested.

Results of the \( t \) tests presented in Table 4 indicate that the mean score for the Higher Education students is significantly higher than the mean scores of students from the other fields. These results tend to confirm the validity and usefulness of the Form 1002 as an instrument designed to measure special orientation and experience in graduate study.

\(^3\)For a discussion of the rationale and formulae for critical ratio and \( t \) statistics, see Ferguson, p. 137.
**TABLE 4**

**SUMMARY OF t TESTS EXAMINING DIFFERENCE BETWEEN MEANS OF HIGHER EDUCATION STUDENTS AND STUDENTS FROM OTHER FIELDS**

<table>
<thead>
<tr>
<th>Groups</th>
<th>N's</th>
<th>d.f.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education and Speech</td>
<td>27; 25</td>
<td>50</td>
<td>7.80*</td>
</tr>
<tr>
<td>Higher Education and Secondary Education</td>
<td>27; 23</td>
<td>48</td>
<td>5.57*</td>
</tr>
<tr>
<td>Higher Education and Elementary Education</td>
<td>27; 23</td>
<td>48</td>
<td>5.75*</td>
</tr>
</tbody>
</table>

\[
*p[t(df=48) \geq 2.01] = .05\]
CHAPTER IV

CONCLUSIONS AND IMPLICATIONS
FOR FURTHER STUDY

A Review of Purposes of the Study

The purpose of the study was to investigate and further identify through methodological analyses a rapidly emerging and expanding field of graduate study, Higher Education. It was felt important to assess Higher Education concerning its validity as a field and its viability for the future.

Earlier in the study it was argued that if a field is to exist, it should exist as a body of information (facts, theories, methodologies, and variables) that is organized in a framework of unique concern. It was further argued that if a field does exist, its body of information will be presented by the literature of the field and that this literature will contain terms or concepts, expressed in words or symbols, that establish its uniqueness of concern.
While Higher Education as a field of study has been considered before through historical description, a more systematic identification of the field seemed necessary. As a result, a testing procedure was developed to provide a means for further identification.

Conclusions Concerning the Original Hypotheses

The first hypothesis sought to determine if a core of literature of the field of Higher Education existed which would yield a specialized set of vocabulary terms and concepts. Although there are approximately twelve hundred books and twenty journals related to higher education, it appeared methodologically possible to reduce this number to a select group of "most important" books.

It was also found possible, through a method of quantitative analysis, to abstract from the selected literature a set of specialized vocabulary terms and concepts (entries) which could be categorically analyzed and defined.

From the fourteen books surveyed, a total of only 354 terms or concepts were considered part of a technical or
unique language of the field, while only 262 entries met acceptable frequency-of-appearance criteria. The uniqueness and denotative qualities of the language of Higher Education indicate, from the relatively small number of entries available for test purposes, that (1) the field, as presented through selected literature, is in early stages of technical development, or that (2) the selected literature tends to present very general descriptions and analyses of the field and therefore contains few denotative facts, theories, methodologies, and variables.

It can be concluded that a core of literature of the field can be determined and that the specialized terms and concepts of the field can be obtained from this literature. However, the obtained terms and concepts tend to yield conservative evidence that the field, while unique in its concern, has not developed beyond somewhat elementary stages.

The second hypothesis of the study sought to determine if a vocabulary-type test would meet acceptable standards of test construction. For the development of the Higher Education Instrument it was found that five response,
multiple-choice items should be used.

The Higher Education Instrument Form 1002 proved through analysis to be a valid and reliable instrument. Although only two-thirds of the test items met acceptable standards of item difficulty and discrimination, test reliability coefficients remained high. It can be concluded that a major reason for item unacceptability was a poor use of alternative item choices or distractors. Further refinement of items was not possible due to a depletion of available graduate student samples at The Ohio State University.

It was felt that the methodological procedures used in determining and measuring the vocabulary of Higher Education as a field of study can be applied usefully to the study and research of other fields.

The third hypothesis sought to determine if a vocabulary test such as Form 1002, after it was found to meet acceptable standards of test construction, could be used to discriminate between the test performances of graduate students in Higher Education from graduate students in other fields of study.
The vocabulary test Form 1002 was designed to measure special orientation and experience that graduate students in Higher Education were expected to have. The highly significant results indicated that the test was indeed effective in measuring special orientation and that the large differences in performance (mean scores) between the students in Higher Education and the students from other areas indicated a uniqueness of concern for the concepts measured.

The final hypothesis sought to provide the general conclusions for which this study was intended: Can the results of such a vocabulary-type test be used to identify Higher Education as a graduate field of study and research?

Since Higher Education as a field of study has been considered by researchers, for the most part, in relation to its historical growth and development by university departments, and since it can only be evaluated by the numerous "face value" indicators (professional societies, journals, number of departments, number of books devoted to the subject et al.), a different, more systematic, and perhaps more valid method of identification seemed necessary.
The general methodology and testing procedures used in this study indicated that Higher Education can be identified as a unique, valid, and measurable field of study. Furthermore, the results identified the field as one which apparently is in early developmental stages concerning unique theories, methodologies, and variables. While many of the concepts, as expressed through vocabulary, are indeed denotative and require special orientation to be recognized by graduate students, these appear in relatively conservative numbers. In addition, the written materials considered to be "most important" by experts in the field could be, by their apparent general nature, too general to expose many of the unique concepts of the field.

As a final conclusion, it is believed that the methodologies used in this study are useful and effective in identifying a field of study through a language and vocabulary analysis.
Implications for Further Study

The results of this study have, in this writer's opinion, many heuristic qualities:

First, the results of the item analysis indicated that many of the items on Form 1002 need further revision to meet acceptable standards of item difficulty and discrimination.

Second, the sample sizes used were small and limited to those students subject to the special orientation provided by one institution and its departments (with the exception of the speech sample). Similar appraisal of other graduate student samples from other institutions seems necessary before definitive conclusions and identifications can be made concerning Higher Education as a field of study.

Third, as the literature of the field increases and as additional contributors present new concepts, further analysis of the language will be necessary. The conservative number of available entries indicates that the Form 1002 could soon be out of date and that the "most important" source materials could change. A longitudinal study effecting other source materials and many graduate depart-
ments would seem important as the field develops.

Fourth, the general methodology used in this study might further be developed to provide a standardized achievement test based upon the vocabulary of the field. This type of test could be particularly useful in measuring or evaluating the experience of new graduate students entering either the field or a department. This procedure has been used effectively in other fields of study for placement and evaluation purposes. A vocabulary test of the unique concepts of the field might also be designed to provide a general overview at the beginning of a particular course offering.

Finally, the results of this study would indicate that measurable standards for Higher Education as a field are necessary and that the field should be further analyzed and identified concerning its role in the future of higher education.
APPENDIX A

BIBLIOGRAPHY-QUESTIONNAIRE
BIBLIOGRAPHY-QUESTIONNAIRE FOR HIGHER EDUCATION

Please put a plus mark (+) in the space provided to the left of the ten (10) books you consider to be the most important and widely used in the field of Higher Education. If there are any books you feel should be included in the "top ten" but that are not included below, please add them at the end. You are also asked to put a zero (0) mark to the left of the ten books you consider least important. Thank you for your time and cooperation.


Berelson, Bernard. Graduate Education in the United States.


Brubacher, John S. Bases for Policy in Higher Education.


Chambers, M. M. Freedom and Repression in Higher Education.


Corson, John J. Governance of Colleges and Universities.

Dennis, Lawrence, and Joseph F. Kauffman. The College and the Student.

Dressel, Paul L. and Associates. Evaluation in Higher Education.

Eddy, Edward D. College Influence on Student Character.
Estrin, Herman A. and Delmer M. Goode. College and University Teaching.

Fields, Ralph R. The Community College Movement.

Fisher, Margaret B. and James L. Noble. College Education as Personal Development.

Freedman, Morris. Chaos in American Colleges.

Gibson, Raymond C. The Challenge of Leadership in Higher Education.

Goodman, Paul. The Community of Scholars.


Hungate, Thad L. Management in Higher Education.

Jacob, Phillip E. Changing Values in College.

Kerr, Clark. The Uses of the University.


Lyssen, Seymour M. and Sheldon S. Wolen (eds.) The Berkeley Student Revolt.


McGlothlin, William J. The Professional Schools.

McGrath, Earl J. (ed.) Universal Higher Education.

MacIver, Robert M. Academic Freedom in Our Time.

Mayhew, Lewis B. The Smaller Liberal Arts College.

Medsker, Leland L. *The Junior College: Progress and Prospect.*


Morey, Lloyd. *The State Supported University.*

Mueller, Kate H. *Student Personnel Work in Higher Education.*

Murphy, Louis and Esther Raushenbach. *Achievement in College.*

Perkins, James A. *The University in Transition.*

Riesman, David. *Constraint and Variety in American Higher Education.*


Sanford, Nevitt (ed.) *The American College and/or College and Character.*

Stroup, Herbert H. *Bureaucracy in Higher Education.*

Walters, Everett (ed.) *Graduate Education Today.*

Wicke, Myron F. *The Church-Related College.*

Williams, Robert L. *The Administration of Academic Affairs in Higher Education.*

Williamson, E. G. *Student Personnel Services in Colleges and Universities.*

Wilson, Logan. *Emerging Patterns in American Higher Education.*

Woodburne, Lloyd S. *Faculty Personnel Policies in Higher Education.*

Wrenn, C.G. *Student Personnel Work in College.*
ADDITIONAL BOOKS
APPENDIX B

LIST OF FACULTY MEMBERS AND PROFESSIONAL PERSONS SURVEYED FOR RESPONSE TO BIBLIOGRAPHY-QUESTIONNAIRE
LIST OF FACULTY MEMBERS TEACHING COURSES IN HIGHER EDUCATION WHO WERE SENT BIBLIOGRAPHY-QUESTIONNAIRES

ARMSTRONG, W. EARL - Distinguished Lecturer in Higher Education, Florida State University

AXEN, RICHARD - Professor of Higher Education, San Francisco State College

BLACKMAN, EDWARD - Assistant Dean of the University College and Professor of Higher Education, Michigan State University

BRUBACHER, JOHN S. - Professor of Higher Education, University of Michigan

BRUNNER, KEN AUGUST - Professor of Higher Education, Southern Illinois University

CARTHERS, MILTON W. - Professor of Higher Education, Florida State University

CLARK, BURTON R. - Professor of Education, University of California

COOPER, JACK H. - Department of Higher Education, Temple University

COWLEY, W. H. - David Jacks Professor of Higher Education, Stanford University

DAVIS, LOUIS - Professor of Higher Education, Southern Illinois University
<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOI, JAMES I.</td>
<td>Professor of Higher Education, University of Michigan</td>
</tr>
<tr>
<td>DIBDEN, ARTHUR J.</td>
<td>Professor of Higher Education, Southern Illinois University</td>
</tr>
<tr>
<td>DRESSEL, PAUL L.</td>
<td>Director of Institutional Research, Michigan State University</td>
</tr>
<tr>
<td>DREWRY, GALEN N.</td>
<td>Director, Institute of Higher Education, University of Georgia</td>
</tr>
<tr>
<td>DURYEA, ED D.</td>
<td>Chairman, Program in Higher Education, Syracuse University</td>
</tr>
<tr>
<td>ECKERT, RUTH E.</td>
<td>Professor of Higher Education, University of Minnesota</td>
</tr>
<tr>
<td>FIELDS, RALPH R.</td>
<td>Professor of Higher Education, Columbia University</td>
</tr>
<tr>
<td>GIBSON, RAYMOND C.</td>
<td>Director, Division of Higher Education, Indiana University</td>
</tr>
<tr>
<td>GILES, FREDERIC T.</td>
<td>Professor of Higher Education, University of Washington</td>
</tr>
<tr>
<td>GOODE, DELMER M.</td>
<td>Professor of Higher Education, Oregon State University</td>
</tr>
<tr>
<td>HALL, GEORGE L.</td>
<td>Professor of Higher Education and Director, Midwest Community College Leadership Program, University of Michigan</td>
</tr>
<tr>
<td>HANSEN, ABEL A</td>
<td>Professor of Higher Education, Columbia University</td>
</tr>
<tr>
<td>HARDEE, MELVENE D.</td>
<td>Professor of Higher Education, University of Florida</td>
</tr>
</tbody>
</table>
HENDERSON, ALGO D. - Director, Center for the Study of Higher Education, University of Michigan

JOHNSON, B. LAMAR - Professor of Higher Education, University of California

JONES, WILLIAM C. - Director, Institute for College Teaching, University of Oregon

LEWIS, JAMES A. - Professor of Education, University of Michigan

LITTLE, J. KENNETH - Professor of Higher Education, University of Wisconsin

MARTIN, JAMES A. - Professor of Religion in Higher Education, Union Theological Seminary

MAYHEW, LEWIS B. - Professor of Higher Education, Stanford University

MEDSKER, LELAND L. - Vice-Chairman, Center for the Study of Higher Education, University of California

PACE, ROBERT - Professor of Higher Education, University of California

POWER, EDWARD J - Director, Center for Higher Education, Boston College

PULLIAS, E. V. - Professor of Higher Education, University of Southern California

RAINES, MAX - Professor of Higher Education, Michigan State University

RAINEY, HOMER P. - Professor of Higher Education, University of Colorado
REDEFER, FREDERICK L. - Professor of Higher Education, New York University

REYNOLDS, JAMES W. - Professor of Higher Education, University of Texas

ROBINSON, DONALD - Professor of Higher Education, Southern Illinois University

RUSSEL, JOHN H. - Professor of Higher Education, University of Toledo

SANFORD, NEVITT - Professor of Psychology and Education, Stanford University

SCHAEFER, ROBERT - Dean, Teachers College, Columbia University

SCHULTZ, RAYMOND - Professor of Higher Education, Florida State University

SMITH, KEITH W. - Professor of Higher Education, Southern Illinois University

STICKLER, W. HUGH - Head, Department of Higher Education, Florida State University

SWEITZER, ROBERT E. - Chairman of Higher Education, Pennsylvania State University

TENNEY, CHARLES D. - Professor of Philosophy and Higher Education, Southern Illinois University

WHITE, ELLIS F. - Chairman, Department of Higher Education, New York University

WICKE, MYRON F. - Lecturer in Higher Education, George Peabody College
WRENN, C. GILBERT - Professor of Educational Psychology, Arizona State University

YOUNG, RAYMOND J. - Professor of Higher Education, University of Michigan

ADDITIONAL PERSONS SURVEYED

ANDERSON, G. LESTER - Distinguished Professor of Higher Education, State University of Buffalo

AUSTIN, C. GREY - Editor, *The Journal of Higher Education*

SAUNDERS, RICHARD F. - Associate Executive Director, The Association for Higher Education, Washington, D. C.

SMITH, G. KERRY - Executive Director, The Association for Higher Education, Washington, D. C.
APPENDIX C

COVER LETTER SENT WITH
BIBLIOGRAPHY-QUESTIONNAIRE
Dr. Edward Blackman
Assistant Dean of the University College
and Professor of Higher Education
Michigan State University
East Lansing, Michigan 48824

Dear Sir:

At present I am attempting to develop a vocabulary-type test involving terms and concepts in Higher Education (as a field of graduate study and research). Items for the test are to be obtained from selected books dealing with Higher Education in the United States. Since you are a professor teaching in this field, I am hoping you will be able to assist me in the selection of these books.

Attached you will find a bibliography-questionnaire. You are asked to put a plus (+) mark in the space provided to the left of the ten (10) books that are the "most important and widely used in Higher Education." Let us assume that these would be the ones that graduate students must be familiar with when taking their written Ph.D. examinations in Higher Education. If you feel that there are books that should be included by are not part of the attached list, please print their author and title in the space provided at the end of the list. You are also asked to place a zero (0) mark beside the ten (10) books you consider to be least important from the list.

Also attached you will find a return envelope for the questionnaire which I hope you will be able to return to me by February 20, 1967. This survey is part of my Ph.D. dissertation and your cooperation and prompt reply will be greatly appreciated.

Thank you for your time and attention to this matter.

Sincerely,

Andrew C. Currie
Graduate Student

Dr. Collins W. Burnett
Professor of Higher Education
Advisor
APPENDIX D

MASTER LIST OF ENTRIES
MASTER LIST OF ENTRIES

The following list of vocabulary terms and concepts for Higher Education was obtained from fourteen selected books in the field having a total of 5310 pages and approximately 1,756,300 words. Selection of the words was based upon frequency of appearance using the following criteria: (A) appearing six or more times in one source, (B) appearing in two or more sources, and (A and B) appearing six or more times in one source and in two or more sources.

- academic community (A&B)
- accreditation (B)
- acculturation (A&B)
- activities index (A)
- Adams, Charles Francis (B)
- Adams, Charles K. (B)
- adaptability (A)
- adult education (A&B)
- adviser (A&B)
- Agassiz, Louis (B)
- agriculture experiment station (B)
- alumni image (A)
- A.A.U.P. (A&B)
Ames, James B. (B)
Amherst College (A&B)
A.C.E.P.E. (A&B)
A.C.T. (A&B)
Andover Theological Seminary (B)
Angell, James B. (A&B)
Antioch College (A&B)
Authoritarianism (B)
average daily attendance (A)
Aydelotte, Frank (B)
Babbitt, Irving (B)
Baccalaureate (A&B)
Bacon, Francis (B)
Barnard, Frederick A. (A&B)
Barr, Stringfellow (B)
Bascom, John (B)
Bennington College (A&B)
Berlin, University of (B)
bifurcation (B)
board of regents (B)
board of trustees (B)
Bologna, University of (A&B)
Bowdoin College (A&B)
branch (A&B)
Briggs, LeBaron R. (B)
Brown University (A&B)
Bryce, James (B)
Bryn Mawr College (B)
Buchanan, James (B)
Buchanan, Scott (B)
Cardinal Newman (A&B)
Carnegie Corporation (A&B)
Carnegie Foundation for the Advancement of Teaching (A&B)
Cattell, James (B)
charismatic (A&B)
chancellor (B)
Chicago, University of (A&B)
Claremont Colleges (A&B)
Clark University (B)
ethnography (A)
evaluation (B)
Everett, Edward (B)
extension center (B)
"Federal Grant University" (A&B)
fiduciary (A)
Folwell, William W. (B)
Ford Foundation (A)
formal organization (B)
Freedmen's Bureau (B)
Garfield, James A. (B)
general education (A&B)
General Education Board (B)
German influence (A&B)
Gildersleeve, Basil (B)
Gilman, Daniel C. (A&B)
Göttingen (B)
governance (A&B)
grades (B)
Great Books (A&B)

Greene, B.F. (B)
Hadley, Arthur T. (B)
Hall, G. Stanley (A&B)
Harper, William R. (A&B)
Harvard University (A&B)
Harvard House Plan (A)
Hatch Act (A)
Hawkes, Herbert E. (B)
honors program (A&B)
Howard University (A&B)
Hutchins, Robert M. (A&B)

Humanism (B)
Humanities (A&B)
informal organization (A&B)
"initiation rite" (A)
in loco parentis (B)
innovation (B)
interdisciplinary (B)
Jacksonian Concept (A&B)
James, William (B)
Jeffersonian Concept (A&B)
Johns Hopkins University (B)
Joliet Junior College (B)
Jordan, David Starr (A&B)
junior college (A&B)
junior college district (A&B)
Kellogg Foundation (A&B)
Kenyon College (A&B)
Kings College (A&B)
Lafayette College (B)
Lawrence, Abbott (B)
lecturer (A)
lehrfreiheit (A&B)
lernfreiheit (A&B)
liberal arts (A&B)
liberal education (B)
Lindsley, Phillip A. (A&B)
line-staff (B)
Lowell, A. L. (A&B)
manual labor movement (B)
Marsh, James (A&B)
"Mark Hopkins and the Log" (A)
master plan (A)
Mather, Increase (B)
mediator-initiator (A)
Meiklejohn, Alexander (A&B)
Michigan, University of (A&B)
Minnesota, University of (A&B)
M.M.P.I. (A&B)
Montieth College (A&B)
Morrill Act (A&B)
Mount Holyoke (B)
multiversity (A&B)
narcissistic (A)
Nashville, University of (A&B)
natural system model (A)
N.D.E.A. (A&B)
Nisbet, Charles (B)
non-directive (A&B)
Nott, Eliphalet (A&B)
North Central Association (A&B)
Oberlin College (A&B)
*obiter dictum* (A)
Ohio Company (B)
"opportunity college" (B)
open-door policy (B)
Pace-Stern (A&B)
parallel courses (B)
partial courses (B)
Parkinson's Law (B)
Paris, University of (A&B)
pedagogy (A)
Pembroke (B)
Pennsylvania, University of (A&B)
Phelps, William (B)
Phi Beta Kappa (A)
pluralism (A&B)
Pomona College (A&B)
Porter, Noah (B)
press (A&B)

Princeton University (A&B)
professional education (B)
progressive education (A&B)
proximity (B)
propinquity (A)
quadrivium (A&B)
Quincy, Josiah (B)
rational system model (A)
remedial (A&B)
R. P. I. (A&B)
research function (Ph.D.) (B)
Rockefeller Foundation (B)
Roper Study (B)
Rousseau, Jean Jacques (B)
Rush, Benjamin (A&B)
Salerno, University of (B)
Sarah Lawrence College (B)
S.A.T. (B)
selective admission (A&B)
Sheffield Scientific School (B)
seminar method (B)
Silliman, Benjamin (B)
Smith-Hughes Act (B)
Smith-Lever Act (B)
Smith, William (B)
span-of-control (B)
Stagg, Amos A. (B)
Stanford University (A&B)
Stiles, Ezra (A&B)
Stone, Lucinda (B)
student personnel (A&B)
student-centered (B)
St. Johns College (A&B)
Swarthmore College (A&B)
Tappan, Henry (A&B)
taxonomy (A&B)
terminal program or curriculum (A&B)
deTocqueville, Alexis (B)
Todd, John (B)
transfer curriculum (A&B)
trivium (A&B)
unified district (A&B)
Union College (A&B)
University Grants Committee (B)
Vanderbilt, Cornelius (B)
Vanderbilt University (B)
Vassar College (B)
Veblen, Thorstein (B)
viability (B)
Veteran's Rehabilitation Act (B)
vocational education (B)
Wayland, Francis (A&B)
White, Andrew D. (A&B)
William and Mary College (A&B)
Williams College  (A&B)
Wilson, Woodrow  (A&B)
Winchell, Alexander  (B)
Winthrop, John  (B)
"Wisconsin Idea"  (A&B)
wissenschaft  (B)
Woolsey, Theodore  (B)
Yale University  (A&B)
Y.M.C.A.  (B)
APPENDIX E

HIGHER EDUCATION INSTRUMENT FORM 1002
Higher Education Instrument
Form 1002

1. Progressive first president of Cornell University:
   a. Andrew D. White
d. Eliphlet Nott
   b. Charles Kendall Adams
e. Ezra Cornell
   c. James Barr Ames

2. Education principle which believes in education for all to each person's fullest capacity:
   a. James Garfield's Principle
d. Wilsonian Principle
   b. Jacksonian Principle
e. Jeffersonian Principle
   c. Adams' Principle

3. A four-year college for women noted for its experimental programs:
   a. Rollins
d. Swarthmore
   b. Coe
e. Bennington
   c. Haverford

4. Knowledge of which the public has no reservations:
   a. assensual
d. consensual
   b. dissensual
e. consessional
   c. connotative

5. An organizational principle which attempts to prevent the existence of too many subordinates for a supervisor:
   a. chain-of-command
d. differential supervision
   b. line-staff
e. pyramidal structure
   c. span-of-control

6. National testing program for college admission and placement:
   a. CEEB
d. ACEPE
   b. ETS
e. OSPE
   c. CET

7. Boards which have governing and/or co-ordinating functions in state programs of higher education:
   a. Survey Boards
d. Boards of Regents
   b. Master Plan Boards
e. Consortia Boards
   c. Boards of Trustees
8. College which provided the first co-educational degree program:
   a. Haverford  
   b. Amherst  
   c. Oberlin  
   d. Swarthmore  
   e. Williams

9. Called the only true liberal arts college in the United States and noted for its great books curriculum:
   a. Clark  
   b. Monteith  
   c. Pomona  
   d. St. Johns  
   e. Goddard

10. Established in junior colleges to provide acceptable credits for four-year institutions:
    a. Terminal Curriculum  
    b. Humanities Curriculum  
    c. Liberal Arts Curriculum  
    d. Standard Curriculum  
    e. Transfer Curriculum

11. Author of *The Idea of a University*:
    a. Clark Kerr  
    b. James B. Conant  
    c. Nevitt Sanford  
    d. Thorstein Veblen  
    e. Cardinal Newman

12. Considered to be the original public junior college and operates as such today:
    a. Oakland  
    b. Middle Georgia  
    c. Joliet  
    d. Compton  
    e. Emporia

13. One of the first four Americans to receive a German Ph. D. and return to the United States to teach:
    a. Stringfellow Barr  
    b. Mark Hopkins  
    c. William R. Harper  
    d. George Ticknor  
    e. Robert M. Hutchins

14. Test used for college entrance and academic prediction:
    a. S.A.T.  
    b. E.T.S.  
    c. M.M.P.I.  
    d. A.T.C.  
    e. C.I.C.

15. College noted for having students serve on faculty and administrative committees and for its work-study program:
    a. Oberlin  
    b. Antioch  
    c. Kenyon  
    d. Montieth  
    e. Haverford
16. Degree offered by junior and community colleges:
   a. A.A.  
   b. J.A.S.  
   c. C.B.A.  
   d. S.A.  
   e. A.D.  

17. European university of the Middle Ages noted for its study of philosophy and theology:
   a. Bologna  
   b. Göttingen  
   c. Paris  
   d. Salerno  
   e. Padua  

18. Known by his concern for "The Academic Community" and "Consensus":
   a. Conant  
   b. Kerr  
   c. Gilman  
   d. Millet  
   e. Sanford  

19. Found discrimination in college admissions:
   a. Hanna Survey  
   b. Roper Study  
   c. Simpson Study  
   d. Harris Report  
   e. Ticknor Survey  

20. An organizational principle exemplified by cliques:
   a. formal organization  
   b. Weberian structure  
   c. rational system  
   d. casual efficiency  
   e. informal organization  

21. Known for his experience with and writings about the multiversity:
   a. John Millet  
   b. Bernard Berelson  
   c. Nevitt Sanford  
   d. Clark Kerr  
   e. Ralph R. Fields  

22. Noted Negro university in Washington, D.C.:
   a. Fisk  
   b. Howard  
   c. Emory  
   d. Adelphi  
   e. Alderson-Broadus  

23. Responsible for all public education from elementary through junior college in California:
   a. unified district  
   b. junior college district  
   c. incorporated school district  
   d. central district  
   e. collective district
24. Experimental liberal arts college on the campus of Wayne State University:
   a. Monteith       d. Rhiner
   b. Whitman        e. Drury
   c. Goddard

25. Academic freedom for professors:
   a. Lernfreiheit   d. Lehrfreiheit
   b. Wissenschaft  e. Lehrfreiheit
   c. Weltanschaung

26. Was the first president of the University of Chicago and who attempted to establish the junior-senior college idea:
   b. Robert M. Hutchins      e. George Ticknor
   c. Henry P. Tappan

27. Noted Harvard president who is credited with establishing the elective system in the United States:
   a. Nathan Pusey           d. Edward Everett
   b. Charles Francis Adams   e. Charles Eliot
   c. Benjamin Rush

28. Noted athletic director and football coach at the University of Chicago hired to build a football power:
   a. Grantland Rice         d. Walter Camp
   b. Amos A. Stagg          e. George Halas
   c. George Marshall

29. Provided federal funds for vocational education:
   a. Smith-Hughes Act       d. Wagner-Peyser Act
   b. Smith-Lever Act        e. C.C.C.
   c. Hatch Act

30. University of the Middle Ages famed for the study of medicine:
   a. Oxford                 d. Salerno
   b. Paris                  e. Bologna
   c. Berlin

31. Has provided extensive support for fellowships and research concerned with junior colleges:
   a. Kellogg Foundation     d. Sloan-Kettering
   b. Carnegie Foundation    Foundation
   c. Rockefeller Foundation e. Mellon Foundation
32. Prototype of the modern graduate university:
   a. Padua  
   b. Oxford  
   c. Harvard  
   d. Berlin  
   e. Cambridge  

33. Provided federal funds for university extension program:
   a. Smith-Hughes Act  
   b. Smith-Lever Act  
   c. Bardon-LaFollette Act  
   d. Hatch Act  
   e. Wagner-Peyser Act  

34. Name given to method of studying systems and groups on a campus by classifying them:
   a. ecological  
   b. emperical  
   c. taxonomical  
   d. phyletic  
   e. phylistic  

35. Clark Kerr's title for a multiversity president:
   a. Consensus-initiator  
   b. Mediator-initiator  
   c. Development-coordinator  
   d. Chancellor  
   e. Provost  

36. For centuries were the basic subjects taught at universities and are considered the traditional liberal arts:
   a. Humanities  
   b. Electics  
   c. Dialectics  
   d. Liberatus Logicus  
   e. Trivium and Quadriunum  

37. An academic consortia of the "Big Ten" universities and the University of Chicago:
   a. A.D.A.  
   b. A.A.  
   c. C.C.I.  
   d. C.I.C.  
   e. M.C.C.A.  

38. The original title for what is now called Columbia University:
   a. King's College  
   b. Manhattan Eclectic Institute  
   c. Hudson Institute  
   d. Queen's College  
   e. Bronx Institute
39. Educational principle which believes in education for the qualified intelligencia:
   b. Jeffersonian Principle  e. Adams' Principle
   c. Wilsonian Principle

40. Agency noted for generously contributing toward raising salaries for professors:
   a. Carnegie Foundation for the Advancement of Teachers  d. Sloan-Kettering Foundation
   b. Kellogg Foundation  e. Rockefeller Foundation
   c. Ford Foundation

41. The first president of Johns Hopkins:
   a. David Starr Jordon  d. George Ticknor
   b. G. Stanley Hall  e. Daniel C. Gilman
   c. Henry Tappan

42. For one person to act in trust for the benefit of another person:
   a. remainderman  d. fiduciary
   b. purveyor  e. totten
   c. croton

43. President of Williams who felt that all learning is important and who has been symbolized as an example of individual and broad-based instruction:
   a. Payton Hopkins  d. Mark Hopkins
   b. David Starr Jordon  e. Andrew D. White
   c. James A. Garfield

44. The first college in the United States:
   a. Yale  d. Union
   b. William and Mary  e. Harvard
   c. King's College

45. Variety of continuing education programs:
   a. adult education  d. community service
   b. transfer program  e. terminal program
   c. remedial program
46. Former president of St. John's College:
   a. Henry Dunster
d. Edward Everett
e. Nathaniel Bowditch
b. Stringfellow Barr
c. Nevitt Sanford

47. Noted former president of Princeton:
   a. James A. Garfield
d. Ralph W. Emerson
e. James B. Conant
b. Andrew Mielkejohn
c. Woodrow Wilson

48. Considered to be the most important democratization factor for junior colleges:
   a. remedial
d. transfer
   b. service
e. proximity
c. vocational

49. The first president of Harvard:
   a. Lebaron Russell Briggs
d. William Watts Folwell
e. Henry S. Pritchett
   b. James Perkins Marsh
c. Henry Dunster

50. Organization model that considers organization as an instrument to achieve stated goals and purposes:
   a. natural system model
d. informal system model
   b. rational system model
e. structural system model
   c. logical system model

51. University involved in a landmark court decision which provided freedom from state control for private colleges:
   a. Dartmouth
d. Pomona
   b. Yale
e. Know
c. Oberlin

52. Concerned with tenure:
   a. Committee of Ten
d. A.A.U.P.
b. N.C.E.A.e. A.C.E.P.E.
c. C.I.C.

53. Description of professors marked by power, energy, and commitment:
   a. narcissistic
d. fiduciary
   b. egalitarian
e. shamon
c. charismatic
54. Method used in California to determine state financial support for junior colleges:

a. average daily attendance  
b. assessed valuation of property  
c. bond apportionment  
d. tax revenue  
e. tax revenue ratio

55. President of Stanford who felt that "the true American university lies in the future":

a. Andrew D. White  
b. David Starr Jordon  
c. Ralph R. Fields  
d. Robert M. Hutchins  
e. Payton Hopkins

56. Responsible for accreditation of colleges and universities:

a. U.S. Office of Education  
b. Boards of Regents  
c. A.A.U.P.  
d. National Association of Colleges and Universities  
e. North Central Association

57. Noted group of cooperative colleges in California:

a. Claremont Colleges  
b. Pomona Colleges  
c. San Jose Consortia  
d. Oakland College Association  
e. National Schools

58. Assisted universities in establishing a pension program for retiring professors:

a. Sloan-Kettering Foundation  
b. Carnegie Foundation for the Advancement of Teachers  
c. Ford Foundation  
d. Rockefeller Foundation  
e. Phelps-Stokes Fund

59. Developed the College Characteristics Index:

a. Berelson  
b. Adelson  
c. Osgood and Tannenbaum  
d. Reisman and Jencks  
e. Pace and Stern

60. Institutional responsibility for student behavior:

a. student personnel  
b. Deans  
c. In Loco Parentis  
d. Obitur Dictum  
e. due process
61. Author of "The American Scholar" (essay):
   a. James B. Conant
   b. Woodrow Wilson
   c. William James
   d. Ralph W. Emerson
   e. Cardinal Newman

62. A widely used instrument for personality measurement:
   a. ADPS
   b. MMPI
   c. CCI
   d. ACPT
   e. SAT

63. Turning the freshmen and sophomore years of college over to secondary school programs:
   a. bifurcation
   b. amputation
   c. decapitation
   d. fiduciary
   e. bi-module

64. Serves a remedial and community service function in higher education:
   a. Regent's Districts
   b. Branch Campus
   c. Junior College
   d. Transfer Program
   e. Community College

65. Established to provide an "all purpose curriculum" where "any person can find instruction in any study":
   a. Columbia
   b. Swarthmore
   c. Wisconsin
   d. Cornell
   e. Michigan

66. Teaching:
   a. tuterage
   b. obiter dictum
   c. pedagogy
   d. wissenschaft
   e. a fortiori

67. The original graduate university in the United States and a pioneer of the seminar method in this country:
   a. Harvard
   b. Johns Hopkins
   c. Princeton
   d. Columbia
   e. Cornell

68. Academic freedom for students:
   a. lernfreiheit
   b. wissenschaft
   c. weltanschauung
   d. luhrfreiheit
   e. lehrfreiheit
69. Titular head of some universities:
   a. Provost
   b. Trustee
   c. Dean
   d. Chancellor
   e. Marshall

70. Accelerated program based upon creativity and abstract thinking:
   a. Phi Beta Kappa
   b. tutorial
   c. anti-sensual
   d. mensa
   e. humanities

71. Knowledge of which the public has doubts:
   a. dissessional
   b. denotative
   c. anti-sensual
   d. assensual
   e. dissensual

72. University originally noted for its "Plan" of dedication to "practical education" and serving the needs of the communities in the state:
   a. Michigan State
   b. Ohio State
   c. Michigan
   d. Utah
   e. Wisconsin

73. Legal basis for public junior colleges:
   a. Bond Issue
   b. Board of Regents
   c. District regulation
   d. Enabling Legislation
   e. Charter

74. President of Wisconsin who was interested in experimental colleges:
   a. Henry Tappan
   b. Andrew Mielkejohn
   c. George Ticknor
   d. Stringfellow Barr
   e. John Winthrop

75. Federal Agency that assisted Negro higher education:
   a. Freedmen's Bureau
   b. United Negro College Fund
   c. N.C.A.T.E.
   d. N.R.E.A.
   e. N.N.E.A.
76. External counterpart of personality needs:

a. ego-constraint
b. infavoidance
c. environmental press
d. narcissistic reflection
e. syncretism

77. Capable of living, growing and developing:

a. syncretistic
d. vitability
b. exteresistic
e. viability
c. genisistic

78. Established the Land-Grant College system:

a. First Northwest Ordinance
d. First Morrill Act
b. Wagner-Peyser Act
e. Second Morrill Act
c. Hatch Act

79. Major factor in peer-group formation:

a. religious interest
d. political interest
b. propinquity
e. age
c. social class

80. A popular type of counseling developed by Carl R. Rogers:

a. non-directive
d. directive
b. diagnostical
e. limited change
c. client-directed

81. Exemplified by line-staff relationships:

a. rational system
d. horizontal expansion
b. formal organization
e. Weberianism
c. informal organization

82. Provided federal funds for agriculture experiment stations:

a. Smith-Hughes Act
d. Hatch Act
b. Smith-Lever Act
e. Folwell Act
c. Wagner-Peyser Act

83. Occurs when college changes the semi-amorphous adolescent into a semi-indentifiable adult:

a. "fellowship of educated men"
d. "diploma elite"
b. "viability"
e. "initiation rite"
c. narcissism
84. Ruled as a legal right for students faced with disciplinary action:

a. due-process           d. jure humano
b. peer judgement        e. ombudsman
c. in loco parentis

85. Contemporary education critic:

a. Andrew Mielkejohn    d. Nevitt Sanford
b. James B. Conant      e. John Dewey
c. Ralph R. Fields

86. President of the University of Michigan who advocated vertical as well as horizontal expansion of curriculum:

a. Andrew D. White      d. Daniel C. Gilman
b. David Starr Jordon   e. Henry P. Tappan
c. Robert M. Hutchins

87. Relation of an institution or student with its/his environment:

a. philology            d. anthropology
b. taxonomy             e. emnology
c. ecology

88. The College Characteristics Index scales measure student:

a. attitudes            d. interests
b. activities           e. interaction with
                       environment
c. social adjustment

89. In the Eighteenth Century college students spent most of their time with:

a. recitations          d. forensics
b. lectures             e. syllogistics
c. disputations

90. The Activities Index, used for research involving college students, contains scales that measure:

a. activities           d. personality
b. group dynamics       e. needs
c. interests

91. Reported on changing values in college:

a. Stone                d. Kendall
b. Jacob                e. Medskar
c. Lazarsfeld
92. The pattern of the college president and non-academic trustees in American colleges and universities came from:

a. French universities  
b. German universities  
c. American universities  
d. Dutch universities  
e. Scottish universities

93. The "Pyramid Plan" for student peer-teaching, consisting of groups with six freshmen, six sophomores, two juniors, and a senior group leader, is a noted project of which university?

a. Virginia  
b. San Jose State  
c. Pennsylvania State  
d. Princeton  
e. Minnesota

94. The German term for their great preparatory high schools in which the classics formed the main subjects of instruction:

a. studia generalia  
b. gymnasium  
c. stadium generale  
d. volksschule  
e. gymnasich

95. To enter into a university by meeting accepted entrance standards:

a. consortia  
b. registerato  
c. articulation  
d. bachillerato  
e. matriculation

96. Generally leads to eclectic approaches in higher education:

a. egalitarianism  
b. traditionalism  
c. vocationalism  
d. pluralism  
e. liberalism

97. Original term for a university:

a. stadium generale  
b. cathlopiestemiat  
c. consortia  
d. studia generalae  
e. alma mater

98. University established by Rockefeller money and noted for "pirating" faculty members from other schools by offering high salaries:

a. Southern California  
b. Chicago  
c. Pennsylvania  
d. Stanford  
e. Richmond
99. Pioneered in democratizing fraternities so that all persons could belong:
   
a. William and Mary     d. Cornell
b. Brown               e. Amherst
c. Rhode Island

100. President of Columbia University who worried about a student exodus from Columbia and other universities to Germany:
   
a. Frederick A. Barnard     d. Francis Keppel
b. Charles Nisbet           e. Clayton R. Briggs
c. Robert M. Hutchins

101. Liberal president of Brown who fought for a diverse and elective curriculum:
   
a. Frank Aydelotte          d. Francis Wayland
b. Francis Bacon            e. John Winthrop
c. Irving Babbit

102. College that pioneered honors courses as separate and distinct courses offered to qualified students:
   
a. Swarthmore                d. Amherst
b. Haverford                e. Williams
c. Union

103. President of Michigan who felt that all students were welcome at his institution because the original endowment was a gift of the United States government:
   
b. Noah Porter               e. Stringfellow Barr
c. A. L. Lowell

104. Noted science professor of Yale who was highly sought by other universities:
   
a. Benjamin Silliman         d. Ezra Stiles
b. Scott Buchanan            e. Richard T. Ely
c. James Cattell

105. President of Yale who believed in the classical or traditional liberal arts curriculum and recitation over lecture:
   
a. Noah Porter               d. Ephraim Gurney
b. Eliphalet Nott            e. James Bryce
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106. President of Clark who brought the graduate university idea to New England with a small but highly-regarded faculty:
   a. G. Stanley Hall
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   c. Robert M. Hutchins
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107. President of Harvard who established the "Concentrated and Distributed" curriculum and brought about an all-faculty tutorial program:
   a. David Starr Jordon
   b. Timothy Dwight
   c. Ezra Stiles
   d. Noah Porter
   e. A.L. Lowell
APPENDIX F

HIGHER EDUCATION INSTRUMENT FORM 1003
1. Progressive first president of Cornell University:
   a. Andrew D. White
   b. Charles Kendall Adams
   c. James Barr Ames

2. Education principle which believes in education for all to each person's fullest capacity:
   a. James Garfield's Principle
   b. Jacksonian Principle
   c. Adams' Principle

3. A four-year college for women noted for its experimental programs:
   a. Rollins
   b. Coe
   c. Haverford

4. Knowledge of which the public has no reservations:
   a. assensual
   b. dissensual
   c. connotative

5. An organizational principle which attempts to prevent the existence of too many subordinates for a supervisor:
   a. chain-of-command
   b. line-staff
   c. span-of-control

6. National testing program for college admission and placement:
   a. CEEB
   b. ETS
   c. CET

7. Boards which have governing and/or coordinating functions in state programs of higher education:
   a. Survey Boards
   b. Master Plan Boards
   c. Boards of Trustees
8. College which provided the first co-educational degree program:
   a. Haverford  
   b. Amherst  
   c. Oberlin  
   d. Swarthmore  
   e. Williams

9. Called the only true liberal arts college in the United States and noted for its great books curriculum:
   a. Clark  
   b. Monteith  
   c. Pomona  
   d. St. Johns  
   e. Goddard

10. Established in junior colleges to provide acceptable credits for four-year institutions:
    a. Terminal Curriculum  
    b. Humanities Curriculum  
    c. Liberal Arts Curriculum  
    d. Standard Curriculum  
    e. Transfer Curriculum

11. Author of The Idea of a University:
    a. Clark Kerr  
    b. James B. Conant  
    c. Nevitt Sanford  
    d. Thorstein Veblen  
    e. Cardinal Newman

12. Considered to be the original public junior college and operates as such today:
    a. Oakland  
    b. Middle Georgia  
    c. Joliet  
    d. Compton  
    e. Emporia

13. One of the first four Americans to receive a German Ph. D. and return to the United States to teach:
    a. Stringfellow Barr  
    b. Mark Hopkins  
    c. William R. Harper  
    d. George Ticknor  
    e. Robert M. Hutchins

14. Test used for college entrance and academic prediction:
    a. S.A.T.  
    b. E.T.S.  
    c. M.M.P.I.  
    d. A.T.C.  
    e. C.I.C.

15. College noted for having students serve on faculty and administrative committees and for its work-study program:
    a. Oberlin  
    b. Antioch  
    c. Kenyon  
    d. Montieth  
    e. Haverford
16. Degree offered by junior and community colleges:
   a. A.A.
   b. J.A.S.
   c. C.B.A
   d. S.A.
   e. A.D.

17. European university of the Middle Ages noted for its study of philosophy and theology:
   a. Bologna
   b. Göttingen
   c. Paris
   d. Salerno
   e. Padua

18. Known by his concern for "The Academic Community" and "Consensus":
   a. Conant
   b. Kerr
   c. Gilman
   d. Millett
   e. Sanford

19. Found discrimination in college admissions:
   a. Hanna Survey
   b. Roper Study
   c. Simpson Study
   d. Harris Report
   e. Ticknor Survey

20. An organizational principle exemplified by cliques:
   a. formal organization
   b. Weberian structure
   c. rational system
   d. casual efficiency
   e. informal organization

21. Known for his experience with and writings about the multiversity:
   a. John Millett
   b. Bernard Berelson
   c. Nevitt Sanford
   d. Clark Kerr
   e. Ralph R. Fields

22. Noted Negro university in Washington, D.C.:
   a. Fisk
   b. Howard
   c. Emory
   d. Adelphi
   e. Alderson-Broadus

23. Responsible for all public education from elementary through junior college in California:
   a. unified district
   b. junior college district
   c. incorporated school district
   d. central district
   e. collective district
24. Experimental liberal arts college on the campus of Wayne State University:
   a. Monteith
   b. Whitman
   c. Goddard
   d. Rhiner
   e. Drury

25. Academic freedom for professors:
   a. Lernfreiheit
   b. Wissenschaft
   c. Weltanschaung
   d. Luhrfreiheit
   e. Lehrfreiheit

26. Was the first president of the University of Chicago and who attempted to establish the junior-senior college idea:
   a. William R. Harper
   b. Robert M. Hutchins
   c. Henry P. Tappan
   d. G. Stanley Hall
   e. George Ticknor

27. Noted Harvard president who is credited with establishing the elective system in the United States:
   a. Nathan Pusey
   b. Charles Francis Adams
   c. Benjamin Rush
   d. Edward Everett
   e. Charles Eliot

28. Noted athletic director and football coach at the University of Chicago hired to build a football power:
   a. Grantland Rice
   b. Amos A. Stagg
   c. George Marshall
   d. Walter Camp
   e. George Halas

29. Provided federal funds for vocational education:
   a. Smith-Hughes Act
   b. Smith-Lever Act
   c. Hatch Act
   d. Wagner-Peyser Act
   e. C.C.C.

30. University of the Middle Ages famed for the study of medicine:
   a. Oxford
   b. Paris
   c. Berlin
   d. Salerno
   e. Bologna

31. Has provided extensive support for fellowships and research concerned with junior colleges:
   a. Kellogg Foundation
   b. Carnegie Foundation
   c. Rockefeller Foundation
   d. Sloan-Kettering Foundation
   e. Mellon Foundation
32. Prototype of the modern graduate university:
   a. Padua  
   b. Oxford  
   c. Harvard  
   d. Berlin  
   e. Cambridge

33. Provided federal funds for university extension program:
   a. Smith-Hughes Act  
   b. Smith-Lever Act  
   c. Barden-LaFollette Act  
   d. Hatch Act  
   e. Wagner-Peyser Act

34. Name given to method of studying systems and groups on a campus by classifying them:
   a. ecological  
   b. empirical  
   c. taxonomical  
   d. phyletic  
   e. phylistic

35. Clark Kerr's title for a multiversity president:
   a. Consensus-initiator  
   b. Mediator-initiator  
   c. Development-coordinator  
   d. Chancellor  
   e. Provost

36. For centuries were the basic subjects taught at universities and are considered the traditional liberal arts:
   a. Humanities  
   b. Eclectics  
   c. Dialectics  
   d. Liberatus Logicus  
   e. Trivium and Quadrivium

37. An academic consortia of the "Big Ten" universities and the University of Chicago:
   a. A.D.A.  
   b. A.A.  
   c. C.C.I.  
   d. C.I.C.  
   e. M.C.C.A.

38. The original title for what is now called Columbia University:
   a. King's College  
   b. Manhattan Eclectic Institute  
   c. Hudson Institute  
   d. Queen's College  
   e. Bronx Institute
39. Educational principle which believes in education for the qualified intelligentsia:
   b. Jeffersonian Principle  e. Adams' Principle
   c. Wilsonian Principle

40. Agency noted for generously contributing toward raising salaries for professors:
   a. Carnegie Foundation for the Advancement of Teaching  d. Sloan-Kettering Foundation
   b. Kellogg Foundation  e. Rockefeller Foundation
   c. Ford Foundation

41. The first president of Johns Hopkins:
   a. David Starr Jordan  d. George Ticknor
   b. G. Stanley Hall  e. Daniel C. Gilman
   c. Henry Tappan

42. For one person to act in trust for the benefit of another person:
   a. remainderman  d. fiduciary
   b. purveyor  e. totten
   c. croton

43. President of Williams who felt that all learning is important and who has been symbolized as an example of individual and broad-based instruction:
   a. Payton Hopkins  d. Mark Hopkins
   b. David Starr Jordan  e. Andrew D. White
   c. James A. Garfield

44. The first college in the United States:
   a. Yale  d. Union
   b. William and Mary  e. Harvard
   c. King's College

45. Variety of continuing education programs:
   a. adult education  d. community service
   b. transfer program  e. terminal program
   c. remedial program
46. Former president of St. Johns College:
   a. Henry Dunster
d. Edward Everett
e. Nathaniel Bowditch
b. Stringfellow Barr
c. Nevitt Sanford
47. Noted former president of Princeton:
   a. James A. Garfield
d. Ralph W. Emerson
e. James B. Conant
b. Andrew Mieklejohn
c. Woodrow Wilson
48. Considered to be the most important democratization factor for junior colleges:
   a. remedial
d. transfer
b. service
e. proximity
c. vocational
49. The first president of Harvard:
   a. Lebaron Russell Briggs
d. William Watts Folwell
e. Henry S. Pritchett
b. James Perkins Marsh
c. Henry Dunster
50. Organization model that considers organization as an instrument to achieve stated goals and purposes:
   a. natural system model
d. informal system model
b. rational system model
e. structural system
c. logical system model
51. University involved in a landmark court decision which provided freedom from state control for private colleges:
   a. Dartmouth
d. Pomona
b. Yale
e. Knox
c. Oberlin
52. Concerned with tenure:
   a. Committee of Ten
d. AAUP
b. NDEA
e. ACEPE
c. CIC
53. Description of professors marked by power, energy, and commitment:
   a. narcissistic
d. fiduciary
b. egalitarian
e. shaman
c. charismatic
54. Method used in California to determine state financial support for junior colleges:
   a. average daily attendance  d. tax revenue
differential
e. tax revenue ratio
   b. assessed valuation of property
c. bond apportionment

55. President of Stanford who felt that "the true American university lies in the future":
   a. Andrew D. White  d. Robert M. Hutchins
   b. David Starr Jordan  e. Payton Hopkins
c. Ralph R. Fields

56. Responsible for accreditation of colleges and universities:
d. of Colleges and
e. North Central
   b. Boards of Regents Universities
   c. AAUP

57. Noted group of cooperative colleges in California:
   a. Claremont Colleges  d. Oakland College
   b. Pomona Colleges  Association
c. San Jose Consortia  e. National Schools

58. Assisted universities in establishing a pension program for retiring professors:
   a. Sloan-Kettering Foundation  d. Rockefeller Foundation
d. Phelps-Stokes Fund
e. Ford Foundation
   b. Carnegie Foundation for the Advancement of Teaching
   c. Ford Foundation

59. Developed the College Characteristics Index:
   a. Berelson  d. Reisman and Jencks
   b. Adelson  e. Pace and Stern
c. Osgood and Tannenbaum

60. Institutional responsibility for student behavior:
   a. student personnel  d. obiter dictum
d. due process
c. in loco parentis
61. Author of "The American Scholar" (essay):
   a. James B. Conant  
   b. Woodrow Wilson  
   c. William James  
   d. Ralph W. Emerson  
   e. Cardinal Newman

62. A widely used instrument for personality measurement:
   a. ADPS  
   b. MMPI  
   c. CCI  
   d. ACPT  
   e. SAT

63. Turning the freshmen and sophomore years of college over to secondary school programs:
   a. bifurcation  
   b. amputation  
   c. decapitation  
   d. fiduciary  
   e. bimodule

64. Serves a remedial and community service function in higher education:
   a. Regent's Districts  
   b. Branch Campus  
   c. Junior College  
   d. Transfer Program  
   e. Community College

65. Established to provide an "all purpose curriculum" where "any person can find instruction in any study":
   a. Columbia  
   b. Swarthmore  
   c. Wisconsin  
   d. Cornell  
   e. Michigan

66. Theory of Teaching:
   a. tutelage  
   b. obiter dictum  
   c. pedagogy  
   d. wissenschaft  
   e. a fortiori

67. The original graduate university in the United States and a pioneer of the seminar method in this country:
   a. Harvard  
   b. Johns Hopkins  
   c. Princeton  
   d. Columbia  
   e. Cornell

68. Academic freedom for students:
   a. lernfreiheit  
   b. wissenschaft  
   c. weltanschauung  
   d. luhrfreiheit  
   e. lehrfreiheit
69. Titular head of some universities:
   a. Provost
   b. Trustee
   c. Dean
   d. Chancellor
   e. Marshall

70. Accelerated program based upon creativity and abstract thinking:
   a. Phi Beta Kappa
   b. tutorial
   c. honors
   d. mensa
   e. humanities

71. Knowledge of which the public has doubts:
   a. dissessional
   b. denotative
   c. anti-sensual
   d. assensual
   e. dissensual

72. University originally noted for its "Plan" of dedication to "practical education" and serving the needs of the communities in the state:
   a. Michigan State
   b. Ohio State
   c. Michigan
   d. Utah
   e. Wisconsin

73. Legal basis for public junior colleges:
   a. Bond Issue
   b. Board of Regents
   c. District regulation
   d. Enabling Legislation
   e. Charter

74. President of Wisconsin who was interested in experimental colleges:
   a. Henry Tappan
   b. Andrew Mieklejohn
   c. George Ticknor
   d. Stringfellow Barr
   e. John Winthrop

75. Federal Agency that assisted Negro higher education:
   a. Freedmen's Bureau
   b. United Negro College Fund
   c. N.C.A.T.E.
   d. N.R.E.A.
   e. N.N.E.A.
76. External counterpart of personality needs:
   a. ego-constraint
   b. infavoidance
   c. environmental press
   d. narcissistic reflection
   e. syncretism

77. Capable of living, growing and developing:
   a. sycretisic
   b. exeresistic
   c. genisistic
   d. vitability
   e. viability

78. Established the Land-Grant College system:
   a. First Northwest Ordinance
   b. Wagner-Peyser Act
   c. Hatch Act
   d. First Morrill Act
   e. Second Morrill Act

79. Major factor in peer-group formation:
   a. religious interest
   b. propinquity
   c. social class
   d. political interest
   e. age

80. A popular type of counseling developed by Carl R. Rogers:
   a. non-directive
   b. diagnostical
   c. client-directed
   d. directive
   e. limited change

81. Exemplified by line-staff relationships:
   a. rational system
   b. formal organization
   c. informal organization
   d. horizontal expansion
   e. Weberianism

82. Provided federal funds for agriculture experiment stations:
   a. Smith-Hughes Act
   b. Smith-Lever Act
   c. Wagner-Peyser Act
   d. Hatch Act
   e. Folwell Act

83. Occurs when college changes the semi-amorphous adolescent into a semi-indentifiable adult:
   a. "fellowship of educated men"
   b. "viability"
   c. narcissism
   d. "diploma elite"
   e. "initiation rite"
84. Ruled as a legal right for students faced with disciplinary action:
   a. due-process
   b. peer judgement
   c. in loco parentis
   d. jure humano
   e. ombudsman

85. Contemporary education critic:
   a. Andrew Mieklejohn
   b. James B. Conant
   c. Ralph R. Fields
   d. Nevitt Sanford
   e. John Dewey

86. President of the University of Michigan who advocated vertical as well as horizontal expansion of curriculum:
   a. Andrew D. White
   b. David Starr Jordan
   c. Robert M. Hutchins
   d. Daniel C. Gilman
   e. Henry P. Tappan

87. Relation of an institution or student with its/his environment:
   a. philology
   b. taxonomy
   c. ecology
   d. anthropology
   e. emnology

88. The College Characteristics Index scales measure student:
   a. attitudes
   b. activities
   c. social adjustment
   d. interests
   e. interaction with environment

89. In the Eighteenth Century college students spent most of their time with:
   a. recitations
   b. lectures
   c. disputations
   d. forensics
   e. syllogistics

90. The Activities Index, used for research involving college students, contains scales that measure:
   a. activities
   b. group dynamics
   c. interests
   d. personality
   e. needs

91. Reported on changing values in college:
   a. Stone
   b. Jacob
   c. Lazarsfeld
   d. Kendall
   e. Medsker
92. The pattern of the college president and non-academic trustees in American colleges and universities came from:

a. French universities  
d. Dutch universities
b. German universities  
e. Scottish universities
c. American universities

93. The "Pyramid Plan" for student peer-teaching, consisting of groups with six freshmen, six sophomores, two juniors, and a senior group leader, is a noted project of which university? :

a. Virginia  
d. Princeton
b. San Jose State  
e. Minnesota
c. Pennsylvania State

94. The German term for their great preparatory high schools in which the classics formed the main subjects of instruction:

a. studia generalia  
d. Volksschule
b. gymnasium  
e. Gymnasich
c. stadium generale

95. To enter into a university by meeting accepted entrance standards:

a. consortia  
d. bachillerato
b. registerato  
e. matriculation
c. articulation

96. Generally leads to eclectic approaches in higher education:

a. egalitarianism  
d. pluralism
b. traditionalism  
e. liberalism
c. vocationalism

97. Original term for a university:

a. stadium generale  
d. studiae generalae
b. catholepistemiad  
e. alma mater
c. consortia

98. University established by Rockefeller money and noted for "pirating" faculty members from other schools by offering high salaries:

a. Southern California  
d. Stanford
b. Chicago  
e. Richmond
c. Pennsylvania
99. Pioneered in democratizing fraternities so that all persons could belong:
   a. William and Mary
   b. Brown
   c. Rhode Island
   d. Cornell
   e. Amherst

100. President of Columbia University who worried about a student exodus from Columbia and other universities to Germany:
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APPENDIX G

RESULTS OF THE OHIO STATE ITEM ANALYSIS FOR THE TOTAL GROUP TESTED
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BIBLIOGRAPHY

Books


**Theses and Dissertations**


Articles, Pamphlets, and Mimeographed Materials


______, "Bibliography for Higher Education," Fifth Revision, University of Minnesota, College of Education, Fall 1961. (Mimeographed)


"Graduate Studies in Education." A Pamphlet describing graduate programs in education at The Ohio State University, published by the School of Education, College of Education, The Ohio State University, 1967-1968.


Hutchins, Robert M. "The Issues." The University in America, an occasional paper published by the Center for the Study of Democratic Institutions, Santa Barbara, California, 1967, pp. 5-7.


"O.S.U. Item Analysis Program." The Ohio State University, Columbus, Ohio, June 1, 1964. (Mimeographed)
"Selected Bibliography in Higher Education." Prepared by the Offices of Institutional Research, State University of New York at Buffalo, November 1966. (Mimeoographed)