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AN EVALUATION OF LONGITUDINAL CURRICULUM CHANGES IN
INSTRUCTIONAL DESIGN AND EDUCATIONAL PSYCHOLOGY PROGRAMS

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AN EVALUATION OF LONGITUDINAL CURRICULUM CHANGES
IN INSTRUCTIONAL DESIGN AND EDUCATIONAL PSYCHOLOGY PROGRAMS

by

James Daniel House

A thesis submitted in partial fulfillment
of the requirements for the Doctor of
Philosophy degree in Education
in the Graduate College of
The University of Iowa

May 1985

Thesis supervisors: Associate Professor Barry Bratton
Associate Professor Craig L. Gjerde

Graduate College
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Iowa City, Iowa

CERTIFICATE OF APPROVAL

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PH.D. THESIS

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This is to certify that the Ph.D thesis of

James Daniel House

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for the thesis requirement for the Doctor of
Philosophy degree in Education at the May,
1985 graduation.

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ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

Several writers have discussed the need for more research about instructional design, and some have identified areas particularly in need of research. One general area designated as being in need of further research is the training and education of instructional designers (Durzo, Diamond, & Doughty, 1979; Silber, 1981); several specific recommendations for modifying graduate education in instructional design have been proposed. At the same time, others have proposed changes in graduate education in educational psychology. One specific proposal which has been made is the integration of coursework in instructional design into graduate programs in educational psychology (Dick, 1978; Scandura et al., 1978). Thus, it appears that the status of graduate education in both instructional design and educational psychology is in a dynamic phase; a study examining changes in graduate education in the two fields would help to clarify how the two disciplines are changing relative to each other.

The usefulness and importance of individual components of graduate education in instructional design have been

discussed. For example, guided field experience for the instructional design student has been proposed to be an essential component of an instructional design curriculum (Bass & Duncan, 1981-82). Skills in self-evaluation of job performance are necessary for professionals delivering services, and the need for better training in self-evaluation skills has been discussed (Eldridge, 1982). More broadly, the general development of higher cognitive skills as exemplified by Piaget's stages of concrete operations and formal operations has been proposed as the goal of instructional design education (Silber, 1981). Thus, proposed components of an instructional design curriculum range from very specific to fairly broad and comprehensive.

Similarly, several persons have examined the role of particular components of graduate education in educational psychology. Specific content areas such as human development, learning, motivation, and research methodology and statistics are traditional components of graduate education in educational psychology (Anastasi, 1979; Scandura et al., 1978). However, other areas such as instructional design and program evaluation have been suggested as topics which should be incorporated into the educational psychology graduate curriculum (Albino, 1979; Dick, 1978; Scandura et al., 1978).

To date, however, the relationship which exists between instructional design programs and educational psychology programs at institutions which have doctoral programs in both areas has not been examined. This study was intended to clarify specific aspects of that relationship.

Statement of Purpose

The primary purpose of this study was to investigate the relationships which exist between graduate education in educational psychology and instructional design. First, the study assessed the extent to which instructional design topics are being studied in doctoral programs in educational psychology; second, the study also assessed the extent to which doctoral students in instructional design, media, and technology study educational psychology topics in their curriculum at institutions which have doctoral programs in both areas. The study also determined if specific curriculum topics in the two disciplines had changed over time, using five years ago (1978-79 school year), currently (1983-84 school year), and projections for five years in the future (1988-89) as the points in time. In this fashion, it was possible to determine the extent to which the two programs interact in terms of students studying topics in the other area.

Programs which were examined in this study are educational psychology doctoral programs and instructional design doctoral programs at schools which have both programs in their graduate curriculum. With respect to educational psychology programs, graduate programs which offer the doctorate in either "educational psychology" or "general educational psychology" were included in this study (American Psychological Association, 1981). Many of these educational psychology programs are administratively located in colleges of education; however, enough educational psychology programs are located in departments of psychology in colleges of arts and sciences that comparisons could be made between them. Instructional design, media, and technology programs were identified from a listing found in the Educational Media Yearbook (1983); from this point, these programs will be referred to as instructional design programs. A listing of these programs is located in Appendix A.

Two major questions about the interaction of graduate education in instructional design and educational psychology were answered by this study. First, what differences exist between educational psychology and instructional design programs in the number of doctoral students studying specific curriculum topics at each of the three points in time which were examined? Second, can any trend in directionality be noted over time; that is, has one area shifted more in the

direction of the other area? Four measures on interrelationship between the two areas, curriculum topics studied by doctoral students, recent student dissertation research, faculty dissertation research, and contact between faculty in the two programs were used to answer these questions.

As mentioned previously, educational psychology programs are administratively located in two settings, colleges of education and psychology departments. Consequently, a third related question was addressed by this study. This question is: do educational psychology programs located in psychology departments show different patterns of curriculum topics studied by doctoral students than do educational psychology programs located in colleges of education?

Additionally, the study provided a descriptive characterization for each type of graduate program. Information including how frequently specific curriculum topics were studied, recent student dissertation directions, faculty dissertations, and open-ended comments by responding chairpersons were used to provide a brief characterization of instructional design and educational psychology graduate programs.

The results of this study may be of interest to several groups. First, higher-level administrators such as deans of colleges of education are provided with a more clear representation of the relationship between doctoral

programs in educational psychology and instructional design. Second, administrators of doctoral programs in instructional design and educational psychology can be made aware of the degree of interrelationship between the two areas, and how that relationship is changing over time. Third, persons responsible for hiring educational psychologists and/or instructional designers are provided with a more clear characterization of the types of experiences which graduates of these programs have been exposed to.

CHAPTER II

REVIEW OF LITERATURE

Characteristics of
Instructional Design Graduate
Programs

Within the structure of an ideal graduate program in instructional design, several specific areas of training would be represented and graduates would have acquired the ability to exhibit certain professional competencies. Among the specific areas to be included in an ideal program would be educational technology and media, instructional psychology, instructional development, and statistics and research methodology (Patridge & Tennyson, 1978-79). Additionally, it has been proposed that graduate students take courses outside of instructional development in order to observe how other disciplines view the learning process and conduct research (Bratton, 1981). Also, considerable discussion has focused upon professional competencies which graduates of instructional development programs should be able to perform (Task Force on ID Certification, 1981). Each of these areas will be examined in more detail.

A major component of the traditional doctoral degree curriculum is research (Spurr, 1970). In their assessment

of competencies which would be included in an ideal program, Patridge and Tennyson (1978-79) found that research methodology would be a highly emphasized area; however, it has been noted that graduate students in instructional design are often not adequately trained to conduct research (Reiser, 1982). Consequently, some graduate programs are starting to provide practice experiences in research in the form of research practicum courses (Reiser, 1982).

Another integral portion of an instructional development curriculum is educational media and technology. There are two generally accepted definitions for educational technology (Romiszowski, 1981). The first definition refers to educational technology as the use of hardware or equipment in the educational process while the second definition focuses on the process of the scientific development of learning experiences through a knowledge of the psychology of learning. In their study of components of graduate programs in instructional design, Patridge and Tennyson (1978-79) surveyed course offerings in media such as visuals, computers, and audio and it would appear that the authors were employing Romiszowski's (1981) first definition of educational technology. Also, in his proposals to incorporate instructional design topics into the educational psychology curriculum, Dick (1978) discusses areas such as media selection and media production, indicating that he

also employs a definiton of educational technology as being primarily hardware or equipment.

Instructional psychology has also been identified as a major area of preparation in an instructional design graduate program (Patridge & Tennyson, 1978-79). Instructional psychology is the application of findings from experimental learning psychology to various instructional settings at all levels of education (Glaser, 1982). The field of learning psychology differs from instructional psychology in that the experimental study of learning is not necessarily approached with the ultimate aim of being applied to instructional practices (Bower & Hilgard, 1981); conversely, instructional psychology is conducted with the goal of improving instructional methods (Glaser).

A final consideration of graduate education in instructional design is the development of professional competencies. A set of 16 basic competencies has been proposed (Task Force on ID Certification, 1981). This particular list focuses upon professional activities and behaviors to be correctly accomplished by instructional developers. Other competencies have been proposed, including appropriate interpersonal and consulting skills (Bratton, 1979-80) and the ability to interview clients in order to quickly learn basic knowledge in unfamiliar content areas (Bratton, 1981). Thus, a variety of behavioral and interpersonal skills are expected of the professional instructional developer.

One method by which characteristics of present ID graduate programs can be evaluated is by an assessment of the content of those programs. There has been at least one study which has assessed similarities and differences between various graduate programs in instructional development (Patridge & Tennyson, 1978-79). This project surveyed nine graduate programs in instructional design, documenting program goals and characteristics, student characteristics, and faculty preparation. Similarities and differences between masters and doctoral programs were examined. Additionally, representatives of each graduate program rated the order of emphasis placed upon a variety of student competencies for their programs; similar ratings were solicited for what order the competencies would be ranked in an ideal graduate program in instructional design.

A major difference found between masters and doctoral programs was program goals. Most progams placed an emphasis on the teaching of instructional development and/or media production for masters students, while emphasizing a more traditional study of research methodology and an area of specialization in doctoral programs (Patridge & Tennyson). With respect to faculty preparation, Patridge and Tennyson found that most faculty were trained in one of three areas (instructional development, instructional psychology, and visual technology). Faculty were considerably more often

trained in visuals than any other media. As well, more faculty were trained in measurement and evaluation than media (with the exception of visuals).

Patridge and Tennyson found that many of the courses taught in graduate programs in instructional development fall within five major areas: instructional psychology, measurement and evaluation, instructional development, educational technology, and management and administration. In their discussion of the redesign of the Syracuse University instructional development graduate program, Doughty and Durzo (1981) also show that many of the courses in the curriculum fall into the categories of instructional development, media, research and evaluation, and instructional psychology/learning. Additionally, they also report that field experiences such as internships and practicums are part of the curriculum. Patridge and Tennyson report that five of the nine programs surveyed in their study offered internship experiences on a credit basis for graduate students in instructional development.

Patridge and Tennyson noted a wide variation across institutions in the number of courses offered, with courses in instructional psychology and visual technology offered considerably less often than courses in instructional development. With respect to educational media, courses in visuals were most often taught, followed by computer courses

second; however, there was considerable variation found
across institutions in the number of courses taught in spe-
cific areas. Each program surveyed by Patridge and Tennyson
also required courses outside the formal boundaries of their
own program; courses in research methodology and statistics
were most often found outside the instructional development
graduate program. Finally, Patridge and Tennyson also found
that there was a considerable disparity between the emphasis
placed on research competencies and the number of research
methods courses offered within the program. More courses in
research methodology and statistics were required than were
actually taught in instructional development graduate pro-
grams.

In another study, Silber (1982) reported findings
similar to those of Patridge and Tennyson. Silber evaluated
several graduate programs in instructional development which
were divisible into three classifications: A) MA programs,
B) residential PhD programs, and C) commuter PhD programs.
It was found that MA programs placed an emphasis on practi-
cal skills for job performance such as media production,
project management, and evaluation skills findings similar
to those of Patridge and Tennyson. In fact, this study
found that MA programs and residential PhD programs spent
the same amount of time on design courses; the extra courses
in the PhD program were represented by research and theory

courses. Also, Silber found a difference in emphasis between commuter and residential PhD programs; residential PhD programs emphasized more research and theory coursework, while commuter PhD programs emphasized practical design courses. Lastly, residential PhD programs spent the most time on developing research and theory competencies in fields other than instructional development (such as motivation, perception, developmental psychology, learning psychology, and cybernetics), followed by commuter PhD programs next and MA programs last. Residential PhD programs spent approximately twice the amount of time on these areas as did MA programs.

Characteristics of Educational Psychology Graduate Programs

A recent examination of various aspects of the current status of educational psychology was conducted by Scandura et al. (1978). This study detailed major problem areas and disciplinary components of educational psychology, curriculum trends in educational psychology training programs, and promising advances in educational psychology. In an effort to clarify the major applied activities in which educational psychologists conduct research, four major topics were identified by Scandura et al.; these four major areas are : A) the identification if educational goals (including needs analysis, B) analysis/determination of what must be learned

(task analysis), C) delivery/designing instructional systems (designing instruction, media selection, instructional delivery), and D) readiness/ evaluation of student behavior and course effectiveness (developmental stages and readiness, evaluation of instructional programs). With regard to graduate training in educational psychology, Scandura et al., suggest that there is a wide variation in the quality of training programs, although there seems to be common core areas offered; these specific areas will be discussed later. Lastly, a number of promising advances in educational psychology were discussed by Scandura et al. (1978). Areas such as cognitive information processing, particularly as it applies to education, and artificial intelligence and models of complex human performance and instruction are cited as the most promising research areas of the future for educational psychology.

On an applied level, several authors have discussed various competencies which need to be exhibited by the educational psychologist. First, graduates of educational psychology programs should be able to interact successfully with professional educators (Brenner, 1979; Maggs & White, 1982); this ability is particularly important because many research projects arise from problems encountered in educational practices in the schools (Brenner, 1979; Thompson & Lindsay, 1982). Also, because academic openings for

educational psychologists are few, skills in testing, evalu-
ation and assessment, and school psychology are beneficial
(Scandura et al.).

With respect to the graduate curriculum in educational
psychology, several authors have examined the major areas of
training and research represented (Anastasi, 1979; Brammer,
1967; Scandura et al., 1978). In general terms, there
appears to be a relative consensus as to the major compo-
nents of graduate training in educational psychology.
First, training in research design, statistics, and educa-
tional measurement and test development is considered to be
an integral part of educational psychology (Albino, 1980;
Anastasi, 1979); in fact, methodology and statistics courses
are integral parts of both educational psychology and exper-
imental psychology graduate programs (Edwards, 1981). Addi-
tionally, training in the area of applied learning is impor-
tant (Brammer, 1967; Dick, 1978). More specifically,
educational psychology is oriented toward the improvement of
instructional methods through the utilization of psychologi-
cal research (Charles, 1980). Last, training in human
development is considered to be an important part of an edu-
cational psychology curriculum (Anastasi; Dick; Scandura et
al.).

There have been, however, other proposals regarding
the content of an educational psychology curriculum. For

example, Brammer (1967) indicates that educational psychologists should be active in relating the findings of a number of disciplines, including psychology, sociology, anthropology, and educational technology to the improvement of instructional methods; at least some training in basic human sciences is necessary (Brammer, 1967). Also, some education in the basic sciences, such as genetics, is necessary for conducting research in areas such as intelligence and intelligence testing methods, and reading achievement and reading disability (Morton, 1974).

Integrating Graduate Instruction in the Two Programs

Because of the relative youth of instructional design as a discipline, individuals working as instructional designers reflect a variety of training backgrounds (Briggs, 1982). Among the more traditional disciplines in which instructional designers have been trained are psychology and educational psychology (Briggs, 1982). Because many persons who ultimately will function as instructional designers will continue to come from educational psychology programs, Dick (1978) has proposed changes for graduate education in educational psychology to further enable graduate students to acquire instructional design skills.

Dick has proposed the integration of specific courses and experiences in instructional design into the framework of the traditional educational psychology graduate curriculum. For example, students would be taught skills in needs assessment and instructional analysis, testing and evaluation, development of instructional strategies, and evaluation of entry skills and behaviors in addition to foundations of learning, human development, and statistics. Many of these topics would generally be considered to be components of a graduate program in instructional design (Doughty & Durzo, 1981). Additionally, Dick proposed that educational psychology graduate students should have internship experiences in areas such as teacher education centers, instructional development centers, or medical education programs; the incorporation of field experiences into the graduate curriculum has been proposed to be a desirable experience (Bass & Duncan, 1981-82). Thus, Dick has proposed that the training of various instructional design topics be fully integrated into the educational psychology graduate curriculum; however, he presents no data indicating the extent to which instructional design courses and field experiences are currently being taught in educational psychology programs.

Others have also proposed that instructional design should be incorporated educational psychology programs (Anastasi, 1979). Anastasi indicates that instructional

design can be considered as a component of the larger field of instructional psychology; the purpose of instructional design is to bridge the gap which exists between experimental learning psychology and curriculum development. The result of research in instructional psychology is improved educational technology, including programmed learning material, media usage, and computer-assisted instruction. In other words, Anastasi maintains that instructional design should already exist as a component of the curriculum in educational psychology while Dick feels that, because it is currently absent in many programs, instructional design should be integrated into educational psychology graduate programs.

In a discussion of the various roles performed by educational psychologists in the health sciences, Albino (1980) suggests that teaching particular skills to graduate students in educational psychology will enhance their performance in a health sciences setting. Briefly, Albino indicates that additional training for educational psychology graduate students is necessary in the areas of consultation skills, program evaluation skills, test development and research design, and applications of learning theories. It has previously been noted that much of the foundation for training in program evaluation skills is available in psychology and educational psychology programs (Perloff,

Perloff, & Sussna, 1976; Wortman, Cordray, & Reis, 1980).
With respect to applications of learning theory, Albino
emphasizes that experience in instructional design should be
acquired by the educational psychology graduate student
expecting to function in a health sciences setting; the
ability to evaluate course structures or content and suggest
alternatives is important. Additionally, a background in
designing instruction for psychomotor and affective skills
is important, considering the large amount of time spent by
health sciences students learning clinical skills. Lastly,
Albino notes that educational psychology graduate programs
provide little coursework or experience in developing con-
sultation skills. As mentioned by Bratton (1979-80; 1981),
interpersonal and consultation skills are also important for
successful performance as an instructional developer.
Patridge and Tennyson note that many of the instructional
development programs surveyed in their study placed an
emphasis upon the acquisition of the ability to manage prob-
lems and interact with personnel.

<u>Methods Used to Examine</u>
<u>Graduate Program</u>
<u>Characteristics</u>

With regard to studies which have evaluated character-
istics of instructional design or educational psychology
graduate programs, three major approaches to data collection

have been used. Questionnaires appear to be the most commonly used, followed by interviews and site visits; the methodologies used in selected studies of this type are summarized here. Briefly, Patridge and Tennyson relied entirely on questionnaires while Silber (1982) and Charles (1980) gathered most of their data through questionnaires. Silber also utilized some site visits while Charles used interviews to obtain some narrative information.

With respect to the presentation of results, most of these studies reported only descriptive statistics. Charles, for example, reported descriptive data and narratives about the programs he examined. Patridge and Tennyson described various aspects of graduate programs in instructional design, but no actual statistical comparisons were made. Similarly, Silber reported only descriptive data about differences in types of instructional design graduate programs.

CHAPTER III

METHODS

Design

Within educational research, descriptive research is an essential tool for determining the present status of a variety of educational practices. In fact, descriptive research methods are required to answer questions which deal with current educational conditions (Hopkins, 1976), and can yield extremely useful results when properly employed (Asher, 1976; Burton, 1979). One of the major types of descriptive research is the status study; status studies are intended to provide information about an existing set of conditions or practices in the educational setting (Hopkins, 1976). Because the primary objective of this project was to investigate the relationships which exist between graduate education in educational psychology and instructional design, the use of descriptive research methodology was appropriate.

Subjects

As has been previously mentioned, program administrators (chairpersons) of instructional design and technology

programs at 22 institutions with doctoral programs in both areas were surveyed. A complete listing of all programs which were surveyed is included in Appendix A.

Instrument Development

A questionniare was used to collect data on how frequently graduate students study specific topics in both educational psychology and instructional design, and how frequently those topics were studied at three points in time: currently studied (1983-84 school year), studied five years ago (1978-79 school year), and projected to be studied five years in the future (1988-89 school year).

This list of topics was developed by examining graduate catalog course descriptions of approximately one-third of the programs which were studied in this project, as well as topical headings which appeared in instructional design and educational psychology textbooks. Individual topics were chosen over courses as the unit of measure because of the large differences often noted between course descriptions and actual course content. Approximately an equal number of topics from instructional design sources and educational psychology sources was identified.

Respondents were asked to include open-ended comments on what trends were foreseen for their programs over the next five years. Information was solicited about the

contact between faculty in instructional design and educational psychology and whether or not those faculty interactions were expected to increase, decrease, or remain constant over the next five years. Finally, information was solicited regarding faculty training (year and institution of doctoral degree) and recent program graduates (name and year of degree completion).

The questionnaire was initially pilot-tested by mailing it to six departmental chairpersons, three instructional design and three educational psychology, who were not at institutions included in the study. Responses were received from three of these individuals (50%). All questionnaires were completed correctly and no major changes were made before the study was initiated. A copy of the cover letter is included in Appendix B and a copy of the questionnaire is included in Appendix C.

Procedure

The questionnaire was mailed with a self-addressed post-paid return envelope to chairpersons of the instructional design programs and educational psychology programs at each of the institutions listed in Appendix A. Approximately eight weeks after the initial mailing, non-respondents were telephoned and subsequently sent a second questionnaire. At this point, chairpersons who were on sabbatical

or unavailable for other reasons were identified and the questionnaires were sent to the acting chairperson. As questionnaires were received, the data were entered into a computer file for analysis.

Data Analysis

Responses on the section of the questionnaire dealing with curriculum topics were coded using a four-point scale: none=1, some=2, most=3, all=4. Means were then calculated for each topic at each point in time studied. A number of comparisons were then made. First, educational psychology programs were compared with instructional design programs on the extent to which students studied various topics at three points in time. Second, educational psychology programs administratively located in colleges of education were compared with educational psychology programs administratively located in psychology departments. The comparisons were made using t-tests for each topic at each of the three points in time. Finally, response frequencies for each group of chairpersons were tabulated and summarized.

In order to objectively categorize topics as either instructional design or educational psychology topics, factor analysis was used. Factor analysis is a statistical technique which allows the experimenter to examine underlying dimensions for a particular data set (Kim & Mueller,

1978). One major use of factor analysis is confirmatory; a smaller number of factors are identified which account for the covariation in a given data set. The experimenter can specify the number of factors which will be formed. In this case, two factors were used; one factor represented instructional design topics and the second factor consisted of educational psychology topics. A varimax rotation was used to simplify the factor structure. The information derived from this procedure consists of each topic and an associated factor loading for each of the two factors. A factor loading for a variable represents the correlation between that variable and the factor (Kleinbaum & Kupper, 1978). Thus, the higher positive factor loading indicates to which factor a given topic is attributed.

Topics were assigned to one of the two factors using the above procedure. A topic was assigned to the factor for which there was a higher positive factor loading. After topics were classified as being either instructional design or educational psychology topics using the above procedure, topics which were noted to exhibit high growth were analyzed to determine if either educational psychology programs or instructional design programs showed a disproportionate number of high growth topics from the other area (using means obtained using the four-point scale described previously, curriculum topics which exhibited an increase of .50 between

figures for the 1978-79 school year and projections for the 1988-89 school year). Chi-square analysis was used to test for significance.

Analysis of Dissertations

As questionnaires were received, both student dissertation titles and faculty dissertation titles were located in Dissertation Abstracts International. After examining the dissertation title and reading the abstract, each dissertation was classified according to the list of topics included in the questionnaire. Dissertations which were unable to be classified were also noted.

Other studies have analyzed dissertations in order to determine changes in graduate education. For example, dissertations have been analyzed to note changes in experimental methodologies for the field of adult education (Grabowski, 1980). Additionally, changes in specific topics of dissertation research were noted, although the authors used computer search keywords rather than a list of topics developed specifically for their research (Grabowski & Loague, 1970). However, their research was confined to a descriptive analysis of dissertations in one field, adult education, rather than an assessment of interactions between dissertation research done in complimentary fields as was done in this study.

CHAPTER IV

RESULTS

As was discussed in Chapter 1, four major questions were examined in this study. First, what differences exist between programs in the number of students studying specific curriculum topics at each of the three point in time examined. Comparisons were made between programs for each topic at each of three points in time. Second, an examination was made of the direction of any changes; that is, had one area shifted more in the direction of the other area? Third, comparisons were made between educational psychology programs located in colleges of education and educational psychology programs located in psychology departments. Finally, brief characterizations were made of instructional design and educational psychology programs.

Response Rate

Questionnaires were sent to 44 individuals; 22 chairpersons of educational psychology programs and 22 chairpersons of instructional design programs. However, the chairperson of the educational psychology program at the University of Kentucky indicated that, contrary to original

information, there was not an instructional design program at that institution. Consequently, a final sample size of 42 was used. An overall response rate of 27/42 (64.3%) was obtained. For instructional design chairpersons, 14 of 21 (66.7%) completed questionnaires while 13 of 21 (61.9%) educational psychology chairpersons completed questionnaires. One additional questionnaire was returned by an educational psychology chairperson who indicated that he was unable to understand the directions. Small differences will be found between these response rates and the response frequencies presented in Tables 5 and 6. First, one instructional design chairperson did not complete the first section of the questionnaire relating to student study of various curriculum topics, but did complete the other parts of the questionnaire. This is responsible for 13 responses being included in Table 6. Second, the chairperson of one educational psychology program responded; however, he indicated that his program was being terminated due to a lack of graduate students and he was unable to complete the first section of the questionnaire. Thus, 12 responses are included in Table 5. All other returned questionnaires were usable and substantially complete.

Program Comparisons

Of the four questions investigated in this study, the first three involved program comparisons and are presented in this section. First, changes in the extent to which curriculum topics are studied in each program have changed over time were examined. Second, an examination was made of the directionality of any changes. Third, comparisons were made between educational psychology programs located in colleges of education and educational psychology programs located in psychology departments. The fourth purpose of this study, providing brief characterizations of instructional design and educational psychology programs, is presented later in a separate section.

The first question to be addressed in this section is the extent to which curriculum topics studied in each program have changed over time. Comparisons were made between programs for each curriculum topic at each of three points in time.

A number of changes were noted in the number of students studying specific topics at each of the three points in time examined. These figures are presented in Table 1 (p. 65). The means presented in Table 1 were obtained using the four-point scale described earlier (none=1, some=2, most=3, all=4). Of the 72 curriculum topics examined in this study, 30 (42%) showed no significant differences

between educational psychology and instructional design pro-
grams at any of the three points in time examined. For the
remaining 41 topics, several interesting patterns were
noted. For example, achievement motivation was reported to
be studied by significantly more educational psychology stu-
dents than instructional design students five years ago
(Table 1). Subsequently, the number of educational psychol-
ogy students studying achievement motivation remained cons-
tant while a large number of instructional design students
began to study the topic and eliminated any significant dif-
ferences between the two groups for the current school year
or five years in the future. Similarly, significantly more
educational psychology students studied adolescent develop-
ment five years ago and during the current school year.
However, the number of educational psychology students stu-
dying adolescent development is reported to be decreasing
while the number of instructional design students studying
it is increasing, producing no significant difference bet-
ween the two programs for the 1988-89 school year.

Another interesting pattern was noted for computer-as-
sisted instruction and interactive video. No differences
were found between students in educational psychology and
instructional design programs for the 1978-79 school year
for either topic. The number of instructional design stu-
dents reported to study these topics increased for the

1983-84 school year and were projected to increase more by the 1988-89 school year. The number of educational psychology students reported to study these topics also increased, although at much slower rates, producing significant differences between educational psychology and instructional design programs for the 1983-84 and the 1988-89 school years.

A similar trend was noted for program evaluation and consultation skills. Although these topics were be more frequently studied at each point in time by instructional design students, no significant difference was found between programs for either topic during the 1978-79 school year. However, significantly more instructional design students were reported to take each topic during both the 1978-79 school year and projected for the 1988-89 school year.

Many topics studied by significantly larger numbers of instructional design students at each of the three points in time were related to media production: audio/slide production, graphics production, media center administration, media selection and use, photography production, telecommunications, transparency production, and videotape/TV production. A second set of topics which were studied by significantly more instructional design students was related to instructional delivery and evaluation. These topics include curriculum development, design of instruction, formative

evaluation, individualized instruction, instructional evaluation, instructional objectives, instructional strategies, needs assessment, sequencing instruction, summative evaluation, systems concepts, task/content analysis, and teaching methods.

In contrast, relatively few topics were studied by significantly more educational psychology students at each point in time. These topics were generally related to human development: language development, self-concept determinants, and sex role development.

In addition to the differences between educational psychology and instructional design programs discussed above, a number of similarities were also found. Referring again to Table 1 (p. 65), it can be seen that one of the major similarities found between the two programs was the number of students studying statistics and measurement topics. For example, chairpersons of both programs indicated that a substantial number of students currently studied analysis of variance/ covariance, correlation, descriptive statistics, inferential statistics, standardized tests, and test reliability/validity. Similarly, research topics such as experimental research methodology and research design were indicated to be frequently studied by students in both programs. Topics which were indicated to be studied less often but at approximately equal levels by students in each

program included factor analysis, naturalistic research methodology, nonparametric statistics, criterion-referenced testing, norm-referenced testing, and standardized tests. The only statistics topic for which a large difference between the two programs was found was multiple regression; significantly more educational psychology students study it than than do instructional design students. Additionally, the respondents indicated that this difference would grow even larger in the future. Educational psychology chairpersons indicated that more of their students would study multiple regression in the future while instructional design chairpersons felt that the same number of their students would study this topic in the future. Finally, a measurement topic, latent trait theory, was studied by relatively few students in either program.

A second question addressed in this study was the issue of directionality of change. In order to determine whether instructional design is incorporating components of the educational psychology curriculum or if educational psychology is incorporating coomponents of the instructional design curriculum, several factors were examined. These factors include curriculum topics, student disseration research, faculty dissertation research, and contact between faculty in the two disciplines.

Considering curriculum topics, it will be recalled that one of the methods used to characterize instructional design and educational psychology programs was factor analysis. Two factors were used in the factor analysis procedure. A summary of the topics which were in each factor and their factor loadings is presented in Table 2 (p. 72). It will be recalled that topics were assigned to one of the two disciplines on the basis of the factor analysis procedure; curriculum topics were assigned to the factor for which they exhibited the highest positive factor loading. In general, computer assignment of the topics placed them in the factors as was expected. Each topic was then examined in order to note whether or not a disproportionate number of "instructional design" topics were exhibiting growth in educational psychology programs. Similarly, "educational psychology" topics were examined as to whether or not they were exhibiting growth in instructional design programs.

"High growth" was defined as a gain of .50 or more for the mean score between the 1978-79 school year and projected figures for the 1988-89 school year (using the four-point scale previously described and presented in Table 1). Using this criteria for growth, 33% of the high growth topics in instructional design programs were topics which had been classified as "educational psychology" topics by the factor analysis procedure. In contrast, 75% of the high growth

topics in educational psychology programs were "instructional design" topics, this being a significant difference (chi-square=5.00, df=1, p<.05). When the criteria for defining a high growth topic was changed to a gain of .70 or more for the mean score between the 1978-79 school year and projected figures for the 1988-89 school year, 25% of the high growth topics in instructional design programs were "educational psychology" topics; of the high growth topics in educational psychology programs, 75% were "instructional design" topics (chi-square=3.20, df=1, p<.08). Although overall significance was lost (probably due to smaller sample sizes due to more stringent inclusion criteria), the general trend of educational psychology programs showing a large proportion of high growth topics which are "instructional design" topics remained consistent.

With respect to the analysis of dissertation research, no differences were found for either instructional design programs or educational psychology programs for the number of students or faculty who did dissertation research in the other discipline. Most student dissertation research areas were classified, on the basis of the factor analysis results of this study, as being within their discipline. Of dissertations which were classifiable, 85% of the instructional design students did research on an instructional design topic while 80% of the educational psychology students did

research on an educational psychology topic. The same pattern was also true for faculty dissertation research. It was found that 73% of the instructional design faculty had done their dissertation research on a topic which was classified as an "instructional design" topic by this study, while 85% of the educational psychology faculty had done their dissertation research on an educational psychology topic.

A final measure of the extent to which educational psychology and instructional design programs may be merging was the type of contact which occurs between faculty in the two programs. The extent of faculty contacts at institutions where chairpersons in both programs responded (N=9) is presented in Table 3. The most frequent activities reported by the chairpersons which involve contact between faculty in the two programs were dissertation committees and faculty committees. Activities which involve little contact include team-teaching courses, joint program administration, and collaborative research and publication. Finally, all chairpersons indicated that these interactions have either increased or remained constant over the past five years. The respondents were evenly divided, however, as to whether or not they anticipate those faculty interactions will increase over the next five years.

These findings suggest that the two disciplines are indeed moving closer to one another, with educational psychology programs incorporating more topics from instructional design programs.

Despite the finding that topics from the instructional design curriculum are being introduced into educational psychology programs, the results of this study suggest that a merging of the two areas has not occurred on the level of research activity. Student dissertation research was found to be conducted in areas specific to each discipline.

The same trend was true for cooperative faculty research. Chairpersons of both programs indicated that relatively few faculty engage in collaborative research or publishing with faculty from the other discipline.

With respect to other measures of contact between faculty in the two programs, high levels of joint faculty participation on dissertation committees and comprehensive exam committees suggests cooperation between the two disciplines. Additionally, all of the respondents felt that contact between faculty in these two areas had increased or remained constant over the past five years. There was no clear trend, however, as to whether or not those faculty interactions would continue to increase over the next five years.

As mentioned earlier, a third question to addressed by this study was to examine differences between educational psychology programs located in psychology departments and those located in colleges of education. These comparisons are presented in Table 4. The findings presented in Table 4 refer to mean scores using the four-point scale for curriculum topics presented earlier (none=1, some=2, most=3, 4=all). Few differences were found between these two groups of programs. For the 1983-84 academic year, more students in programs in psychology departments were exposed to design of instruction and nonparametric statistics. More students in programs located in colleges of education were exposed to summative evaluation.

Program Characteristics

The final question considered in this study was to provide a brief characterization of each discipline. A profile of the current content of each curriculum is presented. In addition, curriculum topics which were reported as being taken by increasing numbers of students will be discussed.

Considering educational psychology programs, many of the topics studied by substantial numbers of doctoral students were related to measurement and statistics. Topics related to research methodology and cognitive psychology were also reported to be studied by substantial numbers of

students.   Response frequencies reported by educational psy-
chology chairpersons are presented in Table 5.

From the data presented in Table 1, several topics
appear to be rapidly growing in educational psychology pro-
grams, such as computer-assisted instruction (1.82 to 2.83)
and computer data analysis (2.64 to 3.75).

With respect to dissertation research, both students
and faculty of educational psychology programs conducted
research which can be classified as traditional for the dis-
cipline.   Considering student dissertation research which, a
number of students concentrated their research on relatively
few topics, including cognitive development (16%), test
reliability/ validity (10%), and attribution theory (9%).
Examining faculty dissertation research, verbal learning
(26%) and cognitive development (21%) were the most freq-
uently researched areas.

Open-ended responses of educational psychology chair-
persons mentioned changes for the future, including more
consideration of adult learners, more study of motivation,
more study of instructional theory and cognitive science,
more emphasis on medical education, more gifted education,
and more training in research methodology.   In addition, the
chairpersons indicated that educational psychology programs
would need to train graduates for employment in more non-
traditional, non-academic settings in the future.

Considering instructional design programs, many of the topics studied by large numbers of doctoral students were related to instructional delivery and evaluation. Response frequencies from instructional design chairpersons are presented in Table 6. In addition, a number of research and statistics topics were reported to be studied by most instructional design students.

Examining the means for instructional design programs presented in Table 1, several topis were indicated to be growing rapidly in instructional design programs from the 1978-79 school year to projections for the 1988-89 school year. The topics reported to be growing most rapidly were computer-assisted instruction (2.23 to 3.92), interactive video (1.25 to 2.82), consultation skills (2.33 to 3.25), and needs assessment (2.83 to 3.75).

In terms of dissertation research, most students and faculty conducted their research in areas with the discipline of instructional design. Examining student dissertation research which could be classified, the most often researched topics were media selection and use (10%), visual learning (10%), computer-assisted instruction (10%), and instructional strategies (8%). With respect to faculty dissertation research, the most commonly researched areas were media selection and use (10%), program evaluation (10%), teaching methods (10%), and videotape/TV production (10%).

With respect to some of the open-ended comments provided by the responding chairpersons, a variety of past trends and future suggestions were mentioned. For example, half of the instructional design chairpersons indicated that computer applications would be considerably more prevalent in the future. A sizeable percentage (15%) of the instructional design chairpersons indicated that interactive video would be emphasized more in the future. Chairpersons also indicated that their programs would need to train graduates for non-traditional, non-academic settings in the future. Other topics mentioned by instructional design chairpersons included more study of artificial intelligence, more consideration of adult learners, more study of individual differences, more study of motivation, more instructional theory, more cognitive science, more needs assessment, and more telecommunications. Interestingly, several of the instructional design chairpersons (15%) indicated that media courses would be reduced or eliminated from their programs in the future.

CHAPTER V

DISCUSSION

The primary purpose of this study was to investigate the relationships which exist between graduate education in educational psychology and instructional design. The study assessed the extent to which instructional design topics were studied in educational psychology doctoral programs; this study also assessed the extent to which doctoral students in educational technology study educational psychology topics in their curriculum at institutions which have doctoral programs in both areas. The study also determined if specific curriculum topics in the two disciplines had changed over time, using five years ago (1978-79 school year), currently (1983-84 school year), and projections for five years in the future (1988-89) as the points in time. Types of interactions between faculty in the two programs were examined. Finally, dissertation research for students and faculty in both programs were examined for interaction between the two disciplines.

It should be pointed out that the present study has several limitations. One limitation was that the findings are not necessarily generalizable to all instructional

design and educational psychology doctoral programs.
Because specific types of programs which were at institu-
tions with programs in both areas were studied, the results
may not be generalizable. A second limitation of this study
is that projections were used. Consequently, these figures
are not as accurate as would be the case with actual obser-
vations.

Relationships Between Programs

Two of the major questions examined on this study
were: first, are instructional design and educational psy-
chology programs in transition relative to one another and,
second, what are the directions of those changes. The find-
ings of this study suggest that educational psychology and
instructional design are indeed changing relative to each
other. It is also evident that those changes are occurring
in an uneven fashion. For example, many of the topics which
were indicated to be rapidly growing in the educational psy-
chology curriculum were instructional design topics, sug-
gesting a merging of the desciplines. Conversely, however,
relatively few of the high growth topics in instructional
design graduate programs were educational psychology topics.
These findings suggest that the two disciplines are indeed
moving closer to one another, with educational psychology
programs incorporating more topics from instructional design
programs.

Despite the finding that topics from the instructional design curriculum are being introduced into educational psychology programs, the results of this study suggest that a merging of the two areas has not occurred on the level of research activity. Student dissertation research was found to be conducted in areas specific to each discipline.

The same trend was true for faculty dissertation research. Chairpersons of both programs indicated that relatively few faculty in either program engage in collaborative research or publication with faculty from the other discipline.

With respect to other measures of contact between faculty in the two programs, high levels of joint faculty participation on dissertation committees and comprehensive exam committees suggests cooperation between the two disciplines. Additionally, all of the respondents felt that contact between faculty in the two areas had increased or remained constant over the past five years. There was no clear trend, however, as to whether or not those faculty interactions would continue to increase over the next five years.

Because respondents provided unclear projections as to whether or not these transitions might continue, it is possible that other factors might be involved in the transition process. For example, future curriculum changes might

possibly be more influenced by institutional factors rather than national trends. Thus, the two programs may continue to grow closer at some institutions while remaining quite distinct from one another at other institutions.

Future Research

One topic for future research in this area might involve determining qualitative characteristics of student contact with a given subject area. For example, the present study assessed how many students studied particular topics at some point in their coursework; no measure was made of the extent of exposure to a given topic. By obtaining data regarding the number of student contact hours in a given area, a more accurate profile of major areas of curriculum emphasis within a type of program can be derived. Consequently, a study which examines topics in greater detail would provide an assessment of the extent to which topics are studied rather than an assessment of how many students are exposed to a given topic as was the case in this study.

A second project that would provide additional information would be a study of specific topics in a graduate curriculum. Such a project could be done using methods similar to this study. Rather than sampling a large number of topics as was done in this study, a small content area could be examined. For example, rather than identifying

computer-assisted instruction as one of many topics, the researcher could focus on CAI as the only topic to be studied. This topic could then be divided into smaller topics such as artificial intelligence, expert systems, evaluation, simulations, and games. In this fashion, it would be possible to identify programs which are providing doctoral students with exposure to the most current topics. Open-ended responses should provide insight into the reasons for program differences; in the CAI example, possible reasons might include students with better computer science backgrounds, hardware availability, or other reasons. A project of this type would allow the researcher to study trends in smaller components of specific graduate programs in a detailed manner.

Another future research project would consist of replicating this study during the 1988-89 academic year. Responses given at that time could be compared to the findings reported in this study. Open-ended responses could be requested to investigate possible reasons for the differences between projections in the current study and findings for the future follow-up study. Such a follow-up study would allow the investigator to determine whether the instructional design topics that are being integrated into the educational psychology curriculum currently will lead to future dissertation research in those areas. Also, it would

be possible to note if collaborative research and publication by faculty in the two programs were increasing.

Another approach to examining the trends noted in this study would be to conduct a future study using the Delphi technique. Briefly, the Delphi technique is a procedure used for forecasting trends. By distributing a series of questionnaires to experts is a particular field, responses can be modified by each individual after having evaluated the responses of the group for the previous round of questionnaires (Amidon, 1977). Opinions can be revised throughout the process and, by the final questionnaire, consensus and minority opinions can be developed. Such a procedure might be used to allow chairpersons of instructional design and educational psychology programs to amplify on what trends they anticipate for their programs. Opinions could be developed for the future of each discipline individually as well as for future interactions between the two disciplines.

Summary

The results of this study indicate that instructional design programs and educational psychology programs are in transition. However, these changes appear to be occurring at an instructional level. Topics from each program are being introduced into course content in the other discipline. Merging at the level of dissertation research and

collaborative faculty research, however, has not taken place.

There was no clear indication as to whether or not these trends would continue. Future research can determine if the two programs will continue to move toward each other and, if that is the case, in what respects they might merge.

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APPENDIX A

INSTITUTIONS SURVEYED

Institutions With Doctoral Programs in Educational
Psychology and Instructional Design Surveyed in
This Study

Florida State University	University of Kentucky
Indiana University	University of Massachussetts
Iowa State University	University of Michigan
Michigan State University	University of Minnesota
New York University	University of Oklahoma
Pennsylvania State University	University of Oregon
Purdue University	University of Pittsburgh
Syracuse University	University of Tennessee
Temple University	University of Texas
University of Georgia	University of Virginia
University of Iowa	Wayne State University

APPENDIX B

COVER LETTER

May 4, 1984

Dear Dr.

We would like to request your cooperation in a study of
graduate education in Instructional Design. Many changes
are occurring in Instructional Design graduate programs.
Some of these changes may be influenced by the presence of
an educational psychology program at the same institution.
We are studying the relation- ship between graduate training
in instructional design and educational psychology at insti-
tutions which have doctoral programs in both areas. Because
the number of these institutions is relatively small (N=22),
your participation is very important for the successful com-
pletion of this study.

The enclosed questionnaire consists of three parts and only
takes about 15-20 minutes to complete. Part I deals with
various topics studied by graduate students in your doctoral
program as well as questions about faculty interactions.
Part II requests a list of faculty, and Part III asks for a
list of recent grad- uates from your doctoral program.

Please return this questionnaire by May 15 in the enclosed
self addressed stamped envelope. Your cooperation is
greatly appreciated.

Sincerely,

J. Daniel House, M.S.

Barry Bratton, Ph.D.

APPENDIX C

QUESTIONNAIRE

Part I.

1. Please indicate with an "x" the topics likely to have been covered in courses taken by doctoral students in your Educational Psychology program (I) five years ago, (II) at present, and (III) five years in the future. All = 100%, most = over 50%, some = less than 50%.

	(I) Five years ago (1978-79 academic year)				(II) At present (1983-84 academic year)				(III) Five years in future (1988-89 academic year)			
	All	Most	Some	None	All	Most	Some	None	All	Most	Some	None
EXAMPLE: Futurism	—	—	—	—	—	—	—	—	—	—	—	—
Achievement motivation	—	—	—	—	—	—	—	—	—	—	—	—
Adolescent development	—	—	—	—	—	—	—	—	—	—	—	—
Adult development	—	—	—	—	—	—	—	—	—	—	—	—
Affective measurement	—	—	—	—	—	—	—	—	—	—	—	—
Analysis of variance/covariance	—	—	—	—	—	—	—	—	—	—	—	—
Aptitude tests	—	—	—	—	—	—	—	—	—	—	—	—
Attribution theory	—	—	—	—	—	—	—	—	—	—	—	—
Audio/slide production	—	—	—	—	—	—	—	—	—	—	—	—
Classroom management	—	—	—	—	—	—	—	—	—	—	—	—
Cognitive development	—	—	—	—	—	—	—	—	—	—	—	—
Computer-assisted instruction	—	—	—	—	—	—	—	—	—	—	—	—
Computer data analysis	—	—	—	—	—	—	—	—	—	—	—	—
Consultation skills	—	—	—	—	—	—	—	—	—	—	—	—
Correlation	—	—	—	—	—	—	—	—	—	—	—	—
Creativity	—	—	—	—	—	—	—	—	—	—	—	—
Criterion-referenced testing	—	—	—	—	—	—	—	—	—	—	—	—
Curriculum development	—	—	—	—	—	—	—	—	—	—	—	—
Descriptive statistics	—	—	—	—	—	—	—	—	—	—	—	—
Design of instruction	—	—	—	—	—	—	—	—	—	—	—	—
Early school experiences	—	—	—	—	—	—	—	—	—	—	—	—
Experimental research methodology	—	—	—	—	—	—	—	—	—	—	—	—

	(I) Five years ago (1978-79 academic year)				(II) At present (1983-84 academic year)				(III) Five years in future (1988-89 academic year)			
	All	Most	Some	None	All	Most	Some	None	All	Most	Some	None
Exploratory data analysis												
Factor analysis												
Film production												
Formative evaluation												
Graphics production												
Individual differences												
Individualized instruction												
Inferential statistics												
Information processing												
Instructional evaluation												
Instructional objectives												
Instructional strategies												
Instructional theory												
Interactive video												
Intrinsic/extrinsic motivation												
Language development												
Latent trait theory												
Media center administration												
Media selection and use												
Memory/forgetting												
Meta-analysis												
Multiple regression												
Naturalistic research methodology												
Needs assessment												
Nonparametric statistics												
Norm-referenced testing												

	(I) Five years ago (1978-79 academic year)				(II) At present (1983-84 academic year)				(III) Five years in future (1988-89 academic year)			
	All	Most	Some	None	All	Most	Some	None	All	Most	Some	None
Peer relationships												
Personality development												
Photography production												
Principles of learning												
Problem-solving skills												
Program evaluation												
Programmed instruction												
Research design												
Roles of heredity/environment												
Self-concept determinants												
Sequencing instruction												
Sex role development												
Socio-cultural factors												
Standardized tests												
Summative evaluation												
Systems concepts												
Task/content analysis												
Teaching methods												
Telecommunications												
Test item writing												
Test reliability/validity												
Transparency production												
Verbal learning												
Videotape/TV production												
Visual learning												

-4-

2. Based on your responses on the preceding pages, what trends do you see for your program over the next five years?

3. a. At your institution, what contact is there between the faculty in your educational psychology and the faculty in your instructional design programs (for example, faculty committees, dissertation committees, jointly-authored papers, etc.)?

_____ Team-Teaching
_____ Comprehensive Exam Committee
_____ Joint Faculty Appointments
_____ Faculty Committees
_____ Dissertation Committees
_____ Collaborative Research and Publication
_____ Joint Program Administration Program, Jointly-Administered at Departmental Level
_____ Programs Located in Same Building
_____ Other: _____

   b. Have these faculty interactions increased or decreased over the past five years?

_____ Increased
_____ No Change
_____ Decreased

   c. Do you anticipate an increase in the next five years?

_____ Yes
_____ No

4. Please rank the following national organizations by frequency of faculty attendance at annual national meetings. (Use "1" to indicate organization which most attend, "2" next most attended, etc.)

AERA/NCME _____
APA _____
AECT _____
NSPI _____
Other _____

I would like to receive a summary of this project upon completion:

_____ Yes
_____ No

If yes, please include name and address:

Name of person completing this form: _____

Office Phone Number: (___) _____

Part II.

1. Please list the current (1983-84) faculty in your Educational Psychology program, and where and when they received their doctoral degrees. If this information has recently been compiled on another form, please simply include a copy of that list.

Name	Doctoral Institution	Year Degree Was Received

2. The number of faculty employed full-time by your program is: _____.

3. How many of the faculty have joint academic appointments in the Instructional Design program? _____

Part III.

1. Please list the names of Educational Psychology graduates who have received their doctorates from your program from 1978 to the present. If this information has recently been compiled on another form, please simply include a copy of that list.

Student Name   Year Doctorate Was Received

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APPENDIX D

TABLES

Table 1

Comparisons Between Groups, Instructional Design (ID) and
Educational Psychology (EP), At Three Points In Time

Topic	Academic Year	ID Mean	SD	EP Mean	SD	p
Achievement Motivation	1978-79	1.89	.60	2.82	.87	.0145
	1983-84	2.30	.82	2.83	.83	NS
	1988-89	2.75	.89	2.83	.83	NS
Adolescent Development	1978-79	1.55	.69	2.91	.70	.0002
	1983-84	1.83	.94	2.67	.78	.0270
	1988-89	2.00	.94	2.58	.90	NS
Adult Development	1978-79	2.17	.83	2.27	.79	NS
	1983-84	2.54	.88	2.64	.81	NS
	1988-89	2.92	.90	2.91	.70	NS
Affective Measurement	1978-79	2.20	.42	2.18	.75	NS
	1983-84	2.80	.42	2.25	.75	NS
	1988-89	3.10	.74	2.33	.89	.0419
ANOVA/ANCOVA	1978-79	3.73	.90	3.64	.50	NS
	1983-84	3.75	.87	3.75	.45	NS
	1988-89	3.64	.92	3.75	.45	NS
Aptitude Tests	1978-79	2.60	.97	2.82	.75	NS
	1983-84	3.09	.83	2.92	.79	NS
	1988-89	3.30	.67	2.83	.94	NS
Attribution Theory	1978-79	1.88	.83	2.09	.54	NS
	1983-84	2.33	.50	2.75	.45	NS
	1988-89	2.38	.52	2.75	.62	NS
Audio/Slide Production	1978-79	3.31	.75	1.27	.47	.0001
	1983-84	3.08	.86	1.42	.51	.0001
	1988-89	3.00	1.04	1.58	.67	.0007
Classroom Management	1978-79	1.90	.57	2.36	.50	NS
	1983-84	2.00	.63	2.50	.52	NS
	1988-89	2.00	.67	2.50	.52	NS
Cognitive Development	1978-79	2.82	.75	3.36	.67	NS
	1983-84	3.09	.83	3.67	.65	NS
	1988-89	3.36	.81	3.67	.65	NS

Table   1   (Continued)

Topic	Academic Year	ID Mean	SD	EP Mean	SD	p
Computer-Assisted Instruction	1978-79	2.23	.93	1.82	.87	NS
	1983-84	3.23	.60	2.42	.79	.0079
	1988-89	3.92	.28	2.83	.83	.0002
Computer Data Analysis	1978-79	2.42	.79	2.64	.81	NS
	1983-84	3.00	.58	3.50	.52	.0333
	1988-89	3.33	.78	3.75	.45	NS
Consultation Skills	1978-79	2.33	1.15	1.82	.40	NS
	1983-84	2.92	.79	2.00	.43	.0019
	1988-89	3.25	.75	2.33	.65	.0043
Correlation	1978-79	3.60	.52	3.55	.52	NS
	1983-84	3.55	.69	3.75	.45	NS
	1988-89	3.64	.50	3.75	.45	NS
Creativity	1978-79	2.30	.95	2.27	.47	NS
	1983-84	2.27	.90	2.33	.49	NS
	1988-89	2.64	.92	2.17	.72	NS
Criterion-Referenced Testing	1978-79	3.45	.82	2.45	.69	.0057
	1983-84	3.50	.67	2.92	.79	NS
	1988-89	3.58	.67	3.08	.90	NS
Curriculum Development	1978-79	3.15	.99	2.09	.70	.0068
	1983-84	3.15	.99	2.08	.67	.0045
	1988-89	3.25	.97	2.08	.67	.0023
Descriptive Statistics	1978-79	3.55	.82	3.73	.65	NS
	1983-84	3.42	.90	3.83	.39	NS
	1988-89	3.55	.82	3.83	.39	NS
Design Of Instruction	1978-79	3.85	.38	1.91	.54	.0001
	1983-84	4.00	.00	2.25	.62	.0001
	1988-89	4.00	.00	2.25	.62	.0001
Early School Experiences	1978-79	1.73	.65	2.18	.40	NS
	1983-84	1.75	.45	2.25	.62	.0345
	1988-89	1.64	.50	2.33	.49	.0030
Experimental Research Methodology	1978-79	3.50	.67	3.82	.40	NS
	1983-84	3.75	.62	3.83	.39	NS
	1988-89	3.75	.62	3.92	.29	NS

Table   1   (Continued)

Topic	Academic Year	ID Mean	SD	EP Mean	SD	p
Exploratory	1978-79	2.50	.85	2.64	.92	NS
Data Analysis	1983-84	2.82	.87	3.00	.95	NS
	1988-89	2.90	.99	3.08	.90	NS
Factor	1978-79	2.33	1.00	2.36	.67	NS
Analysis	1983-84	2.50	.85	2.50	.80	NS
	1988-89	2.80	.92	2.67	.89	NS
Film	1978-79	2.00	.89	1.18	.40	.0153
Production	1983-84	1.83	1.03	1.33	.49	NS
	1988-89	1.82	1.17	1.25	.45	NS
Formative	1978-79	3.73	.65	2.09	.70	.0001
Evaluation	1983-84	3.67	.65	2.25	.75	.0001
	1988-89	3.73	.65	2.33	.78	.0001
Graphics	1978-79	3.00	.91	1.36	.67	.0001
Production	1983-84	2.77	1.01	1.42	.67	.0001
	1988-89	2.64	1.03	1.42	.67	.0001
Individual	1978-79	3.33	.71	2.91	.83	NS
Differences	1983-84	3.40	.70	3.08	.90	NS
	1988-89	3.44	.73	3.08	.90	NS
Individualized	1978-79	3.45	.69	2.27	.47	.0001
Instruction	1983-84	3.50	.67	2.50	.52	.0005
	1988-89	3.67	.65	2.58	.67	.0006
Inferential	1978-79	3.50	.90	3.73	.65	NS
Statistics	1983-84	3.69	.63	3.75	.62	NS
	1988-89	3.58	.67	3.75	.62	NS
Information	1978-79	2.25	.75	2.45	.69	NS
Processing	1983-84	2.83	.72	3.00	.74	NS
	1988-89	3.00	.77	3.08	.79	NS
Instructional	1978-79	3.58	.67	2.36	.81	.0007
Evaluation	1983-84	3.85	.38	2.50	.80	.0001
	1988-89	3.83	.39	2.75	.75	.0004
Instructional	1978-79	4.00	.00	2.45	.82	.0001
Objectives	1983-84	4.00	.00	2.58	.90	.0004
	1988-89	4.00	.00	2.75	.87	.0001

Table   1   (Continued)

Topic	Academic Year	ID Mean	SD	EP Mean	SD	p
Instructional Strategies	1978-79	3.64	.67	2.09	.54	.0001
	1983-84	3.83	.39	2.25	.62	.0001
	1988-89	3.91	.30	2.50	.67	.0015
Instructional Theory	1978-79	3.42	.90	2.09	.83	.0002
	1983-84	3.62	.65	2.33	.78	.0002
	1988-89	3.55	.69	2.83	.94	NS
Interactive Video	1978-79	1.25	.45	1.27	.47	NS
	1983-84	2.00	.43	1.50	.52	.0175
	1988-89	2.82	.60	2.00	.74	.0087
Intrinsic/ Extrinsic Motivation	1978-79	2.45	1.04	2.64	.81	NS
	1983-84	2.67	1.07	3.00	.60	NS
	1988-89	2.92	1.08	2.92	.67	NS
Language Development	1978-79	1.73	.90	2.45	.52	.0317
	1983-84	1.83	.83	2.58	.51	.0147
	1988-89	1.91	.83	2.58	.51	.0279
Latent Trait Theory	1978-89	1.45	.69	1.64	.67	NS
	1983-84	1.58	.67	1.92	.51	NS
	1988-89	1.64	.67	2.08	.51	NS
Media Center Administration	1978-79	2.58	.90	1.00	.00	.0001
	1983-84	2.38	.87	1.00	.00	.0001
	1988-89	2.33	.89	1.08	.29	.0004
Media Selection and Use	1978-79	3.69	.63	1.36	.50	.0001
	1983-84	3.69	.63	1.33	.49	.0001
	1988-89	3.73	.65	1.50	.52	.0001
Memory/ Forgetting	1978-79	2.92	1.08	2.91	.83	NS
	1983-84	3.17	.83	3.17	.83	NS
	1988-89	3.27	.90	3.17	.83	NS
Meta-analysis	1978-79	1.42	.51	1.91	.94	NS
	1983-84	2.17	.58	2.17	.83	NS
	1988-89	2.27	.65	2.75	.75	NS
Multiple Regression	1978-79	2.27	.90	3.00	.77	NS
	1983-84	2.58	.90	3.25	.62	.0464
	1988-89	2.55	.93	3.42	.51	.0107

Table   1   (Continued)

Topic	Academic Year	ID Mean	SD	EP Mean	SD	p
Naturalistic	1978-79	1.64	.50	2.36	.81	.0199
Research	1983-84	2.67	.78	2.42	.67	NS
Methodology	1988-89	2.91	.94	2.50	.90	NS
Needs	1978-79	2.83	1.03	2.09	.30	.0328
Assessment	1983-84	3.50	.67	2.00	.43	.0001
	1988-89	3.75	.45	2.00	.43	.0001
Nonparametric	1978-79	2.50	1.08	2.55	.82	NS
Statistics	1983-84	2.73	.90	2.83	1.03	NS
	1988-89	2.91	.94	2.92	.90	NS
Norm-Referenced	1978-79	3.18	.87	2.82	.75	NS
Testing	1983-84	3.17	.83	3.00	.85	NS
	1988-89	3.18	.87	2.92	.79	NS
Peer	1978-79	1.50	.53	2.45	.52	.0005
Relationships	1983-84	2.00	.77	2.50	.52	NS
	1988-89	2.10	.74	2.50	.52	NS
Personality	1978-79	1.91	.94	2.55	.52	NS
Development	1983-84	1.92	.90	2.67	.49	.0190
	1988-89	2.08	1.08	2.67	.49	NS
Photography	1978-79	2.85	.90	1.00	.00	.0001
Production	1983-84	2.69	.95	1.08	.29	.0001
	1988-89	2.67	1.07	1.17	.39	.0005
Principles	1978-79	3.75	.45	3.36	.81	NS
of Learning	1983-84	3.92	.29	3.58	.67	NS
	1988-89	3.91	.30	3.67	.65	NS
Problem-	1978-79	2.91	.94	2.55	.69	NS
Solving Skills	1983-84	3.18	.75	2.92	.67	NS
	1988-89	3.30	.67	2.92	.67	NS
Program	1978-79	2.67	.98	2.09	.54	NS
Evaluation	1983-84	3.08	.79	2.50	.52	.0448
	1988-89	3.36	.67	2.75	.62	.0337
Programmed	1978-79	2.75	.75	2.18	.40	.0375
Instruction	1983-84	2.83	.72	1.92	.67	.0038
	1988-89	2.55	1.04	1.92	.67	NS

Table   1   (Continued)

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  Topic       Academic    ID     SD     EP     SD      p
               Year       Mean          Mean
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Research      1978-79     3.83    .39   3.55    .69    NS
Design        1983-84     3.92    .29   3.75    .45    NS
              1988-89     3.91    .30   3.83    .39    NS


Roles of      1978-79     2.42   1.08   3.18    .87    NS
Heredity/     1983-84     2.42   1.08   3.08    .90    NS
Environment   1988-89     2.45   1.13   3.08    .90    NS


Self-Concept  1978-79     1.73    .65   2.45    .52   .0088
Determinants  1983-84     1.73    .65   2.50    .52   .0047
              1988-89     1.70    .67   2.50    .52   .0052


Sequencing    1978-79     3.42    .67   1.91    .30   .0001
Instruction   1983-84     3.67    .65   1.92    .29   .0001
              1988-89     3.64    .67   1.92    .29   .0001


Sex Role      1978-79     1.42    .51   2.55    .69   .0002
Development   1983-84     1.58    .51   2.75    .62   .0001
              1988-89     1.73    .65   2.92    .79   .0008


Socio-Cultural 1978-79    2.18    .87   2.55    .69    NS
Factors       1983-84     2.27    .90   2.75    .62    NS
              1988-89     2.30    .82   2.92    .79    NS


Standardized  1978-79     2.92    .90   3.18    .87    NS
Tests         1983-84     2.83   1.03   3.33    .78    NS
              1988-89     3.00   1.00   3.33    .78    NS


Summative     1978-79     3.38    .77   2.64    .92   .0413
Evaluation    1983-84     3.62    .65   2.75    .87   .0093
              1988-89     3.83    .58   2.92    .90   .0071


Systems       1978-79     3.69    .63   2.00    .63   .0001
Concepts      1983-84     3.92    .28   2.17    .39   .0001
              1988-89     4.00    .00   2.17    .58   .0001


Task/Content  1978-79     3.33    .78   1.82    .60   .0001
Analysis      1983-84     3.92    .29   2.08    .51   .0001
              1988-89     4.00    .00   2.33    .78   .0001


Teaching      1978-79     2.83    .94   2.00    .77   .0310
Methods       1983-84     3.08    .95   2.17    .83   .0187
              1988-89     3.25    .97   2.42    .79   .0306
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Table   1   (Continued)

Topic	Academic Year	ID Mean	SD	EP Mean	SD	p
Tele-communications	1978-79	2.67	.78	1.09	.30	.0001
	1983-84	3.08	.49	1.42	.79	.0001
	1988-89	3.17	.58	1.75	1.06	.0005
Test Item Writing	1978-79	2.82	.87	2.73	.90	NS
	1983-84	3.15	.80	2.75	.87	NS
	1988-89	3.25	.75	2.75	.97	NS
Test Reliability/ Validity	1978-79	3.18	.87	3.64	.67	NS
	1983-84	3.42	.67	3.67	.65	NS
	1988-89	3.64	.50	3.67	.65	NS
Transparency Production	1978-79	3.15	.90	1.36	.92	.0001
	1983-84	2.92	.86	1.33	.89	.0001
	1988-89	2.75	1.06	1.42	.90	.0031
Verbal Learning	1978-79	2.67	.98	2.82	.60	NS
	1983-84	2.67	.98	2.92	.79	NS
	1988-89	2.73	1.01	2.92	.79	NS
Videotape/TV Production	1978-79	2.92	.95	1.09	.30	.0001
	1983-84	2.92	.76	1.08	.29	.0001
	1988-89	2.83	.83	1.25	.45	.0001
Visual Learning	1978-79	2.83	.72	2.00	1.00	.0310
	1983-84	2.75	.87	2.08	.90	NS
	1988-89	2.92	.79	2.08	.90	.0250

Table 2

Variables and Factor Loadings For Factor Analysis Using
Varimax Rotation and Two Factors, Instructional Design
(ID) and Educational Psychology (EP)

Topic	Factor 1 (ID)	Factor 2 (EP)
Achievement Motivation	-.385	.268
Adolescent Development	-.333	.577
Adult Development	-.062	.617
Affective Measurement	.254	-.095
ANOVA/ANCOVA	.033	-.232
Aptitude Tests	.544	.483
Attribution Theory	-.224	.558
Audio/Slide Production	.717	-.328
Classroom Management	-.185	.764
Cognitive Development	.044	.796
Computer-Assisted Instruction	.755	-.061
Computer Data Analysis	-.293	.415
Consultation Skills	.446	-.205
Correlation	-.364	.220
Creativity	.089	.618
Criterion-referenced Testing	.373	.171
Curriculum Development	.107	-.538
Descriptive Statistics	-.447	.399
Design of Instruction	.774	-.416
Early School Experiences	.001	.418
Experimental Research Methodology	.467	.089
Exploratory Data Analysis	-.117	.382
Factor Analysis	-.039	.415
Film Production	.656	-.292
Formative Evaluation	.773	-.222
Graphics Production	.727	-.398
Individual Differences	.581	.533
Individualized Instruction	.661	-.290
Inferential Statistics	-.261	.100
Information Processing	.136	.119
Instructional Evaluation	.763	-.138
Instructional Objectives	.907	-.028
Instructional Strategies	.779	-.327
Instructional Theory	.663	-.348

Table   2   (Continued)

Topic	Factor 1 (ID)	Factor 2 (EP)
Interactive Video	.110	-.801
Intrinsic/Extrinsic Motivation	.111	.670
Language Development	-.344	.628
Latent Trait Theory	-.094	.254
Media Center Administration	.603	-.526
Media Selection and Use	.653	-.510
Memory/Forgetting	-.035	.335
Meta-analysis	.313	.135
Multiple Regression	-.400	.344
Naturalistic Research Methodology	.532	.088
Needs Assessment	.694	-.532
Nonparametric Statistics	-.214	.529
Norm-referenced Testing	.417	.507
Peer Relationships	-.144	.490
Personality Development	-.096	.542
Photography Production	.635	-.493
Principles of Learning	.496	.157
Problem-solving Skills	.209	-.094
Program Evaluation	.200	.029
Programmed Instruction	.172	-.392
Research Design	-.143	.067
Roles of Heredity/Environment	-.049	.885
Self-concept Determinants	-.155	.697
Sequencing Instruction	.715	-.599
Sex Role Development	-.251	.747
Socio-cultural Factors	-.108	.717
Standardized Tests	.246	.763
Summative Evaluation	.727	.093
Systems Concepts	.742	-.568
Task/content Analysis	.716	-.514
Teaching Methods	.507	.035
Telecommunications	.518	-.640
Test Item Writing	.334	.305
Test Reliability/Validity	-.389	.489
Transparency Production	.652	-.172
Verbal Learning	-.030	.331
Videotape/TV Production	.650	-.586
Visual Learning	.173	.143

Table 3

Responses for Measures of Contact Between the Two Programs
for Nine Institutions With Both Chairpersons Responding

Contact Characteristic	ID	EP

Collaborative research/ publication	3 (33%)	2 (22%)
Compehensive exam committees	5 (56%)	5 (56%)
Dissertation committees	9 (100%)	9 (100%)
Faculty committees	7 (78%)	7 (78%)
Joint faculty appointments	4 (44%)	2 (22%)
Joint program administration	2 (22%)	1 (11%)
Program located in same building	6 (67%)	3 (33%)
Team-teaching	2 (22%)	1 (11%)

Have these interactions increased
or decreased in the past 5 years:

Increased	3 (33%)	4 (44%)
No change	6 (67%)	5 (56%)
Decreased	0 (0%)	0 (0%)

Anticipate an increase in the
next five years:

Yes	4 (50%)	5 (56%)
No	4 (50%)	4 (44%)

Table 4

Comparisons Between Educational Psychology Programs in
Colleges of Education (CE) and Psychology Departments (PD)

Topic	Academic Year	CE Mean	SD	PD Mean	SD	p
Achievement Motivation	1978-79	2.88	.99	2.67	.58	NS
	1983-84	2.88	.99	2.75	.50	NS
	1988-89	2.75	.89	3.00	.82	NS
Adolescent Development	1978-79	2.75	.71	3.33	.58	NS
	1983-84	2.50	.76	3.00	.82	NS
	1988-89	2.38	.92	3.00	.82	NS
Adult Development	1978-79	2.25	.89	2.33	.58	NS
	1983-84	2.88	.89	2.25	.50	NS
	1988-89	3.00	.82	2.75	.50	NS
Affective Measurement	1978-79	2.13	.83	2.33	.58	NS
	1983-84	2.00	.53	2.75	.96	NS
	1988-89	2.13	.83	2.75	.96	.0419
ANOVA/ANCOVA	1978-79	3.63	.52	3.67	.58	NS
	1983-84	3.63	.52	4.00	.00	NS
	1988-89	3.63	.52	4.00	.00	NS
Aptitude Tests	1978-79	2.88	.83	2.67	.58	NS
	1983-84	2.88	.83	3.00	.82	NS
	1988-89	2.75	1.04	3.00	.82	NS
Attribution Theory	1978-79	2.13	.64	2.00	.00	NS
	1983-84	2.63	.52	3.00	.00	NS
	1988-89	2.75	.71	2.75	.50	NS
Audio/Slide Production	1978-79	1.25	.46	1.33	.58	NS
	1983-84	1.50	.53	1.25	.50	NS
	1988-89	1.75	.71	1.25	.50	NS
Classroom Management	1978-79	2.25	.46	2.67	.58	NS
	1983-84	2.38	.52	2.75	.50	NS
	1988-89	2.38	.52	2.75	.50	NS
Cognitive Development	1978-79	3.25	.71	3.67	.58	NS
	1983-84	3.50	.76	4.00	.00	NS
	1988-89	3.50	.76	4.00	.00	NS

Table   4   (Continued)

Topic	Academic Year	CE Mean	SD	PD Mean	SD	p
Computer-Assisted Instruction	1978-79	1.63	.92	2.33	.58	NS
	1983-84	2.38	.92	2.50	.58	NS
	1988-89	2.88	.99	2.75	.50	NS
Computer Data Analysis	1978-79	2.50	.76	3.00	1.00	NS
	1983-84	3.50	.53	3.50	.58	NS
	1988-89	3.75	.46	3.75	.50	NS
Consultation Skills	1978-79	1.88	.35	1.67	.58	NS
	1983-84	2.13	.35	1.75	.50	NS
	1988-89	2.50	.76	2.00	.00	NS
Correlation	1978-79	3.63	.52	3.33	.58	NS
	1983-84	3.75	.46	3.75	.50	NS
	1988-89	3.75	.46	3.75	.50	NS
Creativity	1978-79	2.25	.46	2.33	.58	NS
	1983-84	2.38	.52	2.25	.50	NS
	1988-89	2.13	.83	2.25	.50	NS
Criterion-Referenced Testing	1978-79	2.38	.74	2.67	.58	NS
	1983-84	3.00	.76	2.75	.96	NS
	1988-89	3.25	.89	2.75	.96	NS
Curriculum Development	1978-79	2.13	.83	2.00	.00	NS
	1983-84	2.25	.71	1.75	.50	NS
	1988-89	2.25	.71	1.75	.50	NS
Descriptive Statistics	1978-79	3.75	.71	3.67	.58	NS
	1983-84	3.88	.35	3.75	.50	NS
	1988-89	3.88	.35	3.75	.50	NS
Design Of Instruction	1978-79	1.75	.46	2.33	.58	NS
	1983-84	2.00	.53	2.75	.50	.0417
	1988-89	2.13	.64	2.50	.58	NS
Early School Experiences	1978-79	2.13	.35	2.33	.58	NS
	1983-84	2.25	.46	2.25	.96	NS
	1988-89	2.25	.46	2.50	.58	NS
Experimental Research Methodology	1978-79	3.88	.35	3.67	.58	NS
	1983-84	3.88	.35	3.75	.50	NS
	1988-89	4.00	.00	3.75	.50	NS

Table   4   (Continued)

Topic	Academic Year	CE Mean	SD	PD Mean	SD	p
Exploratory	1978-79	2.63	.92	2.67	1.15	NS
Data Analysis	1983-84	2.88	.99	3.25	.96	NS
	1988-89	2.88	.99	3.50	.58	NS
Factor	1978-79	2.25	.46	2.67	1.15	NS
Analysis	1983-84	2.38	.74	2.75	.96	NS
	1988-89	2.63	.92	2.75	.96	NS
Film	1978-79	1.25	.46	1.00	.00	NS
Production	1983-84	1.38	.52	1.25	.50	NS
	1988-89	1.25	.46	1.25	.50	NS
Formative	1978-79	2.13	.64	2.00	1.00	NS
Evaluation	1983-84	2.38	.74	2.00	.82	NS
	1988-89	2.50	.76	2.00	.82	NS
Graphics	1978-79	1.38	.74	1.33	.58	NS
Production	1983-84	1.50	.76	1.25	.50	NS
	1988-89	1.50	.76	1.25	.50	NS
Individual	1978-79	2.88	.83	3.00	1.00	NS
Differences	1983-84	3.00	.93	3.25	.96	NS
	1988-89	3.00	.93	3.25	.96	NS
Individualized	1978-79	2.25	.46	2.33	.58	NS
Instruction	1983-84	2.50	.53	2.50	.58	NS
	1988-89	2.63	.74	2.50	.58	NS
Inferential	1978-79	3.75	.71	3.67	.58	NS
Statistics	1983-84	3.75	.71	3.75	.50	NS
	1988-89	3.75	.71	3.75	.50	NS
Information	1978-79	2.50	.76	2.33	.58	NS
Processing	1983-84	2.88	.83	3.25	.50	NS
	1988-89	2.88	.83	3.50	.58	NS
Instructional	1978-79	2.38	.74	2.33	1.15	NS
Evaluation	1983-84	2.50	.76	2.50	1.00	NS
	1988-89	2.88	.64	2.50	1.00	NS
Instructional	1978-79	2.50	.76	2.33	1.15	NS
Objectives	1983-84	2.63	.92	2.50	1.00	NS
	1988-89	2.88	.83	2.50	1.00	NS

Table   4   (Continued)

Topic	Academic Year	CE Mean	SD	PD Mean	SD	p
Instructional Strategies	1978-79	2.00	.53	2.33	.58	NS
	1983-84	2.13	.64	2.50	.58	NS
	1988-89	2.38	.74	2.75	.50	NS
Instructional Theory	1978-79	1.88	.64	2.67	1.15	NS
	1983-84	2.13	.64	2.75	.96	NS
	1988-89	2.75	1.04	3.00	.82	NS
Interactive Video	1978-79	1.13	.35	1.67	.58	NS
	1983-84	1.38	.52	1.75	.50	NS
	1988-89	2.13	.83	1.75	.50	NS
Intrinsic/ Extrinsic Motivation	1978-79	2.88	.83	2.00	.00	NS
	1983-84	3.00	.76	3.00	.00	NS
	1988-89	2.88	.83	3.00	.00	NS
Language Development	1978-79	2.50	.53	2.33	.58	NS
	1983-84	2.50	.53	2.75	.50	NS
	1988-89	2.50	.53	2.75	.50	NS
Latent Trait Theory	1978-89	1.50	.53	2.00	1.00	NS
	1983-84	1.88	.35	2.00	.82	NS
	1988-89	2.00	.53	2.25	.50	NS
Media Center Administration	1978-79	1.00	.00	1.00	.00	NS
	1983-84	1.00	.00	1.00	.00	NS
	1988-89	1.13	.35	1.00	.00	NS
Media Selection and Use	1978-79	1.38	.52	1.33	.58	NS
	1983-84	1.38	.52	1.25	.50	NS
	1988-89	1.63	.52	1.25	.50	NS
Memory/ Forgetting	1978-79	3.00	.93	2.67	.58	NS
	1983-84	3.00	.93	3.50	.58	NS
	1988-89	3.00	.93	3.50	.58	NS
Meta-analysis	1978-79	1.63	.52	2.67	1.53	NS
	1983-84	2.00	.53	2.50	1.29	NS
	1988-89	2.63	.74	3.00	.82	NS
Multiple Regression	1978-79	3.00	.76	3.00	1.00	NS
	1983-84	3.13	.64	3.50	.58	NS
	1988-89	3.38	.52	3.50	.58	NS

Table   4   (Continued)

Topic	Academic Year	CE Mean	SD	PD Mean	SD	p
Naturalistic Research Methodology	1978-79	2.38	.92	2.33	.58	NS
	1983-84	2.50	.76	2.25	.50	NS
	1988-89	2.50	1.07	2.50	.58	NS
Needs Assessment	1978-79	2.13	.35	2.00	.00	NS
	1983-84	2.13	.35	1.75	.50	NS
	1988-89	2.00	.53	2.00	.00	NS
Nonparametric Statistics	1978-79	2.25	.71	3.33	.58	.0432
	1983-84	2.38	.92	3.75	.50	.0202
	1988-89	2.50	.76	3.75	.50	.0142
Norm-Referenced Testing	1978-79	2.88	.83	2.67	.58	NS
	1983-84	3.00	.93	3.00	.82	NS
	1988-89	2.88	.83	3.00	.82	NS
Peer Relationships	1978-79	2.50	.53	2.33	.58	NS
	1983-84	2.50	.53	2.50	.58	NS
	1988-89	2.50	.53	2.50	.58	NS
Personality Development	1978-79	2.50	.53	2.67	.58	NS
	1983-84	2.63	.52	2.75	.50	NS
	1988-89	2.63	.52	2.75	.50	NS
Photography Production	1978-79	1.00	.00	1.00	.00	NS
	1983-84	1.00	.00	1.25	.50	NS
	1988-89	1.13	.35	1.25	.50	NS
Principles of Learning	1978-79	3.50	.93	3.00	.00	NS
	1983-84	3.63	.74	3.50	.58	NS
	1988-89	3.75	.71	3.50	.58	NS
Problem-Solving Skills	1978-79	2.75	.71	2.00	.00	NS
	1983-84	2.88	.64	3.00	.82	NS
	1988-89	2.88	.64	3.00	.82	NS
Program Evaluation	1978-79	2.00	.53	2.33	.58	NS
	1983-84	2.50	.53	2.50	.58	NS
	1988-89	2.75	.71	2.75	.50	NS
Programmed Instruction	1978-79	2.13	.35	2.33	.58	NS
	1983-84	1.75	.46	2.25	.96	NS
	1988-89	1.75	.46	2.25	.96	NS

Table   4   (Continued)

Topic	Academic Year	CE Mean	SD	PD Mean	SD	p
Research Design	1978-79	3.63	.74	3.33	.58	NS
	1983-84	3.75	.46	3.75	.50	NS
	1988-89	3.88	.35	3.75	.50	NS
Roles of Heredity/ Environment	1978-79	3.13	.99	3.33	.58	NS
	1983-84	3.13	.99	3.00	.82	NS
	1988-89	3.13	.99	3.00	.82	NS
Self-Concept Determinants	1978-79	2.50	.53	2.33	.58	NS
	1983-84	2.50	.53	2.50	.58	NS
	1988-89	2.50	.53	2.50	.58	NS
Sequencing Instruction	1978-79	2.00	.00	1.67	.58	NS
	1983-84	2.00	.00	1.75	.50	NS
	1988-89	2.00	.00	1.75	.50	NS
Sex Role Development	1978-79	2.50	.76	2.67	.58	NS
	1983-84	2.75	.71	2.75	.50	NS
	1988-89	2.88	.83	3.00	.82	NS
Socio-Cultural Factors	1978-79	2.63	.74	2.33	.58	NS
	1983-84	2.75	.71	2.75	.50	NS
	1988-89	2.75	.71	3.25	.96	NS
Standardized Tests	1978-79	3.13	.83	3.33	1.15	NS
	1983-84	3.25	.71	3.50	1.00	NS
	1988-89	3.25	.71	3.50	1.00	NS
Summative Evaluation	1978-79	2.88	.83	2.00	1.00	NS
	1983-84	3.13	.64	2.00	.82	.0251
	1988-89	3.13	.64	2.50	1.29	NS
Systems Concepts	1978-79	2.00	.76	2.00	.00	NS
	1983-84	2.25	.46	2.00	.00	NS
	1988-89	2.13	.64	2.25	.50	NS
Task/Content Analysis	1978-79	1.75	.71	2.00	.00	NS
	1983-84	2.00	.53	2.25	.50	NS
	1988-89	2.38	.92	2.25	.50	NS
Teaching Methods	1978-79	2.00	.93	2.00	.00	NS
	1983-84	2.13	.99	2.25	.50	NS
	1988-89	2.38	.92	2.50	.58	NS

Table   4   (Continued)

Topic	Academic Year	CE Mean	SD	PD Mean	SD	p
Tele-communications	1978-79	1.13	.35	1.00	.00	NS
	1983-84	1.50	.93	1.25	.50	NS
	1988-89	2.00	1.20	1.25	.50	NS
Test Item Writing	1978-79	2.88	.99	2.33	.58	NS
	1983-84	3.00	.93	2.25	.50	NS
	1988-89	2.88	1.13	2.50	.58	NS
Test Reliability/ Validity	1978-79	3.63	.74	3.67	.58	NS
	1983-84	3.63	.74	3.75	.50	NS
	1988-89	3.63	.74	3.75	.50	NS
Transparency Production	1978-79	1.50	1.07	1.00	.00	NS
	1983-84	1.50	1.07	1.00	.00	NS
	1988-89	1.50	1.07	1.25	.50	NS
Verbal Learning	1978-79	2.75	.71	3.00	.00	NS
	1983-84	2.88	.83	3.00	.82	NS
	1988-89	2.88	.83	3.00	.82	NS
Videotape/TV Production	1978-79	1.13	.35	1.00	.00	NS
	1983-84	1.13	.35	1.00	.00	NS
	1988-89	1.13	.35	1.50	.58	NS
Visual Learning	1978-79	2.38	.92	1.00	.00	.0038
	1983-84	2.38	.92	1.50	.58	NS
	1988-89	2.38	.92	1.50	.58	NS

Table 5

Response Frequencies For Educational
Psychology Respondents

Response Categories

Topic	Academic Year	None	Some	Most	All	Blank
Achievement	1978-79	0	5	3	3	1
Motivation	1983-84	0	5	4	3	0
	1988-89	0	5	4	3	0
Adolescent	1978-79	0	3	6	2	1
Development	1983-84	0	6	4	2	0
	1988-89	1	5	4	2	0
Adult	1978-79	1	7	2	1	1
Development	1983-84	0	6	3	2	1
	1988-89	0	3	6	2	1
Affective	1978-79	1	8	1	1	1
Measurement	1983-84	1	8	2	1	0
	1988-89	1	8	1	2	0
ANOVA/ANCOVA	1978-79	0	0	4	7	1
	1983-84	0	0	3	9	0
	1988-89	0	0	3	9	0
Aptitude	1978-79	0	4	5	2	1
Tests	1983-84	0	4	5	3	0
	1988-89	1	3	5	3	0
Attribution	1978-79	1	8	2	0	1
Theory	1983-84	0	3	9	0	0
	1988-89	0	4	7	1	0
Audio/Slide	1978-79	8	3	0	0	1
Production	1983-84	7	5	0	0	0
	1988-89	6	5	1	0	0
Classroom	1978-79	0	7	4	0	1
Management	1983-84	0	6	6	0	0
	1988-89	0	6	6	0	0

Table 5 (Continued)

Response Categories

Topic	Academic Year	None	Some	Most	All	Blank
Cognitive Development	1978-79	0	1	5	5	1
	1983-84	0	1	2	9	0
	1988-89	0	1	2	9	0
Computer-Assisted Instruction	1978-79	5	3	3	0	1
	1983-84	1	6	4	1	0
	1988-89	1	2	7	2	0
Computer Data Analysis	1978-79	0	6	3	2	1
	1983-84	0	0	6	6	0
	1988-89	0	0	3	9	0
Consultation Skills	1978-79	2	9	0	0	1
	1983-84	1	10	1	0	0
	1988-89	0	9	2	1	0
Correlation	1978-79	0	0	5	6	1
	1983-84	0	0	3	9	0
	1988-89	0	0	3	9	0
Creativity	1978-79	0	8	3	0	1
	1983-84	0	8	4	0	0
	1988-89	2	6	4	0	0
Criterion-Referenced Testing	1978-79	0	7	3	1	1
	1983-84	0	4	5	3	0
	1988-89	0	4	3	5	0
Curriculum Development	1978-79	1	9	0	1	1
	1983-84	1	10	0	1	0
	1988-89	1	10	0	1	0
Descriptive Statistics	1978-79	0	1	1	9	1
	1983-84	0	0	2	10	0
	1988-89	0	0	2	10	0
Design of Instruction	1978-79	2	8	1	0	1
	1983-84	1	7	4	0	0
	1988-89	1	7	4	0	0

Table   5 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Early School Experiences	1978-79	0	9	2	0	1
	1983-84	1	7	4	0	0
	1988-89	0	8	4	0	0
Experimental Research Methodology	1978-79	0	0	2	9	1
	1983-84	0	0	2	10	0
	1988-89	0	0	1	11	0
Exploratory Data Analysis	1978-79	0	7	1	3	1
	1983-84	0	5	2	5	0
	1988-89	0	4	3	5	0
Factor Analysis	1978-79	0	8	2	1	1
	1983-84	0	8	2	2	0
	1988-89	0	7	2	3	0
Film Production	1978-79	9	2	0	0	1
	1983-84	8	4	0	0	0
	1988-89	9	3	0	0	0
Formative Evaluation	1978-79	2	6	3	0	1
	1983-84	2	5	5	0	0
	1988-89	2	4	6	0	0
Graphics Production	1978-79	8	2	1	0	1
	1983-84	8	3	1	0	0
	1988-89	8	3	1	0	0
Individual Differences	1978-79	0	4	4	3	1
	1983-84	0	4	3	5	0
	1988-89	0	4	3	5	0
Individualized Instruction	1978-79	0	8	3	0	1
	1983-84	0	6	6	0	0
	1988-89	0	6	5	1	0
Inferential Statistics	1978-79	0	1	1	9	1
	1983-84	0	1	1	·10	0
	1988-89	0	1	1	10	0

Table   5 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Information Processing	1978-79	0	7	3	1	1
	1983-84	0	3	6	3	0
	1988-89	0	3	5	4	0
Instructional Evaluation	1978-79	1	6	3	1	1
	1983-84	1	5	5	1	0
	1988-89	1	2	8	1	0
Instructional Objectives	1978-79	1	5	4	1	1
	1983-84	1	5	4	2	0
	1988-89	1	3	6	2	0
Instructional Strategies	1978-79	1	8	2	0	1
	1983-84	1	7	4	0	0
	1988-89	1	4	7	0	0
Instructional Theory	1978-79	2	7	1	1	1
	1983-84	1	7	3	1	0
	1988-89	1	3	5	3	0
Interactive Video	1978-79	8	3	0	0	1
	1983-84	6	6	0	0	0
	1988-89	2	9	0	1	0
Intrinsic/ Extrinsic Motivation	1978-79	0	6	3	2	1
	1983-84	0	2	8	2	0
	1988-89	0	3	7	2	0
Language Development	1978-79	0	6	5	0	1
	1983-84	0	5	7	0	0
	1988-89	0	5	7	0	0
Latent Trait Theory	1978-79	5	5	1	0	1
	1983-84	2	9	1	0	0
	1988-89	1	9	2	0	0
Media Center Administration	1978-79	11	0	0	0	1
	1983-84	12	0	0	0	0
	1988-89	11	1	0	0	0

Table   5 (Continued)

| | | Response Categories | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Media Selection and Use	1978-79	7	4	0	0	1
	1983-84	8	4	0	0	0
	1988-89	6	6	0	0	0
Memory/ Forgetting	1978-79	0	4	4	3	1
	1983-84	0	3	4	5	0
	1988-89	0	3	4	5	0
Meta-analysis	1978-79	4	5	1	1	1
	1983-84	2	7	2	1	0
	1988-89	0	5	5	2	0
Multiple Regression	1978-79	0	3	5	3	1
	1983-84	0	1	7	4	0
	1988-89	0	0	7	5	0
Naturalistic Research Methodology	1978-79	1	6	3	1	1
	1983-84	0	8	3	1	0
	1988-89	1	6	3	2	0
Needs Assessment	1978-79	0	0	10	1	1
	1983-84	1	10	1	0	0
	1988-89	1	10	1	0	0
Nonparametric Statistics	1978-79	1	4	5	1	1
	1983-84	1	4	3	4	0
	1988-89	0	5	3	4	0
Norm- Referenced Testing	1978-79	0	4	5	2	1
	1983-84	0	4	4	4	0
	1988-89	0	4	5	3	0
Peer Relationships	1978-79	0	6	5	0	1
	1983-84	0	6	6	0	0
	1988-89	0	6	6	0	0
Personality Development	1978-79	0	5	6	0	1
	1983-84	0	4	8	0	0
	1988-89	0	4	8	0	0

Table   5 (Continued)

		Response Categories				
Topic	Academic Year	None	Some	Most	All	Blank
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Photography Production	1978-79	11	0	0	0	1
	1983-84	11	1	0	0	0
	1988-89	10	2	0	0	0
Principles of Learning	1978-79	0	2	3	6	1
	1983-84	0	1	3	8	0
	1988-89	0	1	2	9	0
Problem- Solving Skills	1978-79	0	6	4	1	1
	1983-84	0	3	7	2	0
	1988-89	0	3	7	2	0
Program Evaluation	1978-79	1	8	2	0	1
	1983-84	0	6	6	0	0
	1988-89	0	4	7	1	0
Programmed Instruction	1978-79	0	9	2	0	1
	1983-84	3	7	2	0	0
	1988-89	3	7	2	0	0
Research Design	1978-79	0	1	3	7	1
	1983-84	0	0	3	9	0
	1988-89	0	0	2	10	0
Roles of Heredity/ Environment	1978-79	0	3	3	5	1
	1983-84	0	4	3	5	0
	1988-89	0	4	3	5	0
Self-Concept Determinants	1978-79	0	6	5	0	1
	1983-84	0	6	6	0	0
	1988-89	0	6	6	0	0
Sequencing Instruction	1978-79	1	10	0	0	1
	1983-84	1	11	0	0	0
	1988-89	1	11	0	0	0
Sex Role Development	1978-79	0	6	4	1	1
	1983-84	0	4	7	1	0
	1988-89	0	4	5	3	0

Table   5 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Socio-cultural Factors	1978-79	0	6	4	1	0
	1983-84	0	4	7	1	0
	1988-89	0	4	5	3	0
Standardized Tests	1978-79	0	3	3	5	1
	1983-84	0	2	4	6	0
	1988-89	0	2	4	6	0
Summative Evaluation	1978-79	1	4	4	2	1
	1983-84	1	3	6	2	0
	1988-89	1	2	6	3	0
Systems Concepts	1978-79	2	7	2	0	1
	1983-84	0	10	2	0	0
	1988-89	1	8	3	0	0
Task/Content Analysis	1978-79	3	7	1	0	1
	1983-84	1	9	2	0	0
	1988-89	1	7	3	1	0
Teaching Methods	1978-79	2	8	0	1	1
	1983-84	2	7	2	1	0
	1988-89	1	6	4	1	0
Tele-Communications	1978-79	10	1	0	0	1
	1983-84	9	1	2	0	0
	1988-89	7	2	2	1	0
Test Item Writing	1978-79	0	6	2	3	1
	1983-84	0	6	3	3	0
	1988-89	1	4	4	3	0
Test Reliability/ Validity	1978-79	0	1	2	8	1
	1983-84	0	1	2	9	0
	1988-89	0	1	2	9	0
Transparency Production	1978-79	9	1	0	1	1
	1983-84	10	1	0	1	0
	1988-89	9	2	0	1	0

Table   5 (Continued)

Response Categories

Topic	Academic Year	None	Some	Most	All	Blank
Verbal	1978-79	0	3	7	1	1
Learning	1983-84	0	4	5	3	0
	1988-89	0	4	5	3	0
Videotape/TV	1978-79	10	1	0	0	1
Production	1983-84	11	1	0	0	0
	1988-89	9	3	0	0	0
Visual	1978-79	4	4	2	1	1
Learning	1983-84	3	6	2	1	0
	1988-89	3	6	2	1	0

Table 6

Response Frequencies For Instructional
Design Respondents

Response Categories

Topic	Academic Year	None	Some	Most	All	Blank
Achievement	1978-79	2	6	1	0	4
Motivation	1983-84	2	3	5	0	3
	1988-89	1	1	5	1	5
Adolescent	1978-79	6	4	1	0	2
Development	1983-84	5	5	1	1	1
	1988-89	3	5	1	1	3
Adult	1978-79	2	7	2	1	1
Development	1983-84	1	6	4	2	0
	1988-89	1	2	6	3	1
Affective	1978-79	0	8	2	0	3
Measurement	1983-84	0	2	8	0	3
	1988-89	0	2	5	3	3
ANOVA/ANCOVA	1978-79	1	0	0	10	2
	1983-84	1	0	0	11	1
	1988-89	1	0	1	9	2
Aptitude	1978-79	1	4	3	2	3
Tests	1983-84	0	3	4	4	2
	1988-89	0	1	5	4	3
Attribution	1978-79	3	3	2	0	5
Theory	1983-84	0	6	3	0	4
	1988-89	0	5	3	0	5
Audio/Slide	1978-79	0	2	5	6	0
Production	1983-84	0	4	4	5	0
	1988-89	1	3	3	5	1
Classroom	1978-79	2	7	1	0	3
Management	1983-84	2	7	2 ·	0	2
	1988-89	2	6	2	0	3

Table   6 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Cognitive Development	1978-79	0	4	5	2	2
	1983-84	0	3	4	4	2
	1988-89	0	2	3	6	2
Computer-Assisted Instruction	1978-79	2	8	1	2	0
	1983-84	0	1	8	4	0
	1988-89	0	0	1	12	0
Computer Data Analysis	1978-79	1	6	4	1	0
	1983-84	0	2	9	2	0
	1988-89	0	2	4	6	1
Consultation Skills	1978-79	3	5	1	3	1
	1983-84	0	4	5	3	1
	1988-89	0	2	5	5	1
Correlation	1978-79	0	0	4	6	3
	1983-84	0	1	3	7	2
	1988-89	0	0	4	7	2
Creativity	1978-79	1	7	0	0	3
	1983-84	1	8	0	2	2
	1988-89	0	7	1	3	2
Criterion-Referenced Testing	1978-79	0	2	2	7	2
	1983-84	0	1	4	7	1
	1988-89	0	1	3	8	1
Curriculum Development	1978-79	0	5	1	7	0
	1983-84	0	5	1	7	0
	1988-89	0	4	1	7	1
Descriptive Statistics	1978-79	0	2	1	8	2
	1983-84	0	3	1	8	1
	1988-89	0	2	1	8	2
Design of Instruction	1978-79	0	0	2	11	0
	1983-84	0	0	0	13	0
	1988-89	0	0	0	12	1

Table   6 (Continued)

		Response Categories				
Topic	Academic Year	None	Some	Most	All	Blank
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Early School	1978-79	4	6	1	0	2
Experiences	1983-84	3	9	0	0	1
	1988-89	4	7	0	0	2
Experimental	1978-79	0	1	4	7	1
Research	1983-84	0	1	1	10	1
Methodology	1988-89	0	1	1	10	1
Exploratory	1978-79	1	4	4	1	3
Data Analysis	1983-84	1	2	6	2	2
	1988-89	1	2	4	3	3
Factor	1978-79	1	6	0	2	4
Analysis	1983-84	0	7	1	2	3
	1988-89	0	5	2	3	3
Film	1978-79	3	6	1	1	2
Production	1983-84	6	3	2	1	1
	1988-89	6	3	0	2	2
Formative	1978-79	0	1	1	9	2
Evaluation	1983-84	0	1	2	9	1
	1988-89	0	1	1	9	2
Graphics	1978-79	0	5	3	5	0
Production	1983-84	1	5	3	4	0
	1988-89	1	5	2	3	2
Individual	1978-79	0	1	4	4	4
Differences	1983-84	0	1	4	5	3
	1988-89	0	1	3	5	4
Individualized	1978-79	0	1	4	6	2
Instruction	1983-84	0	1	4	7	1
	1988-89	0	1	2	9	1
Inferential	1978-79	1	0	3	8	1
Statistics	1983-84	0	1	2	10	0
	1988-89	0	1	3	8	1

Table   6 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Information Processing	1978-79	1	8	2	1	1
	1983-84	0	4	6	2	1
	1988-89	0	3	5	3	2
Instructional Evaluation	1978-79	0	1	3	8	1
	1983-84	0	0	2	11	0
	1988-89	0	0	2	10	1
Instructional Objectives	1978-79	0	0	0	11	2
	1983-84	0	0	0	12	1
	1988-89	0	0	0	11	2
Instructional Strategies	1978-79	0	1	2	8	2
	1983-84	0	0	2	10	1
	1988-89	0	0	1	10	2
Instructional Theory	1978-79	1	0	4	7	1
	1983-84	0	1	3	9	0
	1988-89	0	1	3	7	2
Interactive Video	1978-79	9	3	0	0	1
	1983-84	1	10	1	0	1
	1988-89	0	3	7	1	2
Intrinsic/ Extrinsic Motivation	1978-79	1	7	0	3	2
	1983-84	1	6	1	4	1
	1988-89	1	4	2	5	1
Language Development	1978-79	5	5	0	1	1
	1983-84	4	7	0	1	1
	1988-89	3	7	0	1	2
Latent Trait Theory	1978-79	7	3	1	0	2
	1983-84	6	5	1	0	1
	1988-89	5	5	1	0	2
Media Center Administration	1978-79	1	5	4	2	1
	1983-84	2	5	5	1	0
	1988-89	2	5	4	1	1

Table   6 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Media	1978-79	0	1	2	10	0
Selection and	1983-84	0	1	2	10	0
Use	1988-89	0	1	1	9	2
Memory/	1978-79	1	4	2	5	1
Forgetting	1983-84	0	3	4	5	1
	1988-89	0	3	2	6	2
Meta-analysis	1978-79	7	5	0	0	1
	1983-84	1	8	3	0	1
	1988-89	1	6	4	0	2
Multiple	1978-79	1	8	0	2	2
Regression	1983-84	1	5	4	2	1
	1988-89	1	5	3	2	2
Naturalistic	1978-79	4	7	0	0	2
Research	1983-84	0	6	4	2	1
Methodology	1988-89	0	5	2	4	2
Needs	1978-79	1	4	3	4	1
Assessment	1983-84	0	1	4	7	1
	1988-89	0	0	3	9	1
Nonparametric	1978-79	1	6	0	3	3
Statistics	1983-84	0	6	2	3	2
	1988-89	0	5	2	4	2
Norm-	1978-79	0	3	3	5	2
Referenced	1983-84	0	3	4	5	1
Testing	1988-89	0	3	3	5	2
Peer	1978-79	5	5	0	0	3
Relationships	1983-84	3	5	3	0	2
	1988-89	2	5	3	0	3
Personality	1978-79	4	5	1	1	2
Development	1983-84	4	6	1	1	1
	1988-89	4	5	1	2	1

Table   6 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Photography Production	1978-79	0	6	3	4	0
	1983-84	0	8	1	4	0
	1988-89	1	6	1	4	1
Principles of Learning	1978-79	0	0	3	9	1
	1983-84	0	0	1	11	1
	1988-89	0	0	1	10	2
Problem- Solving Skills	1978-79	0	5	2	4	2
	1983-84	0	2	5	4	2
	1988-89	0	1	5	4	3
Program Evaluation	1978-79	1	5	3	3	1
	1983-84	0	3	5	4	1
	1988-89	0	1	5	5	2
Programmed Instruction	1978-79	0	5	5	2	1
	1983-84	0	4	6	2	1
	1988-89	2	3	4	2	2
Research Design	1978-79	0	0	2	10	1
	1983-84	0	0	1	11	1
	1988-89	0	0	1	10	2
Roles of Heredity/ Environment	1978-79	2	6	1	3	1
	1983-84	2	6	1	3	1
	1988-89	2	5	1	3	2
Self-Concept Determinants	1978-79	4	6	1	0	2
	1983-84	4	6	1	0	2
	1988-89	4	5	1	0	3
Sequencing Instruction	1978-79	0	1	5	6	1
	1983-84	0	1	2	9.	1
	1988-89	0	1	2	8	2
Sex Role Development	1978-79	7	5	0	0	1
	1983-84	5	7	0	0	1
	1988-89	4	6	1	0	2

Table   6 (Continued)

Topic	Academic Year	None	Some	Most	All	Blank
Socio-cultural Factors	1978-79	2	6	2	1	2
	1983-84	2	5	3	1	2
	1988-89	1	6	2	1	3
Standardized Tests	1978-79	0	5	3	4	1
	1983-84	1	4	3	4	1
	1988-39	1	2	4	4	2
Summative Evaluation	1978-79	0	2	4	7	0
	1983-84	0	1	3	9	0
	1988-89	0	0	1	11	1
Systems Concepts	1978-79	0	1	2	10	0
	1983-64	0	0	1	12	0
	1988-89	0	0	0	12	1
Task/Content Analysis	1978-79	0	2	4	6	1
	1983-84	0	0	1	11	1
	1988-89	0	0	0	11	2
Teaching Methods	1978-79	0	6	2	4	1
	1983-84	0	5	2	6	0
	1988-89	0	4	1	7	1
Tele-Communications	1978-79	0	6	4	2	1
	1983-84	0	1	10	2	0
	1988-89	0	1	8	3	1
Test Item Writing	1978-79	0	5	3	3	2
	1983-84	0	3	5	5	0
	1988-89	0	2	5	5	1
Test Reliability/ Validity	1978-79	0	3	3	5	2
	1983-84	0	1	5	6	1
	1988-89	0	0	4	7	2
Transparency Production	1978-79	0	4	3	6	0
	1983-84	0	5	4	4	0
	1988-89	1	5	2	4	1

Table   6 (Continued)

| | | Response Categories | | | | |
Topic	Academic Year	None	Some	Most	All	Blank
Verbal	1978-79	1	5	3	3	1
Learning	1983-84	1	5	3	3	1
	1988-89	1	4	3	3	2
Videotape/TV	1978-79	0	6	2	5	0
Production	1983-84	0	4	6	3	0
	1988-89	0	5	4	3	1
Visual	1978-79	0	4	6	2	1
Learning	1983-84	1	3	6	2	1
	1988-89	0	4	5	3	1