IDENTIFYING RESEARCH STRATEGIES FOR THE FUTURE:

ALTERNATIVES TO THE TRADITIONAL

DOCTORAL DISSERTATION

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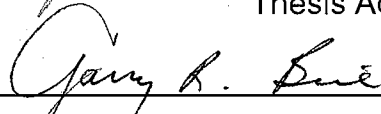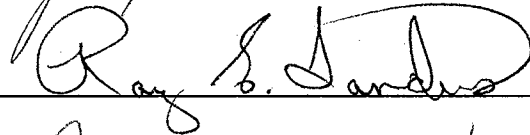the Degree of
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Dedicated to the loving memory of my father,

Thomas E. McNamara,

whose love for learning was instilled in his children,

and to

my dear mother,

Althea M. McNamara

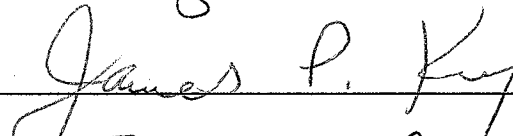who continues to support that love.

IDENTIFYING RESEARCH STRATEGIES FOR THE FUTURE:

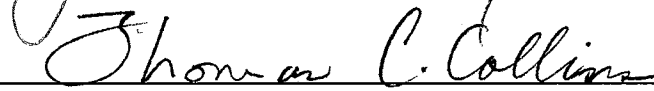## ALTERNATIVES TO THE TRADITIONAL

DOCTORAL DISSERTATION

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CHAPTER I

INTRODUCTION

In an information intensive society, meaningful research is essential in the field of education. Research institutions are receiving pressure from the government, alumni, their own states, industry, and professions to conduct meaningful research (Kerr, 1991). The competitive nature of research institutions will become the cornerstone for advancing alternative research strategies. To advance those strategies, an institution will have to prepare its students by teaching research competencies which will be useful.

Institutions of higher learning are slow to change, often impeding progress with tradition. Maintaining tradition within doctoral programs has been a controversial issue for many years. Instead of glutting doctoral programs "...with mediocre men [sic] who are more concerned with maintaining a *status quo* than in improving this process called education," a major focus for doctoral programs could be to better prepare their students to conduct research (Atkinson, 1943, p. 504). "...Perhaps the greatest inhibitor of important research in higher education has been a fallacious view of social research itself held by the scholars of higher learning" (Keller, 1985, p. 9). Most higher education researchers still subscribe to traditional, quantitative research (Keller, 1985). "Until very recently, the *Journal of Educational Research* carried on its

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masthead, 'Dedicated to the Scientific Study of Education' " (Keller, 1985, p. 10). The ability to conduct research is no longer done for the sole purpose of fostering intellectual development. It has become "...critical to America's continued vitality" (Keller, 1985, p. 10). This critical need may be the catalyst required to catapult doctoral programs into the next century.

Statement of the Problem

There is evidence to suggest that the myriad of problems affecting education over the past few decades continue to exist and to magnify (A Nation at Risk, 1984; Cetron, Rocha, & Luckins, 1988). The problem is that leaders in the field are ill-prepared to solve those problems because they lack the appropriate research skills needed to design and complete the problem solving research required in seeking appropriate solutions (Evans, 1986; Forsythe, 1987; Lareau, 1987; Mariano, 1990; Jeavons, 1993; D'Onofrio, Lawler, O'Malley, & Wilhite, 1993). In an information dependent society, the importance of research is intensified because appropriate solutions require accurate data which can be verified and used to identify trends that enable the researcher to predict future requirements (Cetron, Rocha, & Luckins, 1988).

Importance of the Study

Our society depends on accurate data to make informed decisions. To make informed decisions, one must be aware of the alternatives. "It is for this reason that not only do the data acquired to project these alternative futures

need to be accurate and reliable, but the methods used to retrieve the data need to be as comprehensive as possible" (Weller, 1983, p. 52). In the field of education, the doctoral graduate student may not be given a true representation of those comprehensive alternative research strategies. "Exposing new researchers to alternative methodologies needs to take place at the earliest stages of course work, preferably in the introductory research course and continue in alternative paths through advanced courses" (Collins & Collins, 1992, p. 410).

Traditionally, doctoral students have been required to take research and statistics courses which followed the dominant view of inquiry, positivistic or quantitative (Butler, 1982). Alternative views of inquiry have been ignored in educational research (Butler, 1982; Keller, 1985; Kerr, 1991). The critical nature of good research demands a paradigm shift in thinking. That shift must take both traditional and non-traditional research strategies into consideration.

Purpose of the Study

The primary purpose of this research is to determine if there are viable alternative research strategies, other than the traditional doctoral dissertation, which may be more beneficial to the doctoral student in an information intensive society. To achieve that purpose, a secondary purpose is needed. The secondary purpose is to investigate research competencies and/or experiences that may be needed by doctoral graduates in the future.

Those best qualified to make this determination are those who have been preparing, instructing, and evaluating research by doctoral students and chairing and participating on doctoral committees for doctoral students. In addition, those who participated in this study were recognized as experts in research by their professional peers. These experts systematically identified viable alternatives to the traditional doctoral dissertation and future research competencies and/or experiences needed by doctoral graduates in an information intensive society. After these alternatives and future research competencies and/or experiences were determined via the Delphi process, the results provided may serve to enhance the research component(s) in doctoral programs and perhaps facilitate possible research reform in education.

In summary, the purpose of this study was to describe viable alternatives to the traditional doctoral dissertation and to develop a list of research competencies and/or research experiences needed by doctoral graduates in the future. Further, this study identified a few individuals whose institutions currently allow alternatives to the traditional doctoral dissertation. Through semi-structured interviews, the researcher was able to determine how the use of alternative strategies to the traditional doctoral dissertation came about at those institutions. In addition, the researcher was able to identify the research trends currently being practiced by those doctoral degree granting institutions.

Questions to be Answered

Two research questions emerged from the review of literature:

1. Are there viable alternatives to the traditional doctoral dissertation which may be valuable to future doctoral graduates in order to compete in their future professional roles in an information intensive society?

2. What research competencies and/or research experiences will be required of doctoral graduates in order to compete in their future professional roles in an information intensive society?

Definition of Terms

The following definitions were used for the purpose of this study:

1. Alternative Research Strategies: those other possible plans, approaches, tactics, policies, and practices which are not the accepted norm but could be used to teach research competencies to doctoral students or to demonstrate the doctoral student's research competence .

2. AVERA: the American Vocational Education Research Association is an affiliate of the American Vocational Association and the American Educational Research Association. AVERA strives to stimulate research and development activities related to vocational education; stimulate the development of training programs designed to prepare persons for responsibilities in research in vocational education; foster a cooperative effort in research and development activities within the total program of vocational education, with other areas of education, and with other

disciplines; and to facilitate the dissemination of research findings and diffusion of knowledge (1995 Membership Directory of AVERA, p. 3).

3   CPAE: the Commission of Professors of Adult Education is an organization designed to promote research and understanding in the field of adult education. It is affiliated with the Adult Education Research Conference (AERC) and the American Educational Research Association.

4.   Delphi Technique: a "...method for the systematic solicitation and collection of judgements on a particular topic through a set of carefully designed sequential questionnaires interspersed with summarized information and feedback of opinions derived from earlier responses" (Delbecq, Van de Ven, & Gustafson, 1975, p. 10).

5.   Doctoral Students: those persons pursuing a terminal degree in a recognized field of adult and continuing education or vocational education.

6.   Experts: those individuals chosen by the members of the American Vocational Education Research Association (AVERA) and by the members of the Commissions of Professors of Adult Education (CPAE), through a nomination process, to participate on the Delphi panel of experts.

7.   Mavericks: those individuals identified by potential panel members as persons who have successfully challenged the traditional role of the doctoral dissertation and who have been involved in alternative strategies

other than the traditional doctoral dissertation.

8. Research Competencies: having the necessary ability, skill, knowledge, and attitudes to effectively conduct research.

9. Research Strategies: those plans, approaches, tactics, policies, and practices currently used to teach research competencies to doctoral students.

10. Semi-structured Interview: an interview designed to seek certain information from all interviewees (Merriam, 1988). The researcher using this technique has potential questions in mind prior to the actual interview; however, the order of the questions, the wording, and potential probes needed for clarification are not mandated, thus allowing for flexibility in the interview process (Whitt, 1991; Merriam, 1988).

Assumptions

Several assumptions were made while developing and conducting this study. The study assumed:

1. that representatives nominated by members of the CPAE and AVERA were experts.

2. that the experts were presumed to have the required knowledge and critical thinking skills in order to participate in the Delphi process.

Organization of the Study

This study is organized into five chapters. The chapters were organized as follows:

Chapter I introduces the study laying the foundation for the statement of the problem and the importance of the study, thus providing a purpose for addressing the study. The specific questions to be answered are identified; the terms critical to the study are defined; and the assumptions of the study are provided.

Chapter II provides a review of the literature relevant to the study. Chapter III addresses methodological considerations of the study. It examines the design of the study which utilizes the Delphi method of data collection and the semi-structured interview. Through describing the sample selection, instrument, data collection procedures, and how the data was analyzed, Chapter III gives a snapshot into the mechanics of the study.

Chapter IV includes a summary of the findings from the three rounds of the Delphi and from the semi-structured interviews; whereas, Chapter V summarizes the study, presents the conclusions gleaned from the research, and makes recommendations based upon the findings of the study.

CHAPTER II

REVIEW OF LITERATURE

Introduction

I never had any doubts about course work. I knew I could do that well. And now I've passed comps and have to write a dissertation. This is the first time I've had any serious doubts about whether I was really capable of finishing [the doctorate]. (Stryker, Twohey, & Halderson, 1985, p.16)

The above quotation is an excerpt from an interview with a doctoral candidate. It serves as an introduction to the issues surrounding the dissertation process. A critical review of those issues was relevant to the topic under investigation. The topic under investigation was Identifying Research Strategies for the Future: Alternatives to the Traditional Doctoral Dissertation.

The review of literature revolved around four central themes. First, the importance of research to maintain the vitality of the United States by preparing competent researchers. Second, the importance of understanding research paradigms. Third, the relationship between the *All But Dissertation Phenomena* and the dissertation process. Fourth, the concept of tradition as a barrier to change within the dissertation process. Several issues were explored within each theme.

Graduate Research: The Myth of Competency

Since *A Nation at Risk: The Full Account* was first published in 1984,

the education system in the United States has been under scrutiny. The

National Commission on Excellence in Education asked the nation to make a

commitment to reforming education calling upon the "...scholarly, scientific, and

learned societies for their help in this effort..." in order to secure the future role

of the United States in the world (A Nation At Risk, 1984, p. 84). That plea

placed a responsibility on the universities and colleges of the United States to

better prepare students to compete in their future roles. Preparing future

doctoral graduates for their professional roles may be the most challenging

responsibility placed upon universities (Bowen & Schulster, 1986).

> Considering the contribution that holders of doctorates can make to
> educational institutions, to the gross national product of countries through
> scientific research and development work, and to the intellectual and
> cultural life of nations, and noting that the economic, educational and
> political realities of the future are international in scope, the
> responsibilities placed on future doctoral graduates will no doubt increase
> greatly. (Noble, 1994, p. 35)

To meet these new responsibilities and requirements, the doctoral student will

be required to be a competent researcher.

In order to be a competent researcher, one must have a plethora of

research skills and competencies. It is often assumed that the doctoral student

has in his/her knowledge base the necessary competencies and skills to

conduct the required research and effectively write the doctoral dissertation

(Zuber-Skerritt, 1987, 1992, 1993). Providing the doctoral student with the

knowledge and experience necessary to be a competent researcher is a goal of

doctoral degree programs (Beatty & Stamatakos, 1990). Graduate students "...require a careful and thorough introduction to research techniques in order to properly complete a scholarly research investigation" (Miller, 1984, p. 54).

The issue of whether or not graduate programs in education adequately prepare doctoral students to be competent researchers has come under scrutiny (Marler, 1977; Yates, 1977; Stamatakos, 1981; Beatty & Stamatakos, 1990). "In general, graduate students, for whatever reason, often appear to be poorly prepared to undertake rigorous literature based research work at the graduate level" (Evans, 1986, p. 6). Evans goes on to say that what is lacking is the knowledge base to conduct research because students are poorly trained (1986). Being ill prepared to conduct research may be a matter of which terminal degree one seeks, the Ph.D. (Doctor of Philosophy) or the Ed.D. (Doctor of Education). It is certainly worth some investigation.

Research Competencies: The Ph.D. Versus the Ed.D.

Investigating the differentiation of the Ph.D. and the Ed.D. proved to be difficult. Very little has been written about this issue. Institutions of higher learning perhaps do self studies to determine if there are enough distinguishing characteristics to warrant concern. The issue of concern in this study is whether or not the Ph.D. better prepares a doctoral student to conduct research than does the Ed.D.

The assumption is often made that the Ph.D. is an academic research degree and the Ed.D. is a practitioner's degree (Thorson, 1973; Hanson &

Rhodes, 1982; Anderson, 1983; Osguthorpe & Wong, 1991; Pounder, Ogawa, O'Neil, & Naylor, 1991). The implication of that statement is that the holder of a Ph.D. is better prepared to conduct research than is the holder of an Ed.D. because the Ph.D. course content places greater emphasis on research and statistics than does the Ed.D. course content.

The first comparative study was conducted by Woody (1947) who concluded that there were more similarities than differences in the two degree programs. The Moore, Russell, and Ferguson research (1960) and Robertson and Sistler research (1971) confirmed Woody's findings. Anderson's 1982 research found the similarities between the two degrees quite pronounced and the differences minimal. He (1983) gave several statements of similarities between the Ph.D. and the Ed.D.; however, the similarity which was supportive of this study states: "...it is logical to conclude that the degrees will continue to serve different philosophical goals but be similar in programmatic requirements, knowledge bases, competency standards, and in employment expectancies" (p. 58). The Ed.D. programs required more credits beyond the bachelor's degree than did the Ph.D. programs. Both degree programs required "...a research tool or set of research competencies" (p. 56). The only substantial difference found between the two programs was "...on the acceptance of a 'practical problem' or survey as a substitute for a basic research study" (p. 57).

In 1991, Osguthorpe and Wong took another look at the issue of the Ph.D. versus the Ed.D. They concluded that "...the standards for the Ed.D. and Ph.D. in education are so similar that education faculty cannot justify different

requirements for programs carrying either title" (Osguthorpe & Wong, 1991, p. 15). They go on to say, "Program requirements are remarkably similar for Ed.D. and Ph.D. programs, including competencies in research and statistics" (Osguthorpe & Wong, 1991, p. 10).

Historically, there is little support for the theory that the Ph.D. is a superior degree to the Ed.D. because of the emphasis placed on research and statistics. Woody (1947), Moore, Russell, and Ferguson (1960), Robertson and Sistler (1971), Anderson (1983), Dill and Morrison (1985) all conclude that the specific degree requirements are so similar that differentiation between the degrees is minuscule. Osguthorpe and Wong (1991) specifically address the research competencies, "...presumably the touchstone of difference between the two degrees" (p. 3) and find the expectations are remarkably similar. Conceivably, it may be time to put this issue to rest and concentrate on the philosophical issues that play a significant role in determining the direction of the doctoral dissertation. Regardless of the type of degree one holds, the issue remains the same. Are doctoral graduates adequately prepared to pursue relevant research in an information intensive society and is the traditional doctoral dissertation the only avenue to provide the needed research skills and competencies?

Competent Researchers: Who Needs Them?

The steady growth of research and development in the economy of the

United States requires doctoral programs to produce competent researchers (Cetron, Rocha, & Luckins, 1988). Those researchers must have the knowledge, skills, and competencies to compete in a global economy. "The biggest single action in higher education that will influence the future of the nation is to improve the research capacity of American institutions" (Kerr, 1986, p. 2).

An understanding of research paradigms is a starting point for the development of the knowledge, skills, and competencies required of future doctoral graduates who will compete for professional roles in an information intensive society. "Within educational research there are various traditions, each with its own logic in use and its own peculiar disagreements about how methodology should evolve" (Howe & Eisenhart, 1990, p. 8). The debate among scholars over which is the appropriate research paradigm, the qualitative research paradigm, or the quantitative research paradigm, may serve as the avenue for looking into the knowledge, skills, and competencies needed by doctoral graduates.

Research Paradigms: When Two Worldviews Collide

Paradigms for conducting research have fallen into two worldviews: The quantitative worldview and the qualitative worldview. These two paradigms or worldviews have become the filter through which researchers conduct, interpret, and understand research strategies. Individuals have the tendency to interpret information based on a set of beliefs about the world in which they live. Those

beliefs become the theoretical and philosophical basis for one's decisions. The same holds true for educational research. Theories are the basis for decisions and those theories are often called paradigms or worldviews (Marzano, 1993).

> One of the paradoxical features of paradigms and worldviews is that their interpretive power creates unavoidable 'blind spots' in one's perceptions. That is, paradigms both enable and inhibit perception. On one hand, they provide frameworks with which to organize information received from the senses; on the other hand, they limit what can be perceived because of the inherent assumptions that underpin them. (p. 9)

Often polarized, the quantitative and qualitative worldviews have been on a collision course in higher education (Brewer, 1985). When two worldviews collide, one can either remain a staunch supporter of his/her worldview of preference or one can dialogue and explore the alternatives offered by other worldviews.

The literature abounds with articles discussing the issues surrounding the quantitative world view and the qualitative world view. Some claim that the qualitative world view lends itself to practical research (Brewer, 1985; Comber, 1988; Merriam, 1989; Hoshmand, 1989; Benediktsson, 1989; Polkinghorne, 1991; Howe, 1992; Bradley, 1993; Eisner, 1993; Park, 1994), others claim that the two paradigms are complementary (Hare & Noblit, 1983; Ingersoll, 1983; Bednarz, 1985; Howe, 1988; Polkinghorne, 1991; Brown, 1992; Swanson, 1992), and still others argue that the debate should be reframed in the context of the questions being researched rather than traditions being broken (Howe, 1985; Poplin, 1987; Atkinson, Delamont, & Hammersley, 1988; Anderson, 1989; Howe, 1990; George, 1991; Patton, 1991; Raban, 1991; Bradley & Sutton, 1993; Lakes, 1993; Plante, Kiernan, & Betts, 1994). To add to the discussion,

Smith and Heshusius (1985) claim that the two paradigms are clearly

incompatible

> ...if the two perspectives define truth differently, not only must each
> accept a different conceptualization of validity, but each must also hold to
> a different interpretation of the relationship of procedures to the claim of
> validity. "What works", no matter how expressed, is really little more
> than a formal statement that tells us nothing about the process of inquiry
> and the interpretation of its results. (p.25)

It is clear that two dominant research paradigms exist. To better understand

quantitative and qualitative research, a brief look at the two dominant research

paradigms is needed.

The Dominant Research Paradigms

The review of literature indicates that there has been a paradigm shift in

research strategies. "By definition, the introduction of alternative paradigms for

inquiry undermines the tacit but widely held belief that there is only one

dependable way to know, something vaguely called 'the scientific method'"

(Eisner, 1990, p. 89). Quantitative inquiry has dominated the world of research.

That domination has caused many research institutions to become complacent,

stifling competition from alternative strategies. "What is pervasive often goes

unexamined. When alternatives are suppressed or unavailable, we tend to

accept what is accepted" (Eisner, 1990. p. 89). The examination of alternative

research strategies has come about as a result of a shift in methodology from

quantitative to qualitative research methods (Merriam, 1988). Earlier, Smith

and Heshusius (1985) elaborated on the implications of a shift in methodology.

That there are, or even might be, paradigmatic differences that require different interpretations of inquiry and its results, is no longer taken seriously. At present, the principal concern is to develop methods for qualitative inquiry that will allow this approach to claim certitude, as is the case for quantitative inquiry, for its findings. (Smith & Heshusius, 1985, p. 18)

The increased use of qualitative methods has changed the face of educational research (Howe & Dougherty, 1993). "Unfortunately, qualitative research does not have the general acceptance that quantitative paradigms enjoy..." (Marshall & Rossman, 1989, p. 144).

Qualitative research is most often presented in contrast to quantitative research. This contrast views quantitative research as the traditional or scientific paradigm (Merriam, 1988). The following table, taken from Merriam, differentiates the quantitative and qualitative orientations to research:

TABLE 1

CHARACTERISTICS OF QUALITATIVE AND QUANTITATIVE RESEARCH

Point of Comparisons	Qualitative Research	Quantitative Research
Focus of research	Quality (nature, essence)	Quantity (how much, how many)
Philosophical roots	Phenomenology, symbolic interaction	Positivism, logical empiricism
Associated phrases	Fieldwork, ethnographic, naturalistic, grounded, subjective	Experimental, empirical, statistical
Goal of investigation	Understanding, description, discovery, hypothesis generating	Prediction, control, description, confirmation, hypothesis testing
Design characteristics	Flexible, evolving, emergent	Predetermined, structured
Setting	Natural, familiar	Unfamiliar, artificial
Sample	Small, non-random, theoretical	Large, random, representative
Data collection	Researcher as primary instrument, interviews, observations	Inanimate instruments (scales, tests, surveys, questionnaires, computers)
Mode of analysis	Inductive (by researcher)	Deductive (by statistical methods)
Findings	Comprehensive, holistic, expansive	Precise, narrow, reductionist

TABLE 1. Merriam (1988), Case study research in education: A qualitative approach. p. 18.

Quantitative research, often referred to as traditional or empirical research, is based on the assumption that there is but one objective reality and that reality is the world out there which is observable, knowable, and measurable (Merriam, 1988). The nature of reality is constant in this worldview; natural laws exist which govern all phenomena (Raban, 1991). The researcher looks to outcomes which are measurable to confirm this reality. "The ultimate goal of this kind of research is to evolve some stable principle, generalization or theory to serve as the basis for testing the value of a proposed theory or generalization in an internally consistent manner" (Raban, 1991, p. 4). As the paradigm of tradition, quantitative research has enjoyed a long tenure. That tenure was based on how the world perceived knowledge. "The idea that one could have non-scientific knowledge was something of an oxymoron. Knowledge that was not scientific, simply was not knowledge" (Eisner, 1993, p. 51). The paradox of quantitative research, in the field of education, is that it is outcomes driven, yet those outcomes may not be designed to inform or to help practitioners.

> Obviously, the differences in the philosophies of quantitative and qualitative research methods are great enough to cause open rejection of findings, one from the other. The findings of Piaget were based upon qualitative research, but none of his writings were accepted until his theories had been tested by quantitative studies in the United States. The question arises: "Were Piaget's theories any less valid when based upon qualitative research methods than when they were posited based upon quantitative methods?" The seeking of truth is not undesirable in any philosophy, but the definition of truth may vary. Using qualitative research will require new ways of viewing knowledge and people. (George, 1991, p. 8)

Qualitative research assumes that reality is not objective and that multiple realities exist (Merriam, 1988). The world becomes one that functions as a result of personal interaction and personal perception (Merriam, 1988). Because of the subjective nature of personal interaction and perceptions, the researcher is more focused on interpreting results rather than measuring results. Process supersedes outcomes in a qualitative approach. "In this paradigm, there are no predetermined hypotheses, no treatments, and no restrictions on the end product" (Merriam, 1988, p. 17). The researcher takes an active role in the research observing, intuiting, and sensing what is occurring in a setting that is natural; thus the term *naturalistic* inquiry (Merriam, 1988).

Perhaps the differences between quantitative and qualitative paradigms exist only as a means to guide one's actions. Paradigms "...are the starting points or givens that determine what inquiry is and how it is to be practiced" (Guba, 1990, p. 18). Education is experiencing a change in direction.

> A critical component of this change is a shift in the paradigms underlying the method and aim of research. A marked shift is taking place in the professional allegiance of evaluators. Increasingly, they are turning away from traditional positivist approaches and towards the acceptance and use of phenomenological or qualitative concepts and techniques. (Fetterman, 1989, p. 2)

The paradigm shift has been spurred on by a society which places a great deal of importance on meaningful information. Research can, and should, be meaningful to the practitioner. "...in a qualitative approach to research the paramount objective is to understand the *meaning* of an experience" (Merriam, 1988, p. 16).

The following table, adapted from Guba, identifies and compares the four

major research paradigms from an ontological, epistemological, and

methodological perspective:

TABLE 2

THE ALTERNATIVE PARADIGM DIALOG

POSITIVISM	POSTPOSITIVISM	CRITICAL THEORY	CONSTRUCTIVISM
Ontological:	Ontological:	Ontological:	Ontological:
Realist - reality exists "out there" and is driven by immutable natural laws, and mechanisms are conventionally summarized in the form of time and context-free generalizations. Some of these latter generalizations take the form of cause-effect laws.	*Critical realist* - reality exists but can never be fully apprehended. It is driven by natural laws that can be only incompletely understood.	*Critical realist,* as in the case of postpositivism	*Relativist* - realities exist in the form of multiple mental constructions, socially and experientially based, local and specific, dependent for their form and content on the persons who hold them.
Epistemology:	Epistemology:	Epistemology:	Epistemology:
Dualist/objectivist - it is both possible and essential for the inquirer to adopt a distant, noninteractive posture. Values and other biasing and confounding factors are thereby automatically excluded from influencing the outcomes.	*Modified objectivist* - objectivity remains a regulatory ideal, but it can only be approximated, with special emphasis placed on external guardians such as the critical tradition and the critical community.	*Subjectivist,* in the sense that values medial inquiry	*Subjectivist* - inquirer and inquired into are fused into a single (monistic) entity. Findings are literally the creation of the process of interaction between the two.
Methodology:	Methodology:	Methodology:	Methodology:
Experimental/ manipulative - questions and/or hypotheses are stated in advance in propositional form and subjected to empirical tests (falsification) under carefully controlled conditions.	*Modified experimental/ manipulative* - emphasize critical multiplism. Redress imbalances by doing inquiry in more natural settings, using more qualitative methods, depending more on grounded theory, and reintroducing discovery into the inquiry process.	*Dialogic, transformative,* eliminate false consciousness and energize and facilitate transformation	*Hermeneutic, dialectic* - individual constructions are elicited and refined hermeneutically, and compared and contrasted dialectically, with the aim of generating one (or a few) constructions on which there is substantial consensus.

TABLE 2. Adapted From: The Paradigm Dialog (1990), Egon G. Guba, pp. 17 - 27.

To understand the four research paradigms requires a certain amount of research competency. The following definitions are essential to understanding the alternative paradigm dialog table:

constructivism: intends to reconstruct the world at the only point in which it exists: in the minds of the constructors (Guba, 1990, p. 27). A pragmatic view.

critical theory: an ideologically oriented approach, critical theory encompasses a vast array of inquiry including: neo-Marxism, materialism, feminism, Freireism, participatory inquiry, as well as critical theory itself. Enter into inquiry at choice points such as the problem itself, the conclusions, etc (Guba, 1990, p. 23).

critical multiplism: a form of elaborated triangulation (Denzin, 1978).

critical realist: recognizes that humans can not truly perceive the real world with their imperfect sensory and intellectual mechanisms (Cook & Campbell, 1979). Those frailties make it imperative for inquirers to be critical about their work.

dialogic/transformative: inquirer uses logic and dialog to raise consciousness so that the real world can be transformed (Guba, 1990).

dualist/objectivist: inquirer puts questions directly to nature and allows nature to answer back directly; permits the inquirer to wrest nature's secrets without altering them in any way (Guba, 1990, p. 19).

hermeneutic/dialectic: inquirer depicts individual constructions as accurately as possible while comparing and contrasting the individual

constructions to each other and to his/her own constructions.

modified objectivist: inquirer recognizes that objectivity can be

modified because it cannot be achieved in any absolute sense, recognize

that inquirer interacts with inquired into (Guba, 1990).

positivism: traditional quantitative inquiry, a form of empiricism which

views science as value-free, basing theories and findings on

observations, and employing empirical concepts which are derived from

the observations (Hooker, 1975). Employs an experimental/manipulative

methodology (Guba, 1990).

postpositivism: a modified form of positivism in which "...the basic

belief system differs very little from that of positivism" (Guba, 1990, p.

23). "Prediction and control continue to be the aim" (Guba, 1990, p. 20).

Postpositivism relies on multiple methods as a way of capturing as much

of reality as possible, but continues to place emphasis on discovery and

verification (Denzin & Lincoln, 1994, p. 5). Employs a modified

experimental/manipulative methodology which includes "doing inquiry in

more natural settings, using more qualitative methods, depending more

on grounded theory, and reintroducing discovery into the inquiry process"

(Guba, 1990, p. 23).

realist: an inquirer who predicts and controls natural phenomena (Guba,

1990). Realists view the universe as a reality that "exists 'out there' and

is driven by immutable natural laws and mechanisms. Knowledge of

these entities, laws, and mechanisms is conventionally summarized in

the form of time - and context-free generalizations. Some of these latter generalizations take the form of cause-effect laws" (Guba, 1990, p. 20).

relativist: inquirer who recognizes that many interpretations can exist, everything is relative, relativism is key to openness and the continuing search for more informed and sophisticated constructions (Guba, 1990).

subjectivist: inquiry acts are intimately related to the values of the inquirer (Guba, 1990).

Understanding the above terminology does not constitute research competency. It does, however, give one a brief look at a number of research alternatives which are available to the researcher.

The debate between the two camps of quantitative and qualitative methodology appears to be an exercise in futility. "Qualitative and quantitative methods are both capable of providing scientifically important and clinically relevant information" (Plante, Kiernan, & Betts, 1994, p. 52).

The literature is rich with articles favoring one camp or the other. Those single minded researchers who are locked into tradition may never be open to methodological change while those who accept change as a challenge will embrace the buffet offered by the various research methodologies available to the skilled researcher.

> ...the emergence of new paradigms for research in education have provided both the climate and a set of tools much more hospitable to our own educational values than the paradigm that has dominated research methods since the turn of the century. (Eisner, 1993, p. 54)

Selecting the appropriate paradigm for one's research will depend upon the problem under investigation and the questions being asked in the study.

Although few researchers can be expected to master and pursue both quantitative and qualitative methods, they need at least a rudimentary understanding of what alternative approaches can provide and, accordingly, they should bring a collaborative (rather than paradigm-clique) attitude to research. (Howe, 1988, p. 15)

For today's graduate students in research, limited exposure to research paradigms and methods leaves them "ill-prepared as future researchers" in a very competitive society (Mariano, 1990, p. 358).

The Canons of Research Competency

In choosing a research paradigm, one must address the issue of soundness. "What makes any instance of research good or bad is not whether it is qualitative or quantitative, but whether it employs the most appropriate method for the problem under investigation" (Plante, Kiernan, & Betts, 1994, p. 53). A study must be evaluated based on criteria established by the canons of research (Marshall & Rossman, 1989). "The usual canons of 'good science' should be retained, but require redefinition in order to fit the realities of qualitative research" (Strauss & Corbin, 1990, p. 250). While many methodologies exist, most researchers would agree upon what constitutes the canons of research. "These usual canons of good science are significance, theory-observation compatibility, generalizability, consistency, reproducibility, precision, and verification" (Denzin & Lincoln, 1994, p. 508). The canons of research were traditionally viewed as tools for the quantitative researcher. The canons of research address all research, whether quantitative or qualitative. Lincoln and Guba suggest that the canons of good science can be phrased as

questions to which all research must respond (1985, p. 289). Those questions are:

1. How truthful are the particular findings of the study? By what criteria can we judge them?

2. How applicable are these findings to another setting or group of people?

3. How can we be reasonably sure that the findings would be replicated if the study were conducted with the same participants in the same context?

4. How can we be sure that the findings are reflective of the subjects and the inquiry itself rather than the product of the researcher's biases or prejudices?

These questions establish the "truth value" of the study, its applicability, its consistency, and its neutrality (Lincoln & Guba, 1985, p. 290). Each question can be matched to the traditional positivist paradigm. Question one addresses internal validity; question two addresses external validity; question three addresses reliability; and question four addresses objectivity. While these constructs are part of the quantitative, traditional positivistic mold, they are not appropriate for naturalist or qualitative inquiry (Lincoln & Guba, 1985).

The questions can be applied to qualitative research, but alternative constructs are necessary to reflect the assumptions of the qualitative paradigm accurately (Lincoln & Guba, 1985). The first construct is *credibility* and corresponds to the first question. The goal of credibility "...is to demonstrate that the inquiry was conducted in such a manner as to ensure that the subject

was accurately identified and described" (Marshall & Rossman, 1989, p. 145). The inquiry must be "...credible to the constructors of the original multiple realities" (Lincoln & Guba, 1985, p. 296). The second construct is *transferability,* which corresponds to the second question (Lincoln & Guba, 1985). Transferability is the degree to which the research can be applied to multiple settings and contexts by the new investigator rather than the original investigator.

The third construct is *dependability* which corresponds to the third question (Lincoln & Guba, 1985). In qualitative research, the world is always changing, so reliability is problematic (Marshall & Rossman, 1989). Dependability recognizes that conditions may change in the phenomenon chosen for research, and that there could be changes in the design because of an increased understanding of the research setting. The fourth construct is *confirmability* which corresponds to the fourth question (Lincoln & Guba, 1985). Confirmability seeks to validate the study by determining if the findings could be confirmed by others. A recap of the questions as they relate to quantitative and qualitative research follows:

TABLE 3

Criteria of Soundness: A Comparative Look

QUESTION	QUANTITATIVE CONSTRUCT	QUALITATIVE CONSTRUCT
How truthful are the particular findings of the study? By what criteria can we judge them?	Internal validity	Credibility
How applicable are these findings to another setting or group of people?	External validity	Transferability
How can we be reasonably sure that the findings would be replicated if the study were conducted with the same participants in the same context?	Reliability	Dependability
How can we be sure that the findings are reflective of the subjects and the inquiry itself rather than the product of the researcher's biases and prejudices?	Objectivity	Confirmability

The advancement of any study is based on the soundness of the criteria.

Understanding the various paradigms is a research imperative. Understanding

is impeded by "...limiting oneself to one methodological 'camp' or the other"

(Plante, Kiernan, & Betts, 1994, p. 54). In order to meet the needs of an

information intensive society, our future educational leaders must develop the

necessary competencies and the necessary research skills addressed in both

camps (Krathwohl, 1994). Non-traditional paradigms are meant to offer

alternatives, not replace or supersede the traditional worldview (Eisner, 1993).

> There is room in the educational research community for many mansions...Different methods make different forms of understanding possible. Hence, I am seeking neither a new hegemony nor a new orthodoxy, but rather the expansion of the utensils in our methodological pantry. (Eisner, 1993, p. 54-55)

The quantitative-qualitative debate seems to exist because of the importance placed on traditional research. "The growing tendency of educational researchers to resist the tyranny of methodological dogma is a good thing. It is high time to close down the quantitative versus qualitative conversation" (Howe, 1988, p. 15). The issue may not be one of methodology, but rather one of research traditions within the realms of higher education. If there is room in the educational community for both quantitative and qualitative methodologies, then maybe there is room in the educational community for alternatives to the traditional doctoral dissertation.

Doctoral Research Traditions: Legacy or Liability

Research has of late been viewed as a quantitative/ qualitative debate as discussed previously.

> When the word research is intoned, great quantities of scholars bow deeply toward the golden idol, empiricism....The problem arises when idolatry replaces objectivity and other potentially useful research methodologies are considered disdainfully - if not ignored altogether. (Weingand, 1986, p. 225)

The qualitative/quantitative debate is essentially fruitless. The research communities have accepted the use of qualitative methods, especially in the educational realm (Howe, 1988). Graduate students may still find it difficult to

establish a doctoral dissertation committee sympathetic to the qualitative

method of inquiry, as well as having a difficult time finding the appropriate

research classes to prepare them for qualitative research (Merriam, 1989).

"Institutions that erect barriers to such work are well behind the cutting edge of

research methods" (Eisner, 1993, p. 53).

This refusal to accept alternative avenues in lieu of traditional

methodologies challenges researchers to emancipate themselves from

decisions based on habit and tradition (Comber, 1988). The resistance that

captured the hearts of so many institutions of higher education and the

researchers within has dissipated a great deal -- particularly in those institutions

considered to be at the forefront of research (Eisner, 1993). The battle over

research paradigms was hard fought and contributed to multitudes of research

and responses in the various journals; however, the battle seems to have

established a cease fire and an acceptance to alternative research methods.

A new battle has emerged in the form, once again, of traditional

approaches versus alternative approaches. That battle is taking place in

research institutions across the nation in the form of questioning the role of the

traditional doctoral dissertation as the sole strategy to culminate the completion

of the doctoral degree.

Doctoral degrees have been an integral part of higher education world

wide "...since the first was conferred in Paris circa 1150" (Noble, 1994, p. 1).

Eight centuries later, the acquisition of that degree has remained relatively

unchanged (Noble, 1994). The unwillingness to change seems steeped in

tradition. "The petrified habits of a community are justified on an assumption of sedimentary wisdom; it is this assumption that accounts for the fact that traditions usually remain unexamined, at least by participants" (Buchmann & Floden, 1989, p. 242). Excellence in higher education has often been judged by the rigors of that tradition and by those who had the stamina to complete the doctoral degree. "Indeed, the doctoral experience might be viewed as the academic manifestation of the principle of 'survival of the fittest' " (Beeler, 1993, p. 5). The single most important element of that academic manifestation has been the completion of the doctoral dissertation.

The traditional role of the doctoral dissertation has been a controversial issue in higher education for many years. In his now famous 1903 address, *The Ph.D. Octopus*, William James questioned the value of having those three important initials behind one's name. He relates the story of a brilliant teacher who did not pass the dissertation (thesis) portion of his degree, yet had been given an appointment to Harvard University by a committee who did not realize he did not hold a degree and the appointment became contingent upon successful completion of the Ph.D. James asserts that the important credentials for academic success should not be based upon a badge or diploma.

> Our higher degrees were instituted for the laudable purpose of stimulating scholarship, especially in the form of 'original research'...On the other hand, faithful labor, however commonplace, and years devoted to a subject always deserve to be acknowledged and requited. (James, 1911, pp. 334, 344)

While the primary focus of James' paper was to make remedial suggestions to

the overall structure of higher education, a secondary focus was on the

inflexible traditions held by higher education (James, 1903). Perhaps the title of

his paper, *The Ph.D. Octopus*, serves as a reminder of the restrictive nature of

the tentacles of the traditional doctoral dissertation.

Many who seek a doctoral degree are disillusioned by the dissertation

experience (Atkinson, 1939).

> Advertised as the degree that is based upon evidence of original thinking
> and the use of research tools, the fact of the matter is that the
> dissertation is so hemmed in with mossbacked traditions that original
> work is nigh impossible. (Atkinson, 1939, p. 59)

The issue of disillusionment with the dissertation experience, as evidenced by

the writings of James and Atkinson, is not a new issue. The traditional doctoral

dissertation requirement seems to be at the heart of the disillusionment. It is

that component of the doctoral degree and the suggestion of alternative

research strategies, other than the dissertation, which will be addressed in this

research.

The All But Dissertation (ABD) Phenomena

Possibly, the greatest testimony to the need for looking at alternative

research strategies is the all but dissertation (ABD) phenomena.

> Almost everyone in the academic community numbers among his
> acquaintances a bright, able, hard working scholar who has completed all
> the requirements for an advanced degree save one: the dissertation. At
> some stage in its preparation, the manuscript laid aside for one reason
> or another, usually with the expectation that it would soon be resumed.
> Yet, there it remains--unfinished, unforgotten; a source of intense
> frustration and disappointment; a reproachful reminder of wasted time,
> money, and intellectual effort. (Madsen, 1992, p.xi)

The ABD phenomena is a chilling issue in the field of higher education. At the heart of the disturbing portrait painted by Madsen is a human being who, for one reason or another, abandoned his/her dream and became a statistic on the attrition list of some college or university.

The attrition rate for doctoral students has become an increasingly important issue in higher education (Blum, 1992). Bowen and Rudenstine (1992) took a comprehensive look at doctoral education in the arts and sciences. Their startling statistics confirm the unacceptable rates of attrition and time spent to earning a degree by doctoral candidates. Bowen and Rudenstine found that more than 50 percent of all entering students in the Ph.D. programs examined did not finish their degrees. Those who did earn their degrees had taken from six to 12 years to do so. The fact that an increase in the time to earn a doctoral degree "...happened in doctoral granting institutions nationally suggests that it is likely not caused by either University or State policies, but rather is a function of graduate education's discipline-based research tradition" (California State Postsecondary Education Commission, 1990, p. 4). This suggests that the dissertation itself may be a major cause for attrition and increased length in time to degree.

The literature overwhelmingly suggests that the most significant barriers to completion of the doctoral degree are financial problems and the dissertation process (Berelson, 1960; Carmichael, 1961; Wilson, 1965; Altbach, 1971; Madsen, 1983; Moore, 1985; Buckley & Hooley, 1988; Germeroth, 1991; Bowen & Rudenstine, 1992; Hanson, 1992; Beeler, 1993). When reading the

literature on barriers to completion of the doctoral degree, it would seem as though time stood still. The issues surrounding the barriers to completion of the doctoral degree have changed very little in the past 30 years. The following studies give an historical perspective on the issue of barriers to the completion of the doctoral degree:

In 1965, Wilson identified five factors that served as barriers to completion of the doctoral degree: 1) Discontinuity of attendance, 2) Off-campus dissertation, 3) Financial problems, 4) Family obligations, and 5) Health problems (p. 56). In 1983, Madsen identified seven factors which served as barriers to completion of the doctoral degree: 1) Leaving the university, 2) Lack of focus in choosing a research topic, 3) Perfectionism, 4) Too casual ideas about research, 5) Compulsiveness which *cloaks* synthesis, 6) Procrastination, and 7) Inability to deal with independent learning situations (pp. 1-5). In 1988, Buckley and Hooley identified 16 factors that served as barriers to completion of the doctoral degree: 1) Poor or inadequate supervision, 2) Poor motivation, 3) Poor management/planning and organization of work, 4) Money/financial difficulties, 5) Data access problems, 6) Poorly defined topics, 7) Unnecessary breadth/depth/complexity undertaken, 8) Taking employment before completing, 9) Poor facilities, 10) Need to work part time when on a grant, 11) Wrong types of students selected/poor selection, 12) Lack of pressure to complete, 13) Isolation, 14) Personal problems, 15) Underestimating the effort/work involved, and 16) Lack of research experience (p. 116). In 1991, Germeroth identified eight factors which served as barriers to completion of the doctoral degree: 1)

Job related pressures, 2) Candidate's own perfectionism, 3) Financial problems,

4) Choosing a topic, 5) Interpretation of data, 6) Accessibility of director, 7) Role

conflict, and 8) Developing methodology (p. 83). Each researcher represents a

different time period (1965, 1983, 1988, 1991), yet many of the same barriers

serve as obstacles to completion of the doctoral degree. While researchers

traverse time, the one constant is that the resounding theme for the ABD

phenomena is the dissertation process.

Perhaps the best solution to the "All But Dissertation" phenomena lies

within the existing doctoral programs. "If we are to rescue the ABD 'at risk'

population in American higher education, we must deal with the issues of

efficiency, excellence, and equity" (Hanson, 1992, p. 17). The dissertation

process embraces all three issues.

> The loss of students during the dissertation phase is a significant
> problem...Failure to successfully finish or extensively delay in finishing
> graduate research may be a personal tragedy for individual students, but
> it is also a wasteful, negative situation for departments and institutions.
> (Goulden, 1991, pp. 39-40)

In an information intensive society, we are faced with "...the need to clarify

campus missions and relate the work of the academy more directly to the

realities of contemporary life" (Boyer, 1990, p. 13). Perhaps it is time to

redefine the role and relevance of the dissertation within the doctoral program.

The Role of the Doctoral Program: A Facelift for a New Age

The fate of research is in the hands of research institutions. The

inflexible attitudes that dominate doctoral programs should be replaced with

visionary attitudes. Team approaches to problem solving coupled with the explosion of knowledge readily available in our information intensive society cause one to question the value of the traditional dissertation "...as a narrow piece of isolated research" (Beeler, 1993, p. 9). That the dissertation, as the crowning achievement of academic success, continues to maintain a strong foothold in the American system of higher education is undeniable (Hanson, 1992). Perhaps, a more meaningful approach for demonstrating one's ability to conduct research is needed. "Success in most academic fields is determined by articles and scholarly publications, not tiresome reviews of the literature and three-hundred-page monstrosities" (Solomon & Solomon, 1993, p. 108). The challenge that faces research institutions will be their willingness to change how they view doctoral programs and doctoral students. "Doctoral candidates are the heart of learning and teaching at United States research institutions. But some say, the heart is suffering" (McLuckie, 1991, p. 13). There has been a steady decline in the number of students seeking doctoral degrees, largely because of the rigors of doing a dissertation (McLuckie, 1991). The message that research institutions should be receiving is one that says it is time to change the face of the doctoral program.

"Every advance in education is made over the dead bodies of 10,000 resisting professors" (Hutchins quoted in Noble, 1994, p. 63). Those most resistant tend to be ingrained in the traditions of the doctoral degree, namely the dissertation.

> ...many tenure committees will not accept a dissertation, even a
> dissertation revised, as scholarly work. Thus they admit in one role what

they will not admit in another - namely, that after all that nonsense, the dissertation does not really count at all. We tell our students, "It's not your first professional work, much less your *magnum opus.* It's your last student work." Indeed, why should it be required at all? (Solomon & Solomon, 1993, p. 109)

That the dissertation requirement should be totally eliminated is not the contention of this study. The dissertation will continue to play an integral role in doctoral education; however, this research seeks to find out if there are viable alternatives to the traditional dissertation which should be considered.

Similar Studies

Alternatives to the traditional doctoral dissertation have received little attention in the literature, especially in the fields of vocational and adult and continuing education. In 1973, James A. Thorson conducted a study designed to examine the attitudes of professors of adult education toward doctoral research. Thorson's study looked into the possibility of modifying the doctoral dissertation and other research experiences of doctoral candidates based on his hypothesis that adult educators no longer conducted research after receiving their doctorates because of negative dissertation experiences. The results of the study refute his hypothesis that modification may be needed. Thorson did not look into alternatives to the traditional doctoral dissertation. His study raised questions about the nature and role of the doctoral dissertation.

The increasing interest in the nature and role of the doctoral dissertation requirement has prompted much interest. Since James first addressed the need for flexibility in the dissertation requirement in his 1903 essay, several

studies have been published. The most notable have been the studies by

Murphy and Hallinger (1987), by The Council of Graduate Deans (1991), by

Van Patten, Denny, and Bolding, by Bowen and Rudenstine (1992), by

Solomon and Solomon (1993), and by Denny, Bolding, and Van Patten (1993).

The Murphy and Hallinger (1987) study looked at the role of the

university model for training administrators and concluded that the model

needed to bridge the gap between the dissertation process and the work place

practice.

> It is not surprising that a model of training which promulgates ideas often judged to be impractical and unconnected to the realities of the workplace, that neglects to provide guidance in managing technical core operations, and that often foster the perception of professional impotence should come under attack by school administrators. What is surprising is that it took so long for alternatives to the university-based monopoly to gain a foothold. (p. 252)

Murphy (1992) suggests that the entire training program for administrator

practitioners be revamped to respond to the practical aspects of administration.

He concludes that alternative programs are needed to train practitioners and

that those programs differ from programs designed to train professors of

educational administration.

The Council of Graduate Deans (1991) concluded that the dissertation

requirement be maintained as the culminating experience to the doctoral

degree. The report made recommendations for the improvement of advising, of

providing policy guidelines for students, and of shortening the dissertation.

Van Patten, Denny, and Bolding (1991) surveyed a group of dissertation

advisors who had been recommended by graduate deans of major research

universities. The advisors were concerned with the time-to-degree completion rates, the attrition rates of doctoral candidates, and improved advisement. As a whole, they were satisfied with the dissertation requirement. The advisors indicated in the open-ended responses that they would be willing to explore alternatives to the traditional doctoral dissertation; however, they indicated that any change in that requirement would not come easily as tradition is imbedded in graduate schools (Van Patten, Denny, and Bolding, 1991).

Bowen and Rudenstine (1992) agreed with the findings of The Council of Graduate Deans. In their study of graduate programs, Bowen and Rudenstine cite some disturbing trends. "Many of the most important findings reported here pertain to two measurable outcomes of graduate education - namely, completion rates (or, conversely, attrition) and time-to-degree" (p. 4). The attrition rate of doctoral candidates has risen dramatically as has the amount of time spent to complete the dissertation by doctoral degree completers.

Solomon and Solomon (1993) have actually called for an end to the traditional dissertation requirement challenging its usefulness.

> Among the outstanding reasons for the failure of graduate schools to produce well-rounded, productive scholars, particularly in the humanities, is the antiquated doctoral dissertation, that grand culminating project, several hundred pages of professional-level research and study constituting an "original contribution to the discipline." (p. 108)

Solomon and Solomon go on to suggest that if articles and scholarly publications are the determinants of ones' success in the academe, then why not require doctoral students to publish in those areas rather than having them produce dissertations.

The Denny, Bolding, and Van Patten study (1993) is most relevant in relation to this Delphi study. The study sent questionnaires to 317 administrators of fifty-two institutions who were members of the University Council for Educational Administration. The participants were given a list of thirteen functions that a dissertation might serve in a student's graduate program and asked to rate how well the dissertation served each function.

> Educational Administration advisors rated highest (a) intense study of a narrow topic, (b) knowledge of the literature in the field, and (c) an exercise in intellectual discipline. The advisors gave the lowest rating to the dissertation functioning as an original contribution to the field. (p. 3)

The participants were also given a list of possible alternatives to the dissertation and asked if each was an acceptable substitute. Over half of the respondents felt one or more of the alternatives were acceptable to the dissertation, "...but no single alternative was acceptable to a majority of respondents" (p. 5).

In addition to the above results, the Denny, Bolding, and Van Patten study participants (over 65%) believed the Ed.D. degree should stress application as opposed to theory. Many of the participants indicated that they incorporate their advisees' dissertation research into their own work. "These responses suggest that dissertation advisors, often pressured to publish or engage in research, may have a vested interest in stressing the dissertation as a capstone to the doctoral program" (p. 7).

While none of the above studies directly addresses viable alternatives to the traditional doctoral dissertation as the primary focus of study, each raises questions about the role of the dissertation and some problems within the dissertation process. Some studies have explored alternatives to the traditional

doctoral dissertation by redefining the culminating experience. A brief look at those studies follows.

Alternatives to the Doctoral Dissertation: Process or Product?

The traditional doctoral dissertation has been the culminating experience for most doctoral programs. Because of the increased desire to blend the research experience with practical application, alternative research strategies have developed at various institutions. One such institution is the University of Utah which has instituted a field-based doctoral educational administration program (Pounder, 1991). The field-based doctoral program is a multi-dimensional approach to advanced administrative preparation. The intent of the program was to bridge the gap between theory/research and practice. A second intent was to distinguish between the Ed.D. and the Ph.D. "by utilizing a more field-based, problem-solving approach to the preparation of career administrators" (Pounder, 1991, p. 2).

The distinguishing feature of Utah's program is the systematic and sequential approach taken by a cohort of practicing administrators seeking a terminal degree. The cohort (approximately 12 students) spends three years working toward a doctor of education degree. The first year is devoted to academic core requirements. The second year is devoted to academic specializations, and the third year is devoted to the field research component. It is the third year component that parallels the traditional doctoral dissertation. The difference in this field-based culminating experience is that it is directly

related to problems of practice. "Students collect and analyze data, report findings, and make recommendations in written reports" (Pounder, 1991, p. 8). The students, who participate in Utah's field-based doctoral program, experience an alternative approach to the traditional doctoral dissertation process. They are not required to produce a traditional dissertation as the product of their research, but rather must produce a portfolio on their clinical research study and defend that research-based portfolio before their doctoral committee.

Like the Utah field-based doctoral program, the California Institute of Integral Studies has developed a cohort approach to earning a doctoral degree. Through the School of Transformative Learning at the California Institute of Integral Studies, doctoral students work within a non-traditional doctoral framework to complete their degree. Students can enter the School of Transformative Learning doctoral program through either the weekend residential learning community which incorporates monthly three-day weekend seminars or through the distance learning community which requires semi-annual residential seminars and electronic classrooms (Learning and Change Doctoral Program Student Handbook, 1996). Both options require a three year commitment as members of a cohort group, electives, and a dissertation project. While the Integral Studies Doctoral Program (ISD) has a somewhat unique format and purpose, the culminating experience is essentially the same as in a traditional program. The ISD student must complete and defend

a dissertation that demonstrates the student's capacity for advanced scholarship and inquiry. As part of the culminating academic work for

the Integral Studies Doctorate, the dissertation requires students to make significant contributions to knowledge about learning and change in human systems. (Learning and Change Doctoral Program Student Handbook, 1996, p. 14)

The final product is no different than the final product of hundreds of other doctoral degree granting institutions as far as the format of the dissertation.

Perhaps one of the best known non-traditional doctoral programs is the Adult Education Guided Independent Study (AEGIS) program at Columbia University's Teachers College. Like both of the programs already discussed, the AEGIS program students enter in cohorts. The AEGIS students attend classes once a month on Friday nights and all day Saturday. The AEGIS program was originally advertised "as a fast track program for the experienced professional who already has a master's degree. So, part of the marketing was you get an Ed.D. fairly quickly in this program" (Kasl, personal interview, October 4, 1996). The AEGIS program was one of the first doctoral programs to produce a collaborative dissertation. The dissertation was chaired by Elizabeth Kasl and one of the committee members was Victoria Marsick (one of the Delphi study panel members). A group of five doctoral students who were part of the AEGIS XII cohort of students answered Elizabeth Kasl's invitation to participate in a collaborative inquiry project. "Three and one-half years later, five students, who during the course of their work, named themselves thINQ, defended in a jointly-held, all-day defense, of their individual dissertations" (Kasl, 1995, p. 3). The defense was actually joint for only two hours. Each individual was required to defend his/her dissertation without the aid of the other cohort members.

Like the Integral Studies Doctoral Program at the California Institute of

Integral Studies, the AEGIS program requires a dissertation product that looks

very much like a traditional dissertation. The dissertation process is different in

a collaborative project, but the product and defense appear to follow traditional

formats.

The Adult Education Doctoral Program offered at National-Louis

University's downtown Chicago Campus is another non-traditional doctoral

degree granting program. It is similar to the AEGIS program and the ISD

program in design. Students enter with a cohort group and follow a course

designed to be completed in three years. They attend "three residential

programs lasting two weeks each summer and weekend sessions (Friday night,

Saturday, and Sunday mornings) monthly during the fall and spring terms"

(National-Louis University Doctoral Degree in Adult Education (Ed.D.), 1995, p.

3). The dissertation has been renamed the "Critical Engagement Project

(CEP)" (p. 3). The goal of the CEP is to ground "research in critical reflection

on biography - day-to-day experience - and to foster engagement in a

community of practice" (p. 9). The products of ones' CEP experience may vary.

The doctoral student is not limited to producing a traditional doctoral

dissertation. "Its modes of expression are varied in both terms of format (not

limited to text, but using a variety of media) and in terms of organization

(ranging from a number of smaller, interrelated works to a larger, integral text)"

(p. 9). The dissertation process and product at National-Louis University qualify

as an approach that is truly an alternative to the traditional doctoral dissertation.

In addition to the non-traditional doctoral programs discussed above, alternatives to the traditional doctoral dissertation have been accepted at a limited number of universities. In his book, *Changing Doctoral Degrees: An International Perspective*, Keith Allan Noble asked the participants in his study if their university accepted alternatives to the doctoral thesis. Of the thirty-six universities that participated in Noble's study, only five institutions accepted options in lieu of the thesis (1994). The California Institute of Technology accepts journal articles as does Cornell University. The University of Florida accepts creative writing, while the University of Maryland at College Park and the University of Minnesota Twin Cities accepts published works. All of the institutions named expect the published works to be an independent investigation which contributes to the knowledge base and is carried out under the direction of graduate faculty (Noble, 1994). It is appropriate to mention that the alternative option is not a blanket option across disciplines within the universities cited. Many departments do not accept alternatives to the traditional doctoral dissertation.

The need for the development of alternative research strategies has received little attention in the literature. Few researchers support the concept of alternative futures in research if those alternatives involve changing the traditional dissertation requirement. While researchers recognize the crisis created by the ABD phenomena and the increased time to complete the degree, they do not offer viable solutions to solve the problem, but rather they continue to place a bandaid on a gushing wound. As indicated earlier, the

literature is clear on the dissertation as a major cause for the ABD phenomena and the increased time to earn a degree. If the suggestions made over the past thirty years have not solved this problem, why should one expect those same suggestions to work in an ever changing, information intensive society? Are new solutions needed for these old problems, and could those solutions be in the form of alternative research strategies?

The inflexible requirements of traditional research should be replaced with a more functional requirement (Krathwohl, 1994). The purpose of dissertations would remain the same -- to demonstrate an ability to synthesize information and to work independently (McLuckie, 1991). However, alternative methods to the traditional doctoral dissertation which may serve a more functional purpose for both practitioners and educators should be offered alongside the traditional methods of teaching and conducting research. Alternative research strategies could serve to emancipate institutions of higher education "...from their dependence on habit and tradition by providing them with the skills and resources that will enable them to reflect upon and examine critically the inadequacies of different conceptions of educational practice" (Carr & Kemmis, 1983, p. 120).

No longer would the researcher be stifled by the restrictive and obsolete practices of universities that refuse to step into the twenty-first century. Research for an information intensive society should be meaningful and usable. Colleges and universities have been entrusted with the responsibility for teaching research competencies and conducting scholarly research (Bowen &

Schuster, 1986). The ability of research institutions to adapt research to every

day practice, and to encourage research competencies which would be used

numerous times throughout ones' career, will determine its success or failure.

The nation depends on the faculties of higher education to help maintain

the vitality of America through both their teaching and their research efforts

(Bowen & Schuster, 1986). The cry for a better prepared society which can

compete in a global economy is reminiscent of a similar cry over thirty years

ago when Russia handed the United States a significant defeat in the space

program by launching Sputnik. The emphasis was, and continues to be, on

preparing a society that possesses the necessary skills and competencies to

advance America into the future. "Education must shift into the future tense"

(Toffler, 1970, p. 427). The acceptance of alternative paradigms may be crucial

to the success of future research.

> The challenge for educators today is twofold: First, to utilize the various
> research methodologies to project alternative futures and their possible
> consequences; second, to plan and provide for the most effective use of
> our resources and manpower so that educational programs will meet the
> needs of tomorrow because of actions taken today. (Weller, 1983, p. 54)

The critical role of research institutions today is to equip the future

leaders in education with appropriate research skills and competencies to meet

the challenges mandated by an information intensive society.

> The academic profession stands at a crossroads. Our colleges and
> universities, and society at large, are faced with critical choices that must
> be made in the next few years. These decisions can lead toward a
> revitalized faculty fully capable of meeting its considerable
> responsibilities, or to neglect and perhaps irreparable damage to the
> nation. (Bowen & Schuster, 1986, p. 8)

Summary of Review of Literature

The review of literature indicated that changes in attitude are necessary before alternatives to the traditional doctoral dissertation will be accepted within the academe. The struggle to change the status quo within doctoral programs is not new. Tradition is worn like armor and if that tradition is challenged, the warriors of that tradition are ready to do battle.

The battle to change tradition was central to the literature review. The investigation focused on the importance of research to maintain the vitality of the United States by better preparing competent researchers. It investigated the myth that Ph.D. programs and degrees are superior to Ed.D. programs and degrees. It was found that there is little support for the theory that the Ph.D. is superior to the Ed.D. because of the recent emphasis placed on research and statistics in most Ed.D. programs. The issue remained one of adequately preparing doctoral graduates to conduct research.

To adequately prepare competent researchers, an understanding of research paradigms became an issue. That issue was addressed by looking at the research traditions that have dominated doctoral research from time immemorial. Paradigms for conducting research have fallen into two worldviews: the quantitative worldview and the qualitative worldview. Through reviewing the historical perspective and comparing the research issues within the two dominant paradigms, the review of literature found that the predominant theme has been one of following research traditions. The quantitative and qualitative worldviews are no longer on a collision course. What was once

unacceptable in the tradition of research, the qualitative methodology, has now been embraced by most institutions of higher learning. The battle may continue at some institutions, but it no longer rages at the home front of most institutions.

A new battle has emerged in the form, once again, of traditional approaches versus alternative approaches. This new battle is at the heart of the investigation. That battle is taking place in research institutes across the nation in the form of questioning the role of the traditional doctoral dissertation as the sole strategy to culminate the completion of the doctoral degree. The literature review found that the role of the doctoral dissertation has come under scrutiny for some time. William James in his 1903 address, *The Ph.D. Octopus*, questioned the value of the thesis as a credentialing tool. Atkinson, 1939, wrote about his disillusionment with the dissertation experience.

It became evident in the review of literature that the disillusionment with the dissertation process plays an integral role in the ABD phenomena. The alarmingly high attrition rates and increase in the time spent to earn a degree by doctoral candidates have alarmed the academe. The dissertation was listed in every study as one of the major barriers to the completion of a doctoral degree. Alternatives to the traditional dissertation were found to be a possible solution to the ABD phenomena and the time spent to earn a doctoral degree.

Several studies have been conducted concerning the role of the dissertation process and how to best improve that process. Solomon and Solomon, 1993, call for an end to the traditional dissertation in favor of practical products such as publications in scholarly journals. The conclusions of the

remaining studies reviewed call for improved advising, shortening the dissertation, and practical application for the Ed.D. dissertation. Most of the studies did not address the relevance of alternatives to the traditional doctoral dissertation as a primary focus of the study.

Many of the institutions that currently offer alternatives to the traditional doctoral dissertation do so in process only. The format of the doctoral program has changed, the actual dissertation requirement has not in most of the institutions reviewed. The distinguishing feature of the majority the non-traditional doctoral programs is the admitting of cohorts who remain together throughout the doctoral program and who attend weekend and summer sessions. The only program that met the requirement of the study's definition of an alternative strategy was at National-Louis University. The doctoral students at National-Louis University can opt for a non-traditional product within their critical engagement project.

The literature review revealed that within the fields of adult education and vocational education, few studies have been conducted which address the issue of viable alternatives to the traditional doctoral dissertation. This research will address that issue by conducting a Delphi study to determine if there are viable alternatives to the traditional doctoral dissertation. A secondary component of this study is to determine what research competencies and/or experiences will be needed by doctoral graduates to compete in their future professional roles.

CHAPTER III

METHODOLOGY

This study was designed to explore the attitudes and opinions of experts in the fields of adult education and vocational education toward future doctoral research needs and toward alternatives to the traditional doctoral dissertation. The primary purpose of this research project was to determine if there were viable alternative research strategies, other than the dissertation, which would be beneficial to the future doctoral student in an information intensive society. To achieve that purpose, a secondary purpose was needed. The secondary purpose was to investigate future research competencies and/or future research experiences which doctoral graduates must have to compete in their future professional roles in an information intensive society.

Two approaches to the investigation of viable alternatives to the doctoral dissertation and future research needs were used in this research: the Delphi method and semi-structured interviews. A synthesis of data from both methodologies resulted in a list of viable alternatives to the traditional doctoral dissertation, a list of future research needs, and recommendations from those experts whose institutions have successfully implemented alternatives to the traditional doctoral dissertations.

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The Delphi method and semi-structured interview method were chosen for their appropriateness to the research questions being asked. Little has been written in the literature concerning viable alternatives to the traditional doctoral dissertation and future research needs, so an a priori hypothesis seemed inappropriate. Descriptive techniques, which are aimed at identifying variables or issues rather than looking for a direct relationship among them, were needed. The semi-structured interview method contributed to the examination of programs which are in existence and have successfully implemented viable alternatives to the traditional doctoral dissertation; thus, providing for the development of deep, content-based information.

<div align="center">Sample Selection and Description</div>

<u>The Delphi Sample</u>

A purposive sampling technique was used for the selection of the Delphi panel. The selection of the Delphi panel was completed in three stages. First, letters were sent to all members of the American Vocational Education Research Association (AVERA) who resided in the United States and who were listed in the 1995 membership directory, numbering 384. Letters were also sent to all members of the Commission of Professors of Adult Education (CPAE) who resided in the United States and who were listed in the 1995 directory, numbering 191, excluding the affiliate members. The letter asked the members to identify those individuals whom they considered to be experts on the cutting edge of research. A stamped postcard which asked for the names

of experts, institutional affiliation, and institutional address accompanied the letter. Second, the list of experts were assembled and sorted by the number of nominations. From that compilation, thirty-four individuals were identified as possible panel members. Those thirty-four individuals each received three or more nominations from their peers. The panel was restricted to twenty-two members. Twenty-two members were chosen to participate because of both the break down of nominations received and because the ideal number of panel members asked to serve on a Delphi panel ranges from ten to thirty (Delbecq, Van de Ven, and Gustafson, 1975). Third, the potential panel members were contacted by telephone in rank order, twelve from the AVERA and twelve from the CPAE. Some individuals were out of the country; therefore, unable to participate in the study. Each individual was given a full description of the study and what his/her obligation would be should he/she decide to participate. Eleven members from the AVERA and eleven members from the CPAE agreed to participate in a three round Delphi study.

A purposive sample of twenty-two participants was selected from the list of experts identified by members of the AVERA and by members of the CPAE for the purposes of this study. Individuals asked to participate were recognized as experts by the AVERA and CPAE members. The sample of the population were those individuals who received three or more nominations by the AVERA or CPAE membership and agreed to participate in this Delphi study.

The Semi-Structured Interview Sample

A purposive sampling technique was used to select the interviewees to participate in the semi-structured interview. This sampling procedure was especially applicable to the study as

> . . .whom one selects to study, while initially guided by the research topic, undergoes changes based on what data are being collected and the direction such information suggests with respect to who can provide additional information to answer emerging questions that were generated by the research process. (Filstead, 1979, p. 38)

The semi-structured interviews involved five individuals initially identified by the research experts during the initial phase of telephone contacts and through a suggestion for nominees from the Delphi participants. As a component of demographic data, the Delphi participants were asked to identify individuals and the institutional affiliation of those individuals who had chaired or served on the committee of a non-traditional dissertation. As a result of the first and second interviews, a snowballing effect occurred when the initial interviewees suggested subsequent subjects for inclusion in the interview phase of data collection (Dalkey, 1969; Stainback and Stainback, 1984). The five participants were selected from a composite list as identified by the expert Delphi panel members and from subsequent interviewee suggestions. No Delphi panel members were interviewed. Only one Delphi panel member had served on a committee which accepted a non-traditional doctoral dissertation. The researcher opted to interview the chair of that committee, rather than the Delphi panel member. The interviews were conducted face-to-face in Chicago, DeKalb, and San Francisco.

Description of the Instruments

The Delphi Survey

Since its inception, the Delphi method has been used as a futuring

technique in order to generate detailed alternatives (Phi Delta Kappa, 1984).

This concept of futuring as a research method dates back to the sixth century

BC.

> The technique was named after the Oracle at Delphi, who held forth in
> the sixth century BC. People who wanted to look into the future
> submitted written questions to the Oracle's temple. These were
> answered by a priestess, who uttered mystical sounds from a deep
> trance. The sounds were then interpreted to the questioner by a priest
> who spoke in verse. (Zemke & Kramlinger, 1984, p. 150)

While a priestess is no longer employed and mystical sound does not emanate

from the researcher's mouth, the original intent of the Oracle of Delphi remains

basically the same -- to look into the future by submitting questions to perceived

experts. Experts are used as panel members in a Delphi methodology for the

following reasons as described by Helmer and Rescher (1959, pp. 25-52):

1. Experts possess a large amount of information based on

experience.

2. Experts are considered to possess much unarticulated

background information which can be made more explicit.

3. Experts, through refined intuition often are able to produce

trustworthy opinions (p. 38).

4. Experts use their personal experiences and background to

make predictions.

5. Expert judgment is compatible with scientific standards in that past performance and status as an expert lend validity and reliability to data generated by experts (p. 38).

The Delphi method of research was developed by Norman Dalkey and Olaf Helmer during the 1950's for the Rand Corporation in order to forecast military priorities (Murry & Hammons, 1995). Dalkey and Helmer's primary consideration was to use experts in the field to come to consensus without having to meet face to face (Dalkey & Helmer, 1962-63). Dalkey states that "...the Delphi technique is a method of eliciting and refining group judgments" (1969, p. v). However, innovative applications of the Delphi method have emerged. The Delphi method is no longer confined to the predictions of trends; it also serves in the identification of variables that may be vague or ambiguous, to quantify variables which have not been previously quantified, and to expose areas of conflict as well as areas of consensus (Linstone & Turoff, 1975). The Delphi technique is considered to be a reliable qualitative research method which has a great deal of potential in futuring, decision making, problem solving, areas of conflict within a group, and group consensus in a wide variety of areas (Judd, 1972; Linstone & Turoff, 1975; Cochran, 1983; Uhl, 1983; Murry & Hammons, 1995). For the purposes of this study, a more complete definition of the Delphi technique is required. The Delphi technique is "...a method for the systematic solicitation and collection of judgements on a particular topic through a set of carefully designed sequential questionnaires interspersed with

summarized information and feedback of opinions derived from earlier responses" (Delbecq, Van de Ven, & Gustafson, 1975, p. 10).

Characteristics of Delphi. The literature is abound with descriptors of the Delphi methodology, however, three distinguishing characteristics are repeatedly cited. These features are: (1) anonymity of group members, group interaction, and group responses, (2) multiple rounds of questionnaires as a means of data collection controlled by the researcher who provides group responses and group feedback, and (3) presentation of data in the form of statistical group responses (Dalkey, 1969; Pill, 1970; Cyphert & Gant, 1971; Dailey & Holmberg, 1990; Judd, 1972; Martin & Maynard, 1973; Lindeman, 1981; Cochran, 1983; Martino, 1983; Martorella, 1991; Murry & Hammons, 1995; Smith, Colwell, & Wilson, 1980; Thomas, 1991; Uhl 1983; and Whitman 1990). "These features are designed to minimize the biasing effects of dominant individuals, of irrelevant communications, and of group pressure toward conformity" (Dalkey, 1969, p. v). From these three characteristics, the entire Delphi methodology will flow.

The Delphi method generally consists of four stages (rounds) to complete the process:

Stage I: Upon identification of the questions to be answered in the study, the Delphi technique begins with the identification and selection of the individuals who will serve on the Delphi panel of experts.

Stage II: Once a pre-determined number agree to participate, the first of several iterations of questionnaires is sent to the experts in order to collect data

for the study. This stage is usually called Round I for the purposes of iterations. It consists of an open-ended format to elicit responses from the expert panel members on the particular problem in the study.

Stage III: The researcher reviews and edits responses to the Round I questionnaire in order to prepare the Round II questionnaire. The second questionnaire is typically a rating or ranking done with a Q-Sort or Likert scale. This study employed a Likert scale asking the experts to rate each statement for a level of agreement and to add any additional comments he/she deemed necessary.

Stage IV: During this round and any future rounds, the panel is asked to refine, rate, and comment on each item. Each panel member is given feedback about the previous round including individual ratings, panel comments, and a composite of the overall responses from the panel. The goal of this and any subsequent round is to achieve stability, consensus, or conflict within the areas being surveyed (Linstone & Turoff, 1975; Murry & Hammons, 1995). Once the goal is met, the Delphi procedure ends (Dalkey, 1967; Murry & Hammons, 1995).

Advantages of the Delphi Technique. The Delphi technique, as defined by Delbecq, Van de Ven, and Gustafson earlier in this study, offers several advantages:

1. The Delphi technique capitalizes on the strengths of the group decision making process while eliminating the problems associated with face-to-face meetings.

2. Group decision making using anonymous controlled feedback procedures tends to be more accurate than face-to-face group discussions.

3. The identified group of experts offering suggestions and opinions may be geographically separated from one another. Distance is not a deterrent to the Delphi technique.

4. Because the Delphi technique forces the group members to logically consider the problem under study and to provide written responses, agreement reached by the panel is accepted as reasoned opinions.

5. The group's responses can be described statistically (Murry & Hammons, 1995; Weaver, 1988; Somers, Baker, and Isbell, 1984; Cochran, 1983; Lanford, 1972).

6. The Delphi technique reduces the negative effects of face-to-face meetings by reducing the influence of dominant personalities, eliminating irrelevant or distracting communication, reducing the pressure to conform, and allowing information to be gathered from individuals who can not be brought together (Preble, 1983).

Disadvantages of the Delphi Technique. Utilizing the Delphi technique as a research methodology presents the researcher with several disadvantages.

1. The reliability of the study depends on the expertise of the selected panel member, thus great care must be exercised in selecting the members.

2. The Delphi technique is time consuming because of the numerous iterations involved in the process.

3.   The questions formulated by the researcher may influence the responses

of the panel members.

4.   While not meeting face-to-face may be an advantage, it also is a

disadvantage because the full potential of the expertise of the panel of

experts may never be reached without face-to-face interaction.

5.   The unexpected is seldom taken into account in the Delphi technique

(such as the panel member's failure to understand a component of the

study.)

6.   Attrition is a threat to any Delphi technique as there is little participant

motivation to see the study through to the end. Purposive sampling

helps to thwart this disadvantage (Murry & Hammons, 1995; Whitman,

1990; Preble, 1983; Delbecq, Van de Ven, and Gustafson, 1975;

Lanford, 1972; Welty, 1972).

Likert Scale Used in This Study. "Likert scales (Likert 1932) consist of a

series of statements all of which are related to a person's attitude toward a

single object....People to whom a Likert scale is administered are directed to

indicate the extent to which they endorse each statement" (Keeves, 1988, p.

427). A five point Likert scale was chosen for this study. The scale asked

participants to choose their level of agreement (endorsement) to each

statement presented to them for both Probe One and Probe Two. The

following scale was used for this study:

1 = Strongly Disagree
2 = Disagree
3 = Undecided
4 = Agree
5 = Strongly Agree

Likert scales are formatted into sentences and only consider the endpoint positions when placed on a continuum (Anderson, 1981). The primary consideration of this study was to determine if the panel of experts could agree upon statements of alternatives to the doctoral dissertation. In addition, this study sought to determine if the panel of experts could agree upon statements of research competencies and/or experiences needed by doctoral graduates in the future. The Delphi panel participants were given the option to be undecided upon statements, rather than given a forced choice scale, because the study wanted to determine only those alternatives and those research competencies and/or experiences which would be accepted by the panel of experts. A forced choice Likert scale might have skewed the results of the study.

The Semi-Structured Interview

The study was not initially going to use any additional methodology other than the Delphi technique. As the study progressed, it became apparent that interviews were needed to complement the results of the Delphi study. This study was interested in not only the viable alternatives to the doctoral dissertation and the future research needs, but also in discovering how the individuals who had chaired or served as committee members which accepted an alternative to the traditional doctoral dissertation were able to successfully

accomplish that feat. Semi-structured interviews were selected as the avenue

to obtain the needed information.

Interviews were used to obtain perspectives, perceptions, and opinions of

those who were interviewed in order "...to find out what is in and on someone

else's mind" (Merriam, 1988, p. 72.). The interview served to further the

understanding, expand the information, and confirm the opinions already

obtained during the study (Lincoln & Guba, 1985; Fetterman, 1989). Qualitative

interviews are inclined to be like a conversation between researcher and

respondent (Marshall & Rossman, 1989).

The semi-structured interview seeks certain information from all of the

respondents (Merriam, 1988). Through a qualitative approach the interview

provides

> The commitment to get close, to be factual, descriptive and quotive,
> constitutes a significant commitment to represent the participants in their
> own terms...A major methodological consequence of these commitments
> is that the qualitative study of people *in situ* is a process of discovery. It
> is of necessity a process of learning what is happening...It is the
> observer's task to find out what is fundamental or central to the people or
> world under observation. (Lofland, 1971, p. 4)

The purpose of the semi-structured interview is "...not to put things in someone

else's mind (for example, the interviewer's perceived categories for organizing

the world) but rather to access the perspective of the person being interviewed"

(Patton, 1980, p. 196). The semi-structured interview is the most typical

interview in qualitative studies (Merriam, 1988; Whitt, 1991). While the semi-

structured interview provides a set of possible questions, it neither prescribes

an order to those questions, nor demands the wording remain the same

(Merriam, 1988). This increases the flexibility of the interview process. The semi-structured interview questions and resulting probes are presented in Appendix N.

Characteristics of the Semi-Structured Interview. The semi-structured interview, like the Delphi technique, requires certain stages of interaction to complete the process. The characteristics of the semi-structured interview are process oriented, involving one's preparation for conducting the interview (Merriam, 1988). There were ten stages in the semi-structured interview process used in this study. The stages are as follows:

Stage I: The identification of the participants to be interviewed was the first consideration. The initial contacts were a result of persons suggested in telephone conversations and written suggestions from Delphi panel members.

Stage II: A snowballing effect took place during telephone conversations with potential respondents and during the first few interviews. Those additional suggestions received from participants in the interview process were contacted and agreed to be interviewed.

Once the participants were contacted and agreed to be interviewed, this study elected to follow the guidelines suggested by Taylor and Bogdan (1984, pp. 87-88) for stages three through eight. They contend that at the onset of each interview, five issues should be addressed:

Stage III: The investigator's motives and intentions and the inquiry's purpose were given to each respondent.

Stage IV: The protection of respondents through the use of pseudonyms

provided anonymity to all respondents.

Stage V: A mutual understanding of each respondent guided who had the final

say over the study's content from the interviews.

Stage VI: Payment was not a consideration for this study; however, this issue

must be provided for in the consent to be interviewed form.

Stage VII: The logistics with regard to time, place, and number of interviews to

be scheduled is a component of the interview methodology.

Stage VIII: The actual interviews took place in stage VIII.

Stage IX: The interviews were transcribed and made ready for data analysis.

Advantages of the Interview. Focusing on the interview as a research

tool brings several advantages to mind:

1.   Interviews allow the researcher to obtain vast amounts of data quickly

      (Marshall & Rossman, 1989).

2.   Face-to-face verbal communication offers the advantage of flexibility.

      The interview allows for immediate follow-up questions and clarifications

      on areas perceived to be important to the interviewee (Marshall &

      Rossman, 1989; Pope & Denicolo, 1986; Patton, 1980).

3.   Face-to-face verbal dialogue brings an increased depth to the

      interviewing process. The interviewees are encouraged to articulate and

      expound on the how's and why's of his/her statements. This, in turn,

      allows the interviewee's personal interpretation of words or statements to

      become evident to the interviewer so a full description is possible (Pope

      & Denicolo, 1986).

4. Advantage two leads to advantage three because the interviewee is able to retain his/her "...autonomy while facilitating the interviewer's attempts to provide as full a description as possible" (Pope & Denicolo, 1986, p. 154).

5. The semi-structured interview keeps the interview focused while providing topic or subject areas within which the interviewer and interviewee are free to probe, explore, expound, and clarify (Patton, 1980; Lofland, 1971).

6. The semi-structured interview minimizes the effects of the interviewer by asking the same general questions to each participant while allowing for probing questions when needed (Patton, 1980; Lofland, 1971).

Disadvantages of the Interview. The disadvantages of the interview methodology is more of an issue of process than content. Several disadvantages can be identified; they are:

1. The interview involves personal interaction and cooperation between the interviewer and interviewee. Interviewees may not be willing to share all the pertinent information they have with the interviewer (Marshall & Rossman, 1989).

2. Inappropriate questions may be asked by the interviewer because of lack of expertise in the area being studied (Marshall & Rossman, 1989; Patton, 1980).

3. The answers to the questions may be misinterpreted by the interviewer because of lack of comprehension "...or, worse, interviewees may not

always be truthful" (Marshall & Rossman, 1989, 83).

4.　If the interviewer does not possess good listening skills, lacks rapport in personal interactions, or does not frame questions appropriately, the results can skew the quality of the data (Marshall & Rossman, 1989).

5.　When interviews are the sole methodology in a study, distortions or data are more likely because the interviewer may have an tendency to interject personal biases (Marshall & Rossman, 1989; Pope & Denicolo, 1986; Loftland, 1971).

6.　Interviews produce volumes of data which may be difficult to manipulate into manageable information. (Marshall & Rossman, 1989; Mathews & Paradise, 1988; Pope & Denicolo, 1986; Loftland, 1971).

7.　Interviews are time consuming and can be expensive to analyze (Mathews & Paradise, 1988).

Data Collection Procedures

Members of the AVERA and CPAE, who are affiliated with institutions in the United States, were asked to recommend perceived experts on the cutting edge of research who should be contacted for participation on the Delphi panel. The recommendations were returned on stamped postcards addressed to the researcher. Those persons who received the most nominations were called in descending order (30, 29, ...3) and asked to participate in the Delphi study. Twenty-two participants were selected to serve as experts on the Delphi panel. All participants received at least four nominations.

Beginning with the Delphi survey, a letter, self-addressed and stamped envelope, demographic data sheet, consent to participate form, and the Delphi probes were sent to the twenty-two experts selected to participate in the study. The respondents who agreed to participate were sent a thank you letter with the directions for the first round of the Delphi. "In essence, round one amounts to an anonymous brainstorming session" (Murry & Hammons, 1995, 424). The letter explained the purpose of the study, background of the study, the reason each expert was selected, and a brief explanation of the Delphi design. Confidentiality for all participants was assured in the consent form. The initial Round I, Delphi questionnaire consisted of a definition to clarify the research and two open-ended Delphi probes. It read as follows:

The following definition is needed to clarify the position of the researcher: The definition of a traditional dissertation is an adaptation of David Sternberg's definition of a full dissertation (found in his book *How to complete and survive a doctoral dissertation*). A traditional dissertation is defined as one:

which requires (1) exhaustive library review/survey of related literature; (2) construction of a researchable problem, related hypotheses (objectives), which makes some original contribution to the field; (3) experimental work and/or fieldwork with subjects and/or groups; (4) an elaborate methodology for analyzing the data collected; (5) a lengthy, literary write-up, analysis, and discussion of the results of such experimental work or fieldwork; (6) a formal, oral defense of the dissertation before a committee. (Sternberg, 1981, 11)

1. With that definition in mind, please list statements of alternatives to the traditional doctoral dissertation which may be valuable to future doctoral graduates in order to compete in their future professional roles in an information

intensive society. One such statement might be: Published works are a viable alternative to the traditional dissertation requirement.

2. With that definition in mind, please list at least three statements of research competence and/or research experience which doctoral graduates must have to compete in their future professional roles in an information intensive society. One such statement might be: Doctoral graduates should have a comprehensive understanding of the resources needed to complete a review of literature such as library facilities, electronic data searches, surfing the Internet from home, etc.

The respondents were not limited to any specific number of responses. A follow up telephone call was made to those who did not respond after an appropriate amount of time. All of the perspective panel members completed Round I of the open-ended Delphi probes. Therefore, a total of twenty-two experts, or 100%, responded to the initial round of the Delphi questionnaire.

After all of the response sheets were returned, the panel's responses were reviewed and compiled in order to prepare the questionnaire to be used in Round II of the Delphi. After completing the analysis of the Round I responses, a second questionnaire was constructed and sent to the twenty-two panel members who had completed the Round I questionnaire. The participants were asked to rate, on a five point Likert scale (1 being totally disagree and 5 being totally agree), their level of agreement with each response. The respondents were also given an opportunity to edit or reword any statement they felt needed revision and to provide additional comments if they wished.

The Round II questionnaire, a self-addressed and stamped envelope, and a cover letter were sent to the twenty-two panel members. A follow up telephone call was made to those who did not respond after three weeks. Many panel members requested electronic data and a hard copy of the questionnaire or a disk and a hard copy for Round II and subsequent rounds. Each expert was given an opportunity to choose the mode of communication which was most conducive to his/her work schedule. The letter thanked each individual for his/her participation and completion of the Round I questionnaire and instructed him/her to answer the second questionnaire. Twenty-one, or 95%, of the initial participants completed the Round II questionnaire.

A third round which asked for refinement and comment on previous ratings was sent to the participants. Some of the original statements made in round two were clarified as a result of comments and editing suggestions made by the panel members. Only panel members who returned the round two questionnaire received the round three questionnaire. Round III asked the panel members to once again rate, edit, or comment on each questionnaire item. "The goal of the third round and any other subsequent round of questionnaires is to achieve consensus or stability of panel member responses" (Murry & Hammons, 1995, pp. 424-25). A self-addressed, stamped envelope was provided for the participant to return his/her response sheet. A follow up telephone call was made to those who did not respond after an appropriate amount of time. Twenty-one participants, or 95% of the original panel, returned the third questionnaire.

A three round Delphi proved to be sufficient for this study. The results of the Delphi, as well as a letter thanking them for their participation, was sent to all participants.

The demographic information sheet (See Appendix D) which was sent to each Delphi panel member in Round I asked them to provide the names and institutional affiliation of individuals whom they considered to be mavericks. Four individuals were repeatedly identified as mavericks, by their peers, in his/her area of expertise. None of the individuals who were identified as mavericks served on the Delphi panel.

Based on the initial contacts with panel members, on the information obtained in Round I of the Delphi survey, on the review of literature, and on telephone conversations with proposed mavericks, a set of initial semi-structured interview questions were formulated. The interview questions were field tested and appropriate changes were made to content and wording of the questions. Once the semi-structured interview questions were established, the interviewees were contacted. Each of the four mavericks who were contacted agreed to be interviewed. A fifth person was interviewed. The fifth maverick recently completed her non-traditional, collaborative doctoral dissertation and was interviewed to add a viewpoint from the perspective of a doctoral student. An interview schedule was set up and interviews were conducted in the summer of 1996 and in September of 1996. All interviews were conducted face-to-face. All interviews were audio taped and transcribed verbatim.

Data Analysis

<u>Delphi Survey</u>

Descriptive statistics were used to analyze data from Rounds II and III of the Delphi questionnaires. Responses for each item were coded, tallied, and aggregated in order to arrive at the means. The Likert scale was given a numerical value in order to determine the mean for each item in Round II and Round III.

Open-ended responses from Round II were reviewed and added to each item as comments in Round III of the Delphi survey. Open-ended responses from Round III were reviewed and structured into themes for reporting findings in Chapter 4.

The Kendall coefficient of concordance W was utilized during Round II and Round III to determine the extent of association among the CPAE panel members and the AVERA panel members of viable alternatives to the traditional doctoral dissertation. The Kendall W was also applied to the CPAE and AVERA panel member ratings of research competencies and/or experiences needed by doctoral graduates to compete in their future professional roles.

<u>Semi-structured Interview</u>

Interview data from face-to-face interviews were tape recorded, and later transcribed verbatim. The emergent themes are reported in Chapter 4 of this study.

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

Chapter IV presents the findings of the study which were generated as a result of collecting, tabulating, and analyzing the data. The purpose of this study was to determine if there are viable alternative research strategies, other than the traditional doctoral dissertation, which may be more beneficial to the doctoral student in an information intensive society. The secondary purpose was to determine which research competencies and/or research experiences will be needed by future doctoral graduates in an information intensive society. A three round Delphi questionnaire was used to determine what the experts in the field perceived as viable alternatives to the traditional doctoral dissertation and as needed research competencies and/or experiences for doctoral graduates in the future.

During the initial phase of the Delphi Round I Questionnaire panel members generated names of those individuals who they perceived to be mavericks in the field. The study used five interviews consisting of four with mavericks who had already served as the chair on a non-traditional dissertation committee. Those individuals were interviewed in order to establish the

credibility of non-traditional dissertations and in order to learn more about how the mavericks were able to bring about change. The last interview was with a recent doctoral graduate who participated in a collaborative dissertation project. The recent graduate was interviewed to gain insight into how a doctoral student perceived her non-traditional dissertation process.

Description of the Delphi Panelists

The individuals selected to serve on the Delphi panel of experts were determined by the number of nominations he/she received from peer members who were listed in the 1995 directory of the Commission of Professors of Adult Education (CPAE); additional nominations were received from peer members who were listed in the 1995 directory of the American Vocational Education Research Association (AVERA). Only members who resided in the United States were asked to nominate those they considered to be on the cutting edge of research. A self-addressed and stamped post card (Appendix A) was enclosed with the invitation to nominate their peers. The following table (4) indicates the return rates of nominations:

TABLE 4

NUMBER AND PERCENT OF
RESPONSES RETURNED

Requests Sent	Returned with Nominations	Undeliverable	Out of Practice	No Response	Totals
575	215 (37.4%)	21 (3.6%)	25 (4.3%)	315 (54.7%)	100%

Discussion of Table 4:

Number and Percent of Responses Returned

Table 4 indicates that of the 575 invitations that were sent to members of

the CPAE and AVERA, 215 responses were returned representing a 37.4%

return rate. Each postcard that was returned had from one to seven individual

nominations. A total of 21 (3.6%) were not deliverable because the person no

longer lived at that address. In addition, 25 (4.3%) responded indicating that

they had been out of the field of practice for some time and did not feel

qualified to nominate individuals for the panel. Over one half, 315 (54.7%), of

the members who were sent invitations to nominate people they believed to be

on the cutting edge of research did not respond. There are several possible

reasons for this low response rate. First, the requests were sent out the in

early May and many of the respondents could have already been out for the

summer. Second, many individuals simply do not respond to requests for

nominations for a Delphi panel. Third, if the individuals were conducting

research, they may have not taken the time to send a response. An interesting note here is that the majority of those selected to participate on the panel did respond.

The researcher did not break down the number of returned responses from the two groups of respondents. However, the following table depicts the number of responses received in relationship to CPAE and AVERA membership.

Discussion of Tables 5 and 6

Number and Percent of Responses Received by
Professional Membership Affiliation

Table 5 represents the break down of the total number of nominations received, while table 6 represents how those responses were broken down into nominations cast. The total percentages do not add up to 100 percent due to rounding.

Despite a low overall response rate of 37.4%, a large number of nominations were received. Nine hundred twenty seven (927) total nominations were received. Those nominations were distributed in three categories. First, the members of the CPAE cast 312 nominations or 33.6% of the total nominations cast. Of the 312 nominations cast, 102 individuals received one nomination, 38 individuals received from two to five nominations, five individuals received from six to ten nominations, one individual received from 21 to 25 nominations, and one individual received from 31 to 35 nominations. Second,

the members of the AVERA cast 536 nominations or 57.8% of the total

nominations cast. Of the 536 nominations cast, 82 individuals received one

nomination, 63 individuals received from two to five nominations, 16 individuals

received from six to ten nominations, eight individuals received from 11 to 15

nominations, and two individuals received from 21 to 25 nominations. Third, 79

nominations were cast by individuals who did not sign their names to the return

card, and the names were not recognized by the researcher as to membership

affiliation.

TABLE 5

NUMBER AND PERCENT OF RESPONSES RECEIVED
BY PROFESSIONAL MEMBERSHIP AFFILIATION

Membership Affiliations	Nomination Received	Percentage of Total
CPAE	312	33.6%
AVERA	536	57.8%
UNKNOWN	79	08.5%
TOTAL	927	99.9%

TABLE 6

NUMBER AND PERCENT OF INDIVIDUAL NOMINATIONS RECEIVED
BY CPAE MEMBERS AND AVERA MEMBERS

Number of Nominations Received by Individuals	CPAE Affiliation	Percent	AVERA Affiliation	Percent
1	102	69.3	82	47.9
2 - 5	38	25.8	63	36.8
6 - 10	5	3.4	16	9.3
11 - 15	0	-	8	4.6
16 - 20	0	-	0	-
21 - 25	1	.6	2	1.1
26 - 30	0	-	0	-
31 - 35	1	.6	0	-
Totals	147	99.7%	171	99.7%

Selection of Delphi Panelists

From the 927 nominations of experts by members of the CPAE and

AVERA, twenty-two were selected to be panel members. Eleven panelists were

members of the CPAE and eleven panelists were members of the AVERA.

Twenty-two members were chosen to participate because of both the break

down of nominations received and because the ideal number of panel members

asked to serve on a Delphi panel ranges from ten to thirty (Delbecq, Van de

Ven, and Gustafson, 1975). The panel experts are named Expert 1, Expert 2,

Expert 3, ... Expert 22 for purposes of confidentiality. The following tables (7 -

9) provide the demographic make-up of the panel of experts:

Discussion of Table 7

Institutional Make-Up of Panel of Experts

The majority of the panel members are on the faculty of Research

University I institutions. Research University I institutions offer a full range of

baccalaureate programs, offer graduate education through the doctorate

degree, and give high priority to research. They receive at least $33.5 million in

federal support annually and award at least 50 Ph.D. degrees each year (The

Carnegie Foundation for the Advancement of Teaching, 1987). Nineteen of the

22 persons or 86% fit into this category.

One panel member is on the faculty of a Research University II

institution. Research University II institutions offer a full range of baccalaureate

programs, offer graduate education through the doctorate degree, and give high

priority to research. They receive from $12.5 million to $33.5 million in federal

support annually for research and development and award at least 50 Ph.D.

degrees each year (The Carnegie Foundation for the Advancement of

Teaching, 1987).

One panel member is on the faculty of a Doctorate-granting University I

institution. Doctorate-granting University I institutions offer a full range of

baccalaureate programs and are committed to graduate education through the

doctorate degree. They award at least 40 Ph.D. degrees each year in five or

more academic disciplines (The Carnegie Foundation for the Advancement of

Teaching, 1987).

One panel member is on the faculty of a Doctorate-granting University II institution. Doctorate-granting University II institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate degree. They award at least 20 or more Ph.D. degrees each year in at least one discipline, or ten or more Ph.D. degrees in three or more academic disciplines (The Carnegie Foundation for the Advancement of Teaching, 1987).

TABLE 7

INSTITUTIONAL MAKE-UP OF PANEL OF EXPERTS

Carnegie Classification	CPAE Members	AVERA Members	Institutional Totals
Research University I	8	11	19 (86%)
Research University II	1	0	1 (4.5%)
Doctoral Granting University/College I	1	0	1 (4.5%)
Doctoral Granting University/College II	1	0	1 (4.5%)

TABLE 8

DEMOGRAPHIC MAKE-UP OF
THE PANEL OF EXPERTS

Demographic Component	CPAE Affiliation	AVERA Affiliation	Overall Affiliations
Degree Earned			
Ed.D.	5 (45%)	3 (27%)	8 (36%)
Ph.D.	6 (55%)	8 (73%)	14 (64%)
Post Degree Years of Experience			
5	1	-	1 (4.5%)
6 to 10	4	2	6 (27.3%)
11 to 15	1	2	3 (13.6%)
16 to 20	5	3	8 (36.4%)
21 to 30	-	4	4 (18.2%)
Gender			
Male	5	8	13 (59%)
Female	6	3	9 (41%)

Discussion of Table 8

Demographic Make-Up of the Panel of Experts

Each panel member was asked to indicate his/her educational degree,

years of experience after earning the doctoral degree, and area of expertise.

Eight (36%) of the twenty-two panelists had earned Doctor of Education

degrees (Ed.D.), while the remaining fourteen (64%) had earned Doctor of

Philosophy degrees (Ph.D.).

Those panelists affiliated with the CPAE were almost evenly split on

degree earned. Five CPAE participants held Doctor of Education degrees,

while six held Doctor of Philosophy degrees. The majority of the panel

members affiliated with the AVERA held Doctor of Philosophy degrees (8 of the

11).

The panel of experts was made up of thirteen males (59%) and nine

females (41%). The panelists affiliated with the CPAE consisted of five males

and six females; while the panelists affiliated with the AVERA consisted of eight

males and three females. The panelists selected to represent the vocational

component of the panel was dominated by males.

The panelists were asked to list the number of years of experience in the

field since the completion of their doctorate. The years of experience range

from five years to 30 years of experience. The average experience in the field

of adult education was 13 years of service; while the average experience in

vocational education was 17 years of service. The majority (54.5%) had from

11 to 20 years of experience. The panelists from the vocational affiliation had

more years of experience than those from the adult educational affiliation. This

can be attributed to adult education being a relatively new field when compared

to vocational education.

Discussion of Table 9

Academic Specialization of Panel Members

Table 9 indicates the academic specialization areas of the panel

members. Again, 14 (64%) of the panel members held Doctor of Philosophy

degrees; while eight (36%) of the panel members held Doctor of Education

degrees. Seven of the panel members have specialized in some aspect of Vocational Education. Three panelists have specialized in some aspect of Agriculture Education. Agriculture Education is often considered a component of Vocational Education. One panelist listed continuing and vocational education as his/her area of specialization. This area could overlap into both the adult education and the vocational education realm.

In addition to the specializations in vocational and agricultural education, ten panelists indicated some aspect of Adult Education for their area of specialization. One panelist listed community college, educational policy analysis and evaluation as his/her area of specialization.

Table 9 shows that the overall breakdown of areas of specialization within the panel of experts has two distinct areas. The two areas, vocational education and adult education, are equally represented within the panel of experts.

TABLE 9

ACADEMIC SPECIALIZATION OF PANEL MEMBERS

Panelist	Degree	Specialization
Expert 1	Ph.D.	Vocational/Technical and Special Education
Expert 2	Ph.D.	Agriculture Education
Expert 3	Ed.D.	Adult Education - Educational Administration
Expert 4	Ph.D.	Adult Education
Expert 5	Ph.D.	Vocational Education and Ed. Psychology
Expert 6	Ph.D.	Agriculture Education Teaching and Learning
Expert 7	Ed.D.	Vocational Industrial Education
Expert 8	Ed.D.	Adult Higher Education
Expert 9	Ph.D.	Vocational Special Education - Administration, Curriculum, and Instruction
Expert 10	Ed.D.	Adult Education - Adult Learning, Women and Education, & Qualitative Research Methods
Expert 11	Ed.D.	Vocational Ed, Marketing, Guidance and Counseling
Expert 12	Ph.D.	Administration and Supervision Agricultural Education
Expert 13	Ph.D.	Community College, Educational Policy Analysis & Evaluation
Expert 14	Ph.D.	Adult Education
Expert 15	Ph.D.	Adult Education - Adult Learning, Program Development, Leadership in Organizations
Expert 16	Ed.D.	Adult Education - Literacy
Expert 17	Ed.D.	Vocational/Technical Education - Business Education
Expert 18	Ph.D.	Continuing and Vocational Education - Group Dynamics
Expert 19	Ed.D.	Adult and Higher Education - Human Resource Development
Expert 20	Ph.D.	Adult Education
Expert 21	Ph.D.	Adult Education
Expert 22	Ph.D.	Vocational and Business Education

Delphi Round I Questionnaire: Probe One

The first round of this study contained two open-ended probes and was mailed to the twenty-two panel members. In this round, each expert was asked to respond to the two probes. Twenty-two or 100% of the panel members completed the Round I questionnaire. The first probe asked the panel of experts to list viable alternatives to the traditional doctoral dissertation (see Appendix C). Probe One statements were checked for overlapping responses, edited and organized into the first section of the Delphi Round II Questionnaire. Probe One generated 58 statements of viable alternatives to the traditional doctoral dissertation (See Appendix F). Those 58 statements were edited and refined into 22 statements of viable alternatives to the traditional doctoral dissertation. Those 22 statements constituted the first section of the Delphi Round II Questionnaire (See Appendix G). The 22 statements are as follows:

1. Works that are publishable as sole authored articles in refereed education or social science research journals are viable alternatives to the traditional doctoral dissertation (e.g., AERA, AVERA, or APA journals).

2. A series of scholarly, refereed, published materials are viable alternatives to the traditional doctoral dissertation.

3. Accepted publication of a critical review of the literature in a recognized journal in the field is a viable alternative to the traditional dissertation.

4. Documents and oral presentations describing major educational intervention(s) that is formulated from relevant theories and formatively evaluated using the principles of disciplined inquiry are viable alternatives to the dissertation.

5. Interdisciplinary research - perhaps conducted as a team member - would be a viable alternative to the traditional dissertation, especially in terms of addressing "real world" problems.

6.   A scholarly book published by a commercial publisher is a viable alternative to the traditional doctoral dissertation.

7.   There should be no alternative to the doctoral dissertation.

8.   A year of study and working abroad in the area of emphasis is a viable alternative to the traditional doctoral dissertation.

9.   Generating a "work" which represents (A) theoretical and research background preparation, (B) application of conceptual ideas to the creation of a "work", and (C) presentation of the work with adequate theoretical/conceptual background and documentation of judgement by an expert panel is a viable alternative to the traditional dissertation.

10.   A piece of well grounded and scholarly written legislation drafted for a state or federal legislature could be used as a viable alternative to the traditional dissertation.

11.   Project dissertations in which a systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects) are viable alternatives to the traditional doctoral dissertation.

12.   "Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation.

13.   Doctoral dissertations are unnecessary. Research should focus on the development of usable materials that will help others work in more democratic and critical ways with students, as well as helping students explore the development of their own critical consciousness as educators.

14.   A collaborative (group) research study, with one or multiple products, is a viable alternative to the traditional doctoral dissertation.

15.   Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation.

16.   An "applied or action research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the caliber normally expected in advanced professional practice is a viable alternative to the traditional doctoral dissertation.

17. Participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the traditional doctoral dissertation.

18. Development of new theories of learning applicable to learning via computer generated communication (CMC), rather than reliance on theories developed by others, are viable alternatives to the traditional doctoral dissertation.

19. High quality research based projects which contribute to the knowledge base and link theory to practice are viable alternatives to the traditional doctoral dissertation (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development etc.).

20. Synthesis and analysis of previously related literature to formulate new ideas is a viable alternative to the traditional doctoral dissertation.

21. The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the Internet).

22. A software program, a performance script, or other such product designed around certain pedagogical or artistic principles is a viable alternative to the traditional doctoral dissertation.

Delphi Round I Questionnaire - Probe Two

Probe Two of the first round of this Delphi study asked the panel members to list future research competencies and/or experiences needed by doctoral graduates. Probe Two generated 78 statements from the panel of experts (See Appendix F). Those 78 statements were checked for overlapping responses, edited, and organized into 30 statements of needed research competencies and/or experiences. Those 30 statements constituted the second section of the Delphi Round II Questionnaire (See Appendix G). The 30

statements are as follows:

1. Doctoral graduates should demonstrate competence in the execution of multiple research designs and methodologies with the premise that one chooses a design and methodology that fits the problem or project to be studied.

2. Doctoral graduates should have a comprehensive understanding of, and ability to apply, research methodologies (both quantitative and qualitative), statistics, and data analysis, both as a user and a consumer.

3. Doctoral graduates should demonstrate efficiency with acceptable research methods (e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners).

4. Doctoral graduates should have the ability to locate and critically evaluate relevant research literature.

5. Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings.

6. Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC).

7. Doctoral graduates should have demonstrated competence in understanding and using technologically-based tools in research investigations (e.g., library facilities, electronic data searches, surfing the internet from home, software related to the field, e-mail, word processing).

8. Doctoral graduates should have demonstrated the ability to articulate and implement findings and to defend the viability of those findings before a panel of experts in the field.

9. Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known.

10. Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies.

11. Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners.

12. Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research.

13. Doctoral graduates should have confidence in their ability to carry out original research of all types.

14. Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field.

15. Doctoral graduates should use skills of reflective practice within their own work.

16 Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment.

17. Doctoral graduates should work with area teams in addressing educational problems.

18. Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study.

19. Doctoral graduates should understand that research is a social process.

20. Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance.

21. Doctoral graduates should be able to compare and contrast existing learning theories.

22. Doctoral graduates should know the relationship between knowledge and ideology.

23. Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers.

24. Doctoral graduates should demonstrate competence as a consumer of research.

25. Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development.

26. Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study.

27. Doctoral graduates should have the ability to critically analyze and synthesize past research.

28. Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field.

29. Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process.

30. Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry, epistemologies, ontologies, etc.

Scale and Absolute Limits for Rating Statements

As indicated in Chapter III, a five point Likert scale was chosen for this study. The Delphi panel members were not given a forced choice scale to the statements for either probe. The study wanted to determine which alternatives were viable, and therefore acceptable, to the panel of experts. An alternative that was undecided upon was not considered to be acceptable to the panel of experts. Had the panel been forced to choose only a level of agreement or a level of disagreement, the results may have been skewed. This is also the case for the second probe concerning needed research competencies and/or experiences. The panel members were asked to rate each statement in probe one and each statement in probe two with the following Likert scale:

1 = Strongly Disagree
2 = Disagree
3 = Undecided
4 = Agree
5 = Strongly Agree

In order to determine the mean placement for each statement in probes

one and two, absolute limits were established. The absolute limits used to

evaluate the data for each rating in this study are as follows:

1.00 - 1.50 = Strongly Disagree
1.51 - 2.50 = Disagree
2.51 - 3.50 = Undecided
3.51 - 4.50 = Agree
4.51 - 5.00 = Strongly Agree

Delphi Round II Questionnaire - Probe One

The responses from the first questionnaire were checked for overlapping

responses, edited and organized into the Delphi Round II Questionnaire. The

questionnaire contained two sections. Section I listed responses to the first

probe which asked panel members to list viable alternatives to the traditional

doctoral dissertation. Twenty-two statements were listed for the panel members

to rate on a five point Likert scale, with one being strongly disagree, two being

disagree, three being undecided, four being agree, and five being strongly

agree. This second questionnaire (See Appendix G) was mailed to the twenty-

two respondents who completed the first round of this Delphi study. Twenty-

one (95%) second Round questionnaires were returned.

The mean was computed for each of the 22 items. The mean is the

average rating for each statement by the remaining 21 panel members. The

tables (10-12) that follow summarize Round II, Probe One ratings by the panel of experts:

Discussion of Table 10

Table 10, Mean Placement of Round II, Probe One Statements of Viable Alternatives to the Doctoral Dissertation by Panel of Experts, represents the relative positions of the Round II, Probe One statements as perceived by the panel of experts. As an overall group, the panel strongly disagreed with statement 8 which asserted that a year of study abroad in the area of emphasis is a viable alternative to the traditional doctoral dissertation. The panel of experts did not strongly agree with any alternatives to the traditional doctoral dissertation in Round II. The panel of experts disagreed with statements 3, 7, 10, and 13. They were indecisive with statements 1, 4, 5, 11, 14, 16, 17, 18, and 22. The panelists were able to agree on statements 2, 6, 9, 12, 15, 19, 20, and 21 as viable alternatives to the traditional doctoral dissertation (See Appendix G).

In summary, the findings of Round II for Probe One concerning viable alternatives to the traditional doctoral dissertation indicate that the panel of experts could agree on eight of the 22 statements as acceptable alternatives to the traditional doctoral dissertation. The experts were undecided about nine of the 22 statements, disagreed with four of the 22 statements, and strongly disagreed with one of the 22 statements.

TABLE 10

MEAN PLACEMENT OF ROUND II, PROBE ONE STATEMENTS OF
VIABLE ALTERNATIVES TO THE TRADITIONAL DOCTORAL
DISSERTATION BY PANEL OF EXPERTS
(N=21)

Strongly Disagree (1)	Disagree (2)		Undecided (3)		Agreed Upon (4)		Strongly Agree (5)
# 8 (1.285)	# 13	(1.952)	# 4	(2.571)	# 2	(3.523)	None
	# 3	(2.142)	# 18	(3.047)	# 20	(3.523)	
	# 7	(2.142)	# 22	(3.190)	# 9	(3.550)	
	# 10	(2.380)	# 5	(3.200)	# 19	(3.619)	
			# 1	(3.333)	# 15	(3.666)	
			# 14	(3.380)	# 6	(3.809)	
			# 11	(3.428)	# 12	(4.285)	
			# 17	(3.428)	# 21	(4.285)	
			# 16	(3.476)			

See Appendix G for Probe One Statements of Viable Alternatives to the Traditional Doctoral Dissertation

Discussion of Tables 11 and 12

Table 11 represents the relative positions of the Round II, Probe One statements of viable alternatives to the traditional doctoral dissertation as perceived by the panelists affiliated with the CPAE. Table 12 represents the relative positions of the Round II, Probe One statements of viable alternatives to the traditional doctoral dissertation as perceived by the panelists affiliated with the AVERA.

The CPAE members strongly agreed with one statement of alternatives to the traditional doctoral dissertation and agreed that 12 of the 22 statements should be alternatives to the traditional doctoral dissertation. The AVERA members agreed that six of the 22 statements should be alternatives to the traditional doctoral dissertation. The CPAE members were undecided about four statements while the AVERA members were undecided about 12 of the 22 statements of viable alternatives to the traditional doctoral dissertation. Both groups strongly disagreed with statement 8 and disagreed with statements 3, 10, and 17.

TABLE 11

MEAN PLACEMENT OF ROUND II, PROBE ONE STATEMENTS OF
VIABLE ALTERNATIVES TO THE TRADITIONAL DOCTORAL
DISSERTATION BY CPAE PANEL MEMBERS
(N=11)

Strongly Disagree (1)		Disagree (2)		Undecided (3)		Agree (4)		Strongly Agree (5)	
# 8	(1.273)	# 7	(1.545)	# 4	(2.545)	# 2	(3.545)	#12	(4.727)
		# 3	(2.273)	# 18	(3.091)	# 1	(3.636)		
		# 10	(2.273)	# 22	(3.273)	# 11	(3.636)		
		# 13	(2.364)	# 9	(3.500)	# 19	(3.636)		
						# 5	(3.700)		
						# 16	(3.727)		
						# 6	(3.818)		
						# 20	(3.818)		
						# 14	(4.091)		
						# 21	(4.091)		
						# 15	(4.182)		
						# 17	(4.273)		

See Appendix G for Probe One Statements of Viable Alternatives to the Traditional Doctoral Dissertation

TABLE 12

MEAN PLACEMENT OF ROUND II, PROBE ONE STATEMENTS OF
VIABLE ALTERNATIVES TO THE TRADITIONAL DOCTORAL
DISSERTATION BY AVERA PANEL MEMBERS
(N-10)

Strongly Agree (1)		Disagree (2)		Undecided (3)		Agree (4)		Strongly Agree (5)
# 8	(1.300)	# 3	(2.000)	# 4	(2.600)	# 9	(3.600)	None
# 13	(1.500)	# 10	(2.500)	# 14	(2.600)	# 19	(3.600)	
		# 17	(2.500)	# 5	(2.700)	# 6	(3.800)	
				# 7	(2.800)	# 12	(3.800)	
				# 1	(3.000)	# 21	(4.500)	
				# 18	(3.000)			
				# 15	(3.100)			
				# 22	(3.100)			
				# 11	(3.200)			
				# 16	(3.200)			
				# 20	(3.200)			
				# 2	(3.500)			

See Appendix G for Probe One Statements of Viable Alternatives to the Traditional Doctoral Dissertation

Discussion of Table 13

Table 13, Mean Placement of Round II, Probe Two by Panel of Experts, represents the relative positions of the Round II, Probe Two statements as perceived by the panel of experts for each statement concerning research competencies and/or experiences needed by doctoral graduates in the future. The panel of experts were able to strongly agree on seven of the 30 statements (see Appendix G) of needed research competencies and/or experiences. They also agreed on 19 of the 30 statements and were undecided about four of the 30 statements. The panel of experts did not disagree or strongly disagree with any of the suggested competencies and/or experiences.

TABLE 13

MEAN PLACEMENT OF ROUND II, PROBE TWO STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
BY PANEL OF EXPERTS (N=21)

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agreed (4)	Strongly Agree (5)
None	None	# 6 (2.523)	# 25 (3.619)	# 11 (4.523)
		# 17 (3.150)	# 21 (3.666)	# 28 (4.571)
		# 13 (3.400)	# 30 (3.666)	# 14 (4.650)
		# 20 (3.428)	# 19 (3.850)	# 9 (4.666)
			# 15 (3.950)	# 4 (4.714)
			# 23 (4.000)	# 27 (4.714)
			# 29 (4.000)	# 10 (4.761)
			# 22 (4.050)	
			# 5 (4.095)	
			# 7 (4.095)	
			# 12 (4.190)	
			# 16 (4.250)	
			# 1 (4.333)	
			# 3 (4.333)	
			# 18 (4.380)	
			# 26 (4.380)	
			# 2 (4.428)	
			# 24 (4.450)	
			# 8 (4.476)	

See Appendix G for Probe Two Statements of Future Research Competencies and/or Experiences Needed by Doctoral Graduates

Discussion of Tables 14 and 15

Table 14 represents the relative positions of Round II, Probe Two statements of research competencies and/or experiences needed by doctoral graduates in the future (See Appendix H), as perceived by the panelists affiliated with the CPAE. Table 15 represents the relative positions of Round II, Probe Two statements of research competencies and/or experiences needed by doctoral graduates in the future (See Appendix H), as perceived by the panelists affiliated with the AVERA. The following is a list of the 30 Probe Two statements that apply to tables 14 through 17:

1. Doctoral graduates should demonstrate competence in the execution of multiple research designs and methodologies with the premise that one chooses a design and methodology that fits the problem or project to be studied.

2. Doctoral graduates should have a comprehensive understanding of, and ability to apply, research methodologies (both quantitative and qualitative), statistics, and data analysis, both as a user and a consumer.

3. Doctoral graduates should demonstrate efficiency with acceptable research methods (e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners).

4. Doctoral graduates should have the ability to locate and critically evaluate relevant research literature.

5. Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings.

6. Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC).

7. Doctoral graduates should have demonstrated competence in understanding and using technologically-based tools in research

investigations (e.g., library facilities, electronic data searches, surfing the internet from home, software related to the field, e-mail, word processing).

8.   Doctoral graduates should have demonstrated the ability to articulate and implement findings and to defend the viability of those findings before a panel of experts in the field.

9.   Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known.

10.   Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies.

11.   Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners.

12.   Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research.

13.   Doctoral graduates should have confidence in their ability to carry out original research of all types.

14.   Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field.

15.   Doctoral graduates should use skills of reflective practice within their own work.

16   Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment.

17.   Doctoral graduates should work with area teams in addressing educational problems.

18.   Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study.

19. Doctoral graduates should understand that research is a social process.

20. Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance.

21. Doctoral graduates should be able to compare and contrast existing learning theories.

22. Doctoral graduates should know the relationship between knowledge and ideology.

23. Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers.

24. Doctoral graduates should demonstrate competence as a consumer of research.

25. Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development.

26. Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study.

27. Doctoral graduates should have the ability to critically analyze and synthesize past research.

28. Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field.

29. Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process.

30. Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry, epistemologies, ontologies, etc.

Both groups were able to agree or strongly agree on the majority of

needed research competencies and/or experiences. The CPAE members

strongly agreed with statements 4, 9, 10, 12, 14, 19, 27, and 28 while agreeing

with statements 1, 2, 3, 5, 7, 8, 11, 15, 16, 18, 21, 22, 23, 24, 26, 29, and 30. The CPAE members were undecided about statements 13, 17, 20, and 25, and disagreed with statement 6. Overall, the CPAE members were able to agree or strongly agree on 25 of the 30 statements of research competencies and/or experiences needed by doctoral graduates in the future.

The AVERA members were also able to agree or strongly agree on 25 of the 30 statements of research competencies and/or experiences needed by doctoral graduates in the future. The AVERA members strongly agreed with statements 1, 2, 4, 5, 8, 9, 10, 11, 14, 24, 26, and 27. They agreed with statements 3, 7, 12, 13, 16, 18, 20, 21, 22, 25, 28, and 29. The AVERA members were undecided about statements 6, 15, 17, 19, and 30. They did not disagree or strongly disagree with any of the 30 statements.

TABLE 14

MEAN PLACEMENT OF ROUND II, PROBE TWO STATEMENTS OF RESEARCH COMPETENCIES AND/OR EXPERIENCES NEEDED BY DOCTORAL GRADUATES BY CPAE PANEL MEMBERS
(N=11)

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
None	# 6 (2.182)	# 13 (2.800)	# 5 (3.636)	# 12 (4.545)
		# 17 (2.900)	# 21 (3.636)	# 14 (4.600)
		# 20 (3.091)	# 1 (3.909)	# 19 (4.600)
		# 25 (3.091)	# 23 (3.909)	# 4 (4.636)
			# 2 (4.091)	# 9 (4.636)
			# 7 (4.091)	# 10 (4.636)
			# 26 (4.091)	# 27 (4.636)
			# 29 (4.091)	# 28 (4.727)
			# 3 (4.182)	
			# 8 (4.273)	
			# 11 (4.273)	
			# 18 (4.273)	
			# 30 (4.273)	
			# 24 (4.300)	
			# 15 (4.400)	
			# 16 (4.400)	
			# 22 (4.400)	

See Appendix G for Probe Two Statements of Future Research Competencies and/or Experiences Needed by Doctoral Graduates

TABLE 15

MEAN PLACEMENT OF ROUND II, PROBE TWO STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
BY AVERA PANEL MEMBERS
(N=10)

Strongly Disagree (1)	Disagree (2)	Undecided (3)		Agree (4)		Strongly Agree (5)	
None	None	# 6	(2.900)	# 21	(3.700)	# 5	(4.600)
		# 30	(3.000)	# 22	(3.700)	# 24	(4.600)
		# 19	(3.100)	# 12	(3.800)	# 8	(4.700)
		# 17	(3.400)	# 20	(3.800)	# 14	(4.700)
		# 15	(3.500)	# 29	(3.900)	# 26	(4.700)
				# 13	(4.000)	# 1	(4.800)
				# 7	(4.100)	# 2	(4.800)
				# 16	(4.100)	# 4	(4.800)
				# 23	(4.100)	# 9	(4.800)
				# 25	(4.200)	# 11	(4.800)
				# 28	(4.400)	# 27	(4.800)
				# 3	(4.500)	# 10	(4.900)
				# 18	(4.500)		

See Appendix G for Probe Two Statements of Future Research Competencies and/or Experiences Needed by Doctoral Graduates

Discussion of Table 16

Table 16, Comparative Level of Agreement by CPAE and AVERA

Panelists for Viable Alternatives to the Traditional Doctoral Dissertation, looks at

the level of agreement among the panel members representing the CPAE and

the AVERA for Round II, Probe One. Both groups strongly disagreed with

statement 8, disagreed with statements 3 and 13, and were undecided about

statements 4, 18, and 22. Both groups agreed with statements 2, 6, 9, and 19.

There were no statements which both groups strongly agreed with in Probe

One of Round II.

In the Round II Delphi Questionnaire, the CPAE and AVERA panelists

were able to reach a level of agreement on ten of the 22 Probe One statements

which asked the participants to rate statements of viable alternatives to the

traditional doctoral dissertation. The panel members were able to show some

level of agreement for 45% of the statements of viable alternatives to the

traditional doctoral dissertation.

Each of the 22 statement means were rank ordered for CPAE and

AVERA panel members for the purpose of computing a Kendall W. The

Kendall Coefficient of Concordance: W is a non-parametric statistic designed to

measure the degree of agreement (concordance) among three or more ordinal

scaled (ranked) variables. The Kendall W is commonly used with Delphi

studies. Kendall W expresses the average agreement between the ranks of

variables by raters on a scale of .00 to 1.00. If no association exists, the

Kendall W is zero. A perfect association is 1.00.

A Kendall W was computed for the responses to Round II, Probe One statements of alternatives to the traditional doctoral dissertation by CPAE and AVERA panel members. The resulting coefficient of W = .7657 indicates a fairly high level of agreement among the panel members. This is not to say that the panel of experts agree with the 22 statements as viable alternatives to the traditional doctoral dissertation. What it does imply is that their is substantial agreement among the referent groups (CPAE and AVERA) as to the relative ranking for each of the 22 statements of viable alternatives to the traditional doctoral dissertation.

TABLE 16

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND
AVERA PANELISTS FOR VIABLE ALTERNATIVES TO
THE TRADITIONAL DOCTORAL DISSERTATION
ROUND II, PROBE ONE

Alternative Statement #	CPAE Mean	AVERA Mean	OVERALL Mean
1	3.636	3.000	3.333
2	3.545	3.500	3.523
3	2.273	2.000	2.142
4	2.545	2.600	2.571
5	3.700	2.700	3.200
6	3.818	3.800	3.809
7	1.545	2.800	2.142
8	1.273	1.300	1.285
9	3.500	3.600	3.550
10	2.273	2.500	2.380
11	3.636	3.200	3.428
12	4.727	3.800	4.285
13	2.364	1.500	1.952
14	4.091	2.600	3.380
15	4.182	3.100	3.666
16	3.727	3.200	3.476
17	4.273	2.500	3.428
18	3.091	3.000	3.047
19	3.636	3.600	3.619
20	3.818	3.200	3.523
21	4.091	4.500	4.285
22	3.273	3.100	3.190

W value = .7657

Discussion of Table 17

Table 17, Comparative Level of Agreement by CPAE and AVERA

Panelists for Statements of Future Research Competencies and/or Experiences

Needed by Doctoral Graduates, looks at the level of agreement among the

panel members representing the CPAE and AVERA for Round II, Probe Two.

There were no statements which both groups strongly disagreed with in Probe

Two of Round II. Both groups were undecided about statement 17. Both

groups agreed with statements 3, 7, 16, 18, 21, 22, 23, and 29. Both the

CPAE and the AVERA panelists strongly agreed with statements 4, 9, 10, 14,

and 27.

In the Round II Delphi Questionnaire, the CPAE and AVERA panel

members were able to reach a level of agreement on 14 of the 30 Probe Two

statements which asked the participants to rate statements of research

competencies and/or experiences needed by future doctoral graduates. This

indicates that the panel members were able to show some level of agreement

for 47% of the statements of research competencies and/or experiences

needed by future doctoral graduates.

A Kendall W was computed for the responses to Round II, Probe Two

statements of research competencies and/or experiences needed by doctoral

graduates as rated by CPAE and AVERA panel members. The resulting

coefficient of $W = .7629$ indicates a fairly high level of agreement among the

panel members. This is not to say that the panel of experts agree with the 30

statements as needed research competencies and/or experiences. What it

does imply is that their is substantial agreement among the referent groups

(CPAE and AVERA) as to the relative ranking for each of the 30 statements of

needed research competencies and/or experiences.

TABLE 17

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND AVERA
PANEL MEMBERS FOR ROUND II, PROBE TWO STATEMENTS
OF RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES

Competency Statement #	CPAE Mean	AVERA Mean	OVERALL Mean
1	3.909	4.800	4.333
2	4.091	4.800	4.428
3	4.182	4.500	4.333
4	4.636	4.800	4.714
5	3.636	4.600	4.095
6	2.182	2.900	2.523
7	4.091	4.100	4.095
8	4.273	4.700	4.476
9	4.636	4.800	4.666
10	4.636	4.900	4.761
11	4.273	4.800	4.523
12	4.545	3.800	4.190
13	2.800	4.000	3.400
14	4.600	4.700	4.650
15	4.400	3.500	3.950
16	4.400	4.100	4.250
17	2.900	3.400	3.150
18	4.273	4.500	4.380
19	4.600	3.100	3.850
20	3.091	3.800	3.428
21	3.636	3.700	3.666
22	4.400	3.700	4.050
23	3.909	4.100	4.000
24	4.300	4.600	4.450
25	3.091	4.200	3.619
26	4.091	4.700	4.380
27	4.636	4.800	4.714
28	4.727	4.400	4.571
29	4.091	3.900	4.000
30	4.273	3.000	3.666

W value = .7629

Discussion of Tables 18, 19, and 20

The following Probe One statements should be referenced when reading

tables 18 through 26:

1.   Works that are publishable as sole authored articles in refereed
      education or social science research journals are viable alternatives to
      the traditional doctoral dissertation (e.g., AERA, AVERA, or APA
      journals).

2.   A series of scholarly, refereed, published materials are viable alternatives
      to the traditional doctoral dissertation.

3.   Accepted publication of a critical review of the literature in a recognized
      journal in the field is a viable alternative to the traditional dissertation.

4.   Documents and oral presentations describing major educational
      intervention(s) that is formulated from relevant theories and formatively
      evaluated using the principles of disciplined inquiry are viable alternatives
      to the dissertation.

5.   Interdisciplinary research - perhaps conducted as a team member -
      would be a viable alternative to the traditional dissertation, especially in
      terms of addressing "real world" problems.

6.   A scholarly book published by a commercial publisher is a viable
      alternative to the traditional doctoral dissertation.

7.   There should be no alternative to the doctoral dissertation.

8.   A year of study and working abroad in the area of emphasis is a viable
      alternative to the traditional doctoral dissertation.

9.   Generating a "work" which represents (A) theoretical and research
      background preparation, (B) application of conceptual ideas to the
      creation of a "work", and (C) presentation of the work with adequate
      theoretical/conceptual background and documentation of judgement by
      an expert panel is a viable alternative to the traditional dissertation.

10.   A piece of well grounded and scholarly written legislation drafted for a
      state or federal legislature could be used as a viable alternative to the
      traditional dissertation.

11. Project dissertations in which a systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects) are viable alternatives to the traditional doctoral dissertation.

12. "Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation.

13. Doctoral dissertations are unnecessary. Research should focus on the development of usable materials that will help others work in more democratic and critical ways with students, as well as helping students explore the development of their own critical consciousness as educators.

14. A collaborative (group) research study, with one or multiple products, is a viable alternative to the traditional doctoral dissertation.

15. Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation.

16. An "applied or action research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the caliber normally expected in advanced professional practice is a viable alternative to the traditional doctoral dissertation.

17. Participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the traditional doctoral dissertation.

18. Development of new theories of learning applicable to learning via computer generated communication (CMC), rather than reliance on theories developed by others, are viable alternatives to the traditional doctoral dissertation.

19. High quality research based projects which contribute to the knowledge base and link theory to practice are viable alternatives to the traditional doctoral dissertation (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development etc.).

20. Synthesis and analysis of previously related literature to formulate new ideas is a viable alternative to the traditional doctoral dissertation.

21.   The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the Internet).

22.   A software program, a performance script. or other such product designed around certain pedagogical or artistic principles is a viable alternative to the traditional doctoral dissertation.

Table 18, Mean Placement of Round III, Probe One Statements of Viable

Alternatives to the Traditional Doctoral Dissertation by Panel of Experts,

represents the relative positions of Round III, Probe One statements as

perceived by the panel of experts. Table 19 shows the mean ratings for each

of the 22 statements of viable alternatives to the traditional doctoral dissertation

as perceived in Rounds II and III of this Delphi study. Table 20 illustrates the

comparative mean ratings from Round II and Round III, by the panel of experts,

of the 22 statements of viable alternatives to the traditional doctoral dissertation.

Upon inspection of Table 20, it is immediately noticed that the panel of experts

rated alternatives 1, 4, 8,13, and 18 in the same relative position for both

Rounds II and III, indicating a high level of agreement for those alternatives. As

indicted in the earlier discussion of Table 19, only four statements changed

ratings as a result of the clarifications in Round III, Probe One (See Appendix

I). While the overall means changed slightly from Round II to Round III, the

actual mean placement changed very little. Statement 6, a scholarly book

published by a commercial publisher is a viable alternative to the doctoral

dissertation, which was originally agreed upon by the panel of experts in Round

II, was undecided in Round III. Statement 11, project dissertations in which a

systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects) are viable alternatives to the traditional doctoral dissertation, which was originally undecided upon by the panel experts in Round II, was agreed upon in Round III. Statement 14, a collaborative (group) research study, with one or multiple products is a viable alternative to the doctoral dissertation, which was originally undecided upon by the panel of experts in Round II, was agreed upon in Round III. Statement 17, participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the doctoral dissertation, which was undecided upon by the panel of experts in Round II, was agreed upon in Round III.

An analysis of Tables 18, 19, and 20 reveals that there is a high level of agreement among the panel members as to the relative mean position of each statement of viable alternatives to the traditional doctoral dissertation. That is to say, the statement numbers that fall into the five Likert scale categories indicate a high level of agreement among panel members.

TABLE 18

MEAN PLACEMENT OF ROUND III, PROBE ONE BY STATEMENTS OF
VIABLE ALTERNATIVES TO THE TRADITIONAL DOCTORAL
DISSERTATION BY PANEL OF EXPERTS
(N=21)

Strongly Disagree (1)		Disagree (2)		Undecided (3)		Agreed Upon (4)		Strongly Agree (5)
# 8	(1.190)	# 13	(1.571)	# 4	(2.523)	# 11	(3.500)	None
		# 7	(1.904)	# 18	(2.857)	# 9	(3.523)	
		# 10	(2.047)	# 5	(2.952)	# 19	(3.523)	
		# 3	(2.142)	# 22	(3.047)	# 14	(3.547)	
				# 1	(3.214)	# 17	(3.547)	
				# 6	(3.428)	# 02	(3.571)	
				# 16	(3.476)	# 20	(3.619)	
						# 15	(3.785)	
						# 21	(4.380)	
						# 12	(4.476)	

See Appendix H for Probe One Statements of Viable Alternatives to the Traditional Doctoral Dissertation

TABLE 19

COMPARATIVE LEVEL OF AGREEMENT BY PANEL OF EXPERTS
FOR VIABLE ALTERNATIVES TO THE TRADITIONAL
DOCTORAL DISSERTATION FOR
ROUNDS II AND III, PROBE ONE
(N=21)

Alternative Statement #	ROUND II Mean	ROUND III Mean
1	3.333	3.214
2	3.523	3.571
3	2.142	2.142
4	2.571	2.523
5	3.200	2.952
6	3.809	3.428
7	2.142	1.904
8	1.285	1.190
9	3.550	3.523
10	2.380	2.047
11	3.428	3.500
12	4.285	4.476
13	1.952	1.571
14	3.380	3.547
15	3.666	3.785
16	3.476	3.476
17	3.428	3.547
18	3.047	2.857
19	3.619	3.523
20	3.523	3.619
21	4.285	4.380
22	3.190	3.047

TABLE 20

COMPARATIVE MEAN ORDER BY PANEL OF EXPERTS
FOR ROUNDS II AND III OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
(N=21)

Alternative Statement #	Round II Mean	Alternative Statement #	Round III Mean
8	1.285	8	1.190
13	1.952	13	1.571
3	2.142	7	1.904
7	2.142	10	2.047
10	2.380	3	2.142
4	2.571	4	2.523
18	3.047	18	2.857
22	3.190	5	2.952
5	3.200	22	3.047
1	3.333	1	3.214
14	3.380	6	3.428
11	3.428	16	3.476
17	3.428	11	3.500
16	3.476	9	3.523
2	3.523	19	3.523
20	3.523	14	3.547
9	3.550	17	3.547
19	3.619	2	3.571
15	3.666	20	3.619
6	3.809	15	3.785
12	4.285	21	4.380
21	4.285	12	4.476

Discussion of Tables 21 and 22

Table 21, Mean Placement of Round III, Probe One Statements of Viable Alternatives to the Traditional Doctoral Dissertation by CPAE Panelists, represents the relative positions of Round III, Probe One statements as perceived by panel members who are affiliated with the CPAE. Upon examining Table 21, it is apparent that the CPAE panel members were able to agree or strongly agree that ten of the 22 statements are viable alternatives to the traditional doctoral dissertation. They also agreed that statements 3, 7, 8, 10, and 13 were not viable alternatives to the traditional doctoral dissertation. The CPAE panel members were undecided about the viability of statements 1, 4, 5, 6, 9, 18, and 22 as alternatives to the traditional doctoral dissertation.

Table 22 represents the mean rates, in ascending order, for each of the 22 statements of viable alternatives to the traditional doctoral dissertation as perceived by the CPAE panel members (N=11). Those mean rates are compared to the overall mean rates by the panel of experts (N=21). The CPAE panel members rated alternatives 3, 4, 8, 10, 12, 18, and 22 in the same relative position as did the overall panel of experts. It is interesting to note that the CPAE members' ratings fell within the same Likert rating scale for all but three statements. The CPAE members were undecided about statement 9, while the panel as a whole agreed it was a viable alternative. Likewise, the panel as a whole was undecided about statement 16, while the CPAE members agreed that it was a viable alternative. Statement 12 was agreed upon by the panel as a whole and strongly agreed upon by the CPAE members.

TABLE 21

MEAN PLACEMENT OF ROUND III, PROBE ONE STATEMENTS OF
VIABLE ALTERNATIVES TO THE TRADITIONAL DOCTORAL
DISSERTATION BY CPAE PANELISTS
(N=11)

Strongly Disagree (1)		Disagree (2)		Undecided (3)		Agree (4)		Strongly Agree (5)	
# 8	(1.273)	# 7	(1.545)	# 4	(2.545)	# 19	(3.545)	#12	(4.727)
		# 13	(1.909)	# 18	(2.909)	# 2	(3.636)		
		# 10	(2.091)	# 9	(3.273)	# 20	(3.818)		
		# 3	(2.364)	# 22	(3.273)	# 11	(3.864)		
				# 6	(3.364)	# 16	(3.909)		
				# 1	(3.409)	# 21	(4.273)		
				# 5	(3.455)	# 14	(4.318)		
						# 17	(4.318)		
						# 15	(4.409)		

See Appendix G for Probe One Statements of Viable Alternatives to the Traditional Doctoral Dissertation

TABLE 22

COMPARATIVE LEVEL OF AGREEMENT BETWEEN CPAE AND
OVERALL GROUP MEAN RATINGS FOR VIABLE
ALTERNATIVES TO THE TRADITIONAL
DOCTORAL DISSERTATION
ROUND III, PROBE ONE

Alternative Statement #	CPAE Mean	Alternative Statement #	OVERALL Mean
8	1.273	8	1.190
7	1.545	13	1.571
13	1.909	7	1.904
10	2.091	10	2.047
3	2.364	3	2.142
4	2.545	4	2.523
18	2.909	18	2.857
9	3.273	5	2.952
22	3.273	22	3.047
6	3.364	1	3.214
1	3.409	6	3.428
5	3.455	16	3.476
19	3.545	11	3.500
2	3.636	9	3.523
20	3.818	19	3.523
11	3.864	14	3.547
16	3.909	17	3.547
21	4.273	2	3.571
14	4.318	20	3.619
17	4.318	15	3.785
15	4.409	21	4.380
12	4.727	12	4.476

TABLE 23

COMPARATIVE MEAN ORDER BY CPAE PANELISTS
FOR ROUNDS II AND III OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
(N=11)

Alternative Statement #	CPAE Round II Mean	Alternative Statement #	CPAE Round III Mean
8	1.273	8	1.273
7	1.545	7	1.545
3	2.273	13	1.909
10	2.273	10	2.091
13	2.364	3	2.364
4	2.545	4	2.545
18	3.091	18	2.909
22	3.273	9	3.273
9	3.500	22	3.273
2	3.545	6	3.364
1	3.636	1	3.409
11	3.636	5	3.455
19	3.636	19	3.545
5	3.700	2	3.636
16	3.727	20	3.818
6	3.818	11	3.864
20	3.818	16	3.909
14	4.091	21	4.273
21	4.091	14	4.318
15	4.182	17	4.318
17	4.273	15	4.409
12	4.727	12	4.727

Discussion of Tables 24 and 25

Table 24, Mean Placement of Round III, Probe One Statements of Viable

Alternatives to the Traditional Doctoral Dissertation by AVERA Panelists,

represents the relative positions of Round III, Probe One statements as

perceived by panel members who are affiliated with the AVERA. Upon

examining Table 24, it is apparent that the AVERA panel members were able to

agree or strongly agree to six of the 22 statements as viable alternatives to the

traditional doctoral dissertation. Statements 2, 6, 9, 12, 19, and 21 were

considered viable alternatives by AVERA panel members. The AVERA panel

members also agreed that statements 3, 5, 7, 8, 10, and 13 were not viable

alternatives to the traditional doctoral dissertation. The AVERA panel members

were undecided as to the viability of statements 1, 4, 11, 14, 15, 16, 17, 18, 20,

and 22 as alternatives to the traditional doctoral dissertation.

Table 25 represents the mean rates, in ascending order, for each of the

22 statements of viable alternatives to the traditional doctoral dissertation as

perceived by the AVERA panel members (N=10). Those mean rates are

compared to the overall mean rates by the panel of experts (N=21).

The AVERA panel members rated alternatives 8, 10, and 13 in the same

relative position as did the overall panel of experts. Twelve of the 22 AVERA

members' ratings fell within the same Likert rating scale as did the overall panel

of experts. Eight statements did not. Statement 13 was strongly disagreed

upon by the AVERA members, while disagreed upon by the panel as a whole.

Statements 11, 14, 15, 17, and 20 were undecided upon by AVERA panel

members, while agreed upon by the panel as a whole. Statement 6 was agreed upon by AVERA members, and undecided by the panel as a whole. Statement 21 was strongly agreed upon by AVERA panel members, while agreed upon by the panel as a whole.

TABLE 24

MEAN PLACEMENT OF ROUND III, PROBE ONE STATEMENTS OF VIABLE ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION BY AVERA PANELISTS
(N=10)

Strongly Disagree (1)		Disagree (2)		Undecided (3)		Agree (4)		Strongly Agree (5)	
# 8	(1.100)	# 3	(1.900)	# 4	(2.500)	# 2	(3.500)	# 21	(4.500)
# 13	(1.200)	# 10	(2.000)	# 14	(2.700)	# 6	(3.500)		
		# 7	(2.300)	# 17	(2.700)	# 19	(3.500)		
		# 5	(2.400)	# 18	(2.800)	# 9	(3.800)		
				# 22	(2.800)	# 12	(4.200)		
				# 1	(3.000)				
				# 16	(3.000)				
				# 11	(3.100)				
				# 15	(3.100)				
				# 20	(3.400)				

See Appendix G for Probe One Statements of Viable Alternatives to the Traditional Doctoral Dissertation

TABLE 25

COMPARATIVE LEVEL OF AGREEMENT BETWEEN AVERA AND
OVERALL MEAN RATINGS FOR VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
ROUND III, PROBE ONE
(N=10)

Alternative Statement #	AVERA Mean Round III	Alternative Statement #	OVERALL Mean Round III
8	1.100	8	1.190
13	1.200	13	1.571
3	1.900	7	1.904
10	2.000	10	2.047
7	2.300	3	2.142
5	2.400	4	2.523
4	2.500	18	2.857
14	2.700	5	2.952
17	2.700	22	3.047
18	2.800	1	3.214
22	2.800	6	3.428
1	3.000	16	3.476
16	3.000	11	3.500
15	3.100	9	3.523
11	3.100	19	3.523
20	3.400	14	3.547
19	3.500	17	3.547
6	3.500	2	3.571
2	3.500	20	3.619
9	3.800	15	3.785
12	4.200	21	4.380
21	4.500	12	4.476

Discussion of Table 26

Table 26 illustrates the comparative mean ratings from Round II and Round III by the ten AVERA panel members for the 22 statements of viable alternatives to the traditional doctoral dissertation. Upon inspection of Table 23, it is evident that the AVERA panel members rated statements 3, 8, 10, 12, 13, 20, and 21 in the same relative position for both Rounds II and III, indicating a high level of acceptance for those seven alternatives. Statement 8, a year of study and working abroad ... is a viable alternative to the traditional doctoral dissertation, was strongly disagreed upon in both Rounds II and III. Likewise, only statement 21, the rigor of the dissertation should remain the same; however, a different "package" ... is a viable alternative to the traditional doctoral dissertation, was strongly agreed upon in both Rounds II and III by the AVERA panel members.

There are some noticeable differences in the mean ratings from Round II to Round III by the AVERA panel members. Fifteen of the 22 statement means dropped from Round II to Round III. The drop was usually from .100 to .200 tenths of a point. While this is negligible, it is interesting. Only three statement means increased, and four remained the same.

While the overall means changed slightly from Round II to Round III, the actual mean placement changed very little. Only four statements changed Likert placement position as a result of clarifications given in Round III, Probe One (See Appendix J). Statement 5, Interdisciplinary research ... is a viable alternative to the traditional doctoral dissertation, which was originally undecided

upon by AVERA panel members in Round II, was disagreed upon in Round III. Statement 7, there should be no alternative to the traditional doctoral dissertation, was undecided upon in Round II and disagreed upon in Round III. Statement 10, a piece of well grounded and scholarly written legislation ... is a viable alternative to the traditional doctoral dissertation, which was originally undecided upon by the AVERA panel members in Round II, was disagreed upon in Round III. Statement 13, doctoral dissertations are unnecessary, which was originally disagreed upon by the AVERA panel members in Round II, was strongly disagreed upon in Round III.

In Round II, the AVERA panel members strongly disagreed on one of 22 statements, while strongly disagreeing on two of the 22 statements in Round III. Likewise, in Round II, the panel members disagreed with two statements while disagreeing with three of the 22 statements in Round III. In Round II, the panel members were undecided about 13 of the 22 alternatives, while being undecided about 12 of the 22 alternatives in Round III. They were able to agree on five of the 22 statements in both Round II and Round III. This change in mean ratings is a direct reflection of both the clarifications given and the influence of the overall mean ratings by the CPAE panel members.

TABLE 26

COMPARATIVE MEAN ORDER BY AVERA PANELISTS
FOR ROUNDS II AND III OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
(N=10)

Alternative Statement #	AVERA Round II Mean	Alternative Statement #	AVERA Round III Mean
8	1.300	8	1.100
13	1.500	13	1.200
3	2.000	3	1.900
10	2.500	10	2.000
17	2.500	7	2.300
4	2.600	5	2.400
14	2.600	4	2.500
5	2.700	14	2.700
7	2.800	17	2.700
1	3.000	18	2.800
18	3.000	22	2.800
15	3.100	1	3.000
22	3.100	16	3.000
11	3.200	15	3.100
16	3.200	11	3.100
20	3.200	20	3.400
2	3.500	19	3.500
9	3.600	6	3.500
19	3.600	2	3.500
6	3.800	9	3.800
12	3.800	12	4.200
21	4.500	21	4.500

Discussion of Tables 27 and 28

Table 27, Comparative Level of Agreement by Overall Panel of Experts, CPAE Panel Members, and AVERA Panel Members to the Viable Alternatives to the Traditional Doctoral Dissertation, Round III, Probe One, and Table 28, Comparative Mean Order by Overall Panel of Experts, CPAE Panel Members, and AVERA Panel Members to the Statements of Viable Alternatives to the Traditional Doctoral Dissertation represent the relative mean placement of each of the 22 statements of viable alternatives to the traditional doctoral dissertation by the entire panel of experts, the CPAE panel members, and the AVERA panel members. These two tables, graphically depict the differences in mean placement within each group and between each individual group and the overall panel of experts.

Viable Alternatives to the Traditional Doctoral Dissertation. An examination of Tables 27 and 28 reveals that the panel members as a whole were unable to strongly agree on any of the statements of viable alternatives to the traditional doctoral dissertation. It further reveals that the panel members were able to agree that the following ten statements are viable alternatives to the traditional doctoral dissertation:

Statement 12: "Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation.

Statement 21: The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the Internet).

Statement 15: Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation.

Statement 20: Synthesis and analysis of previously related literature to formulate new ideas is a viable alternative to the traditional doctoral dissertation.

Statement 2: A series of scholarly, refereed, published materials are viable alternatives to the traditional doctoral dissertation.

Statement 17: Participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the traditional doctoral dissertation.

Statement 14: A collaborative (group) research study, with one or multiple products, is a viable alternative to the traditional doctoral dissertation.

Statement 19: High quality research based projects which contribute to the knowledge base and link theory to practice are viable alternatives to the traditional doctoral dissertation (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development, etc.).

Statement 9: Generating a "work" which represents (A) theoretical and research background preparation, (B) application of conceptual ideas to the creation of a "work", and (C) presentation of the work with adequate theoretical-conceptual background and documentation of judgement by an expert panel is a viable alternative to the traditional dissertation. This alternative barely fell within the mean for acceptance by the panel, yet it is most similar to the traditional dissertation.

Statement 11: Project dissertations in which a systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects) are viable alternatives to the traditional doctoral dissertation.

Comparison of CPAE and AVERA Panel Members. Of the ten alternatives found to be viable by the panel of experts, only four were considered viable alternatives by both the CPAE members and the AVERA members. Both referent groups found statements 2, 12, 19, and 21 to be viable alternatives to the traditional doctoral dissertation. The mean rating for statement 9 was strong enough from the AVERA panel members to raise the overall mean and have it included as a viable alternative, although the CPAE members were undecided about its viability. Likewise, the mean ratings for statements 11, 14, 15, 17, and 20 were strong enough from the CPAE panel members to raise the overall means and have them included as viable

alternatives to the traditional doctoral dissertation; although, the AVERA panel members were undecided upon their viability.

Statements Not Accepted As Viable Alternatives to the Dissertation. Further examination of Tables 27 and 28 reveals that the panel members were in complete agreement as to the relative mean placement of alternative statements 8 and 10. In addition, statement 8 was the only statement that both referent groups strongly disagreed upon.

Statement 8: A year of study and working abroad in the area of emphasis is a viable alternative to the traditional doctoral dissertation. This statement received particularly caustic comments from the overall panel.

The panel disagreed with statements 3, 7, 10, and 13. Each statement was found to be an unacceptable alternative to the traditional doctoral dissertation.

Statement 3: Accepted publication of a critical review of the literature in a recognized journal in the field is a viable alternative to the traditional doctoral dissertation.

Statement 7: There should be no alternative to the doctoral dissertation.

Statement 10: A piece of well grounded and scholarly written legislation drafted for a state or federal legislature could be used as a viable alternative to the traditional doctoral dissertation. Again, panel members made caustic comments about this alternative. Expert 16 stated: "scholarly legislation is an oxymoron."

Statement 13: Doctoral dissertations are unnecessary. Research should focus on the development of usable materials that will help others work in more democratic and critical ways with students, as well as helping students explore the development of their own critical consciousness as educators. Several panel members commented that this statement was not an alternative and did not fit into the study.

Undecided and Therefore Not Accepted As Viable Alternatives. The panel of experts were undecided upon the following statements of alternatives:

Statement 1: Works that are publishable as sole authored articles in refereed education or social science journals are viable alternatives to the traditional doctoral dissertation (e.g., AERA, AVERA, or APA journals).

Statement 4: Documents and oral presentations describing major educational intervention(s) that is formulated from relevant theories and formatively evaluated using the principles of disciplined inquiry are viable alternatives to the dissertation.

Statement 5: Interdisciplinary research - perhaps conducted as a team member - would be a viable alternative to the traditional dissertation, especially in terms of addressing "real world" problems.

Statement 6: A scholarly book published by a commercial publisher is a viable alternative to the traditional doctoral dissertation.

Statement 16: An "applied or action research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the caliber normally expected

in advanced professional practice is a viable alternative to the traditional doctoral dissertation.

Statement 18: Development of new theories of learning applicable to learning via computer generated communication (CMC), rather than reliance on theories developed by others, are viable alternatives to the traditional doctoral dissertation.

Statement 22: A software program, a performance script, or other such product designed around certain pedagogical or artistic principles is a viable alternative to the traditional doctoral dissertation.

Kendall W for Round III, Probe One. A Kendall W was computed for the responses to Round III, Probe One statements of alternatives to the traditional doctoral dissertation by CPAE and AVERA panel members. The resulting coefficient of W = .8387 indicates a fairly high level of agreement among the panel members. This is not to say that the panel of experts agree with the 22 statements as viable alternatives to the traditional doctoral dissertation. What it does imply is that their is substantial agreement among the referent groups (CPAE and AVERA) as to the relative ranking for each of the 22 statements of viable alternatives to the traditional doctoral dissertation.

It is interesting to note that the overall panel increased their level of concordance from .7657 in Round II to .8387 in Round III. This indicates that the clarifications to the Delphi questionnaire and the comments made by the panel members had an impact on the Round III ratings.

TABLE 27

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND
AVERA GROUPS OF THE VIABLE ALTERNATIVES TO
THE TRADITIONAL DOCTORAL DISSERTATION
ROUND III, PROBE ONE

Alternative Statement #	CPAE Mean	AVERA Mean	OVERALL Mean
1	3.409	3.000	3.214
2	3.636	3.500	3.571
3	2.364	1.900	2.142
4	2.545	2.500	2.523
5	3.455	2.400	2.952
6	3.364	3.500	3.428
7	1.545	2.300	1.904
8	1.273	1.100	1.190
9	3.273	3.800	3.523
10	2.091	2.000	2.047
11	3.864	3.100	3.500
12	4.727	4.200	4.476
13	1.909	1.200	1.571
14	4.318	2.700	3.547
15	4.409	3.100	3.785
16	3.909	3.000	3.476
17	4.318	2.700	3.547
18	2.909	2.800	2.857
19	3.545	3.500	3.523
20	3.818	3.400	3.619
21	4.273	4.500	4.380
22	3.273	2.800	3.047

TABLE 28

COMPARATIVE MEAN ORDER BY OVERALL PANEL OF EXPERTS,
CPAE PANEL MEMBERS, AND AVERA PANEL MEMBERS OF
THE STATEMENTS OF VIABLE ALTERNATIVES TO THE
TRADITIONAL DOCTORAL DISSERTATION
ROUND III, PROBE ONE

Alternative Statement #	Overall Mean	Alternative Statement #	CPAE Mean	Alternative Statement #	AVERA Mean
8	1.190	8	1.273	8	1.100
13	1.571	7	1.545	13	1.200
7	1.904	13	1.909	3	1.900
10	2.047	10	2.091	10	2.000
3	2.142	3	2.364	7	2.300
4	2.523	4	2.545	5	2.400
18	2.857	18	2.909	4	2.500
5	2.952	9	3.273	14	2.700
22	3.047	22	3.273	17	2.700
1	3.214	6	3.364	18	2.800
6	3.428	1	3.409	22	2.800
16	3.476	5	3.455	1	3.000
11	3.500	19	3.545	16	3.000
9	3.523	2	3.636	15	3.100
19	3.523	20	3.818	11	3.100
14	3.547	11	3.864	20	3.400
17	3.547	16	3.909	19	3.500
2	3.571	21	4.273	6	3.500
20	3.619	14	4.318	2	3.500
15	3.785	17	4.318	9	3.800
21	4.380	15	4.409	12	4.200
12	4.476	12	4.727	21	4.500

W value = .8387

Discussion of Tables 29 and 30

Tables 29, Frequency Distribution of Likert Ratings by Overall Panel of Experts of the Statements of Viable Alternatives to the Traditional Doctoral Dissertation Round III, Probe One, and Table 30, Comparison of Frequency Distribution of CPAE Panel Members and AVERA Panel Members of the Statements of Viable Alternatives to the Traditional Doctoral Dissertation represent the frequency distribution and percentages that each alternative statement received in the final round of the Delphi Questionnaire. These two tables are perhaps the most significant of the Round III, Probe One findings because they graphically illustrate why each statement was accepted as an alternative by the panel of experts or rejected as an alternative to the traditional doctoral dissertation by the panel of experts. Statements one and 11, in Tables 29 and 30, indicate a half of person in the undecided and a half of person in the agreed upon columns. One panel member gave statements one and 11 a 3.5 rating. To compensate for the rating, the person's rating was divided in half with one half going into the undecided rating and one half going into the agree rating.

Table 29 Summation

Table 29 suggests that a few individuals were able to determine the final outcome of several statements. Statement 6 was agreed upon or strongly agreed upon by 57% of the panel members, yet did not make the mean cut off for acceptance as a viable alternative. Four individual panel members were effectively able to block the acceptance of Statement 6 as a viable alternative.

Likewise, Statement 16 was agreed upon or strongly agreed upon by 57.1% of

the panel members, yet did not make the mean cut off for acceptance as a

viable alternative. Six individuals blocked the acceptance of Statement 16.

Many of the panel members were undecided about the viability of several of the

alternatives to the dissertation. This indecision played an important role in the

overall panel's mean ratings and in the rejection of alternatives in essence by

abstention. Statements 4, 16, 18, and 22 were significantly impacted by

abstention.

Summation of Table 30

Table 30 suggests that the CPAE panel members were able to push the

acceptance of statements 11, 14, 15, 17, and 20 as viable alternatives to the

traditional doctoral dissertation. This suggests that AVERA members would

probably not buy into those alternatives within their doctoral programs.

Likewise, the AVERA members were able to push the acceptance of statement

9 as a viable alternative to the dissertation. Again, this suggests that CPAE

panel members would probably not buy into that alternative within their doctoral

programs.

TABLE 29

FREQUENCY DISTRIBUTION OF LIKERT RATINGS BY OVERALL PANEL
OF EXPERTS OF THE STATEMENTS OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
ROUND III, PROBE ONE

Statement Number	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	0	9 (42.8%)	1.5(7.1%)	7.5(35.7%)	3 (14.2%)
2	0	5 (23.8%)	2 (9.5%)	11 (52.3%)	3 (14.2%)
3	4 (19%)	12 (57.1%)	3 (14.2%)	2 (9.5%)	0
4	3 (14.2%)	8 (38%)	6 (28.5%)	4 (19%)	0
5	4 (19%)	4 (19%)	4 (19%)	7 (33.3%)	2 (9.5%)
6	2 (9.5%)	2 (9.5%)	5 (23.8%)	9 (42.8%)	3 (14.2%)
7	8 (38%)	8 (38%)	4 (19%)	1 (4.7%)	0
8	17 (80.9%)	4 (19%)	0	0	0
9	1 (4.7%)	3 (14.2%)	4 (19%)	10 (47.6%)	3 (14.2%)
10	5 (23.8%)	12 (57.1%)	2 (9.5%)	2 (9.5%)	0
11	1 (4.7%)	2 (9.5%)	5.5(26.1%)	10.5(50%)	1 (4.7%)
12	1 (4.7%)	0	0	7 (33.3%)	13 (61.9%)
13	12 (57.1%)	7 (33.3%)	1 (4.7%)	1 (4.7%)	0
14	3 (14.2%)	1 (4.7%)	3 (14.2%)	9 (42.8%)	5 (23.8%)
15	2 (9.5%)	1 (4.7%)	2 (9.5%)	10 (47.6%)	6 (28.5%)
16	1 (4.7%)	5 (23.8%)	3 (14.2%)	7 (33.3%)	5 (23.8%)
17	2 (9.5%)	2 (9.5%)	4 (19%)	8 (38%)	5 (23.8%)
18	2 (9.5%)	6 (28.5%)	7 (33.3%)	5 (23.8%)	1 (4.7%)
19	1 (4.7%)	3 (14.2%)	3 (14.2%)	12 (57.1%)	2 (9.5%)
20	1 (4.7%)	3 (14.2%)	3 (14.2%)	10 (47.6%)	4 (19%)
21	0	0	2 (9.5%)	9 (42.8%)	10 (47.6%)
22	3 (14.2%)	4 (19%)	4 (19%)	9 (42.8%)	1 (4.7%)

TABLE 30

COMPARISON OF FREQUENCY DISTRIBUTION OF CPAE PANEL MEMBERS AND
AVERA PANEL MEMBERS OF THE STATEMENTS OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
ROUND III, PROBE ONE

Statement Number	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1 CPAE	0	4 (19%)	.5 (2.3%)	4.5(21.4%)	2 (9.5%)
1 AVERA	0	5 (23.8%)	1 (4.7%)	3 (14.2%)	1 (4.7%)
2 CPAE	0	3 (14.2%)	1 (4.7%)	4 (19%)	3 (14.2%)
2 AVERA	0	2 (9.5%)	1 (4.7%)	7 (33.3%)	0
3 CPAE	2 (9.5%)	5 (23.8%)	2 (9.5%)	2 (9.5%)	0
3 AVERA	2 (9.5%)	7 (33.3%)	1 (4.7%)	0	0
4 CPAE	2 (9.5%)	4 (19%)	2 (9.5%)	3 (14.2%)	0
4 AVERA	1 (4.7%)	4 (19%)	4 (19%)	1 (4.7%)	0
5 CPAE	1 (4.7%)	2 (9.5%)	1 (4.7%)	5 (23.8%)	2 (9.5%)
5 AVERA	3 (14.2%)	2 (9.5%)	3 (14.2%)	2 (9.5%)	0
6 CPAE	1 (4.7%)	1 (4.7%)	3 (14.2%)	5 (23.8%)	1 (4.7%)
6 AVERA	1 (4.7%)	1 (4.7%)	2 (9.5%)	4 (19%)	2 (9.5%)
7 CPAE	7 (33.3%)	2 (9.5%)	2 (9.5%)	0	0
7 AVERA	1 (4.7%)	6 (28.5%)	2 (9.5%)	1 (4.7%)	0
8 CPAE	8 (38%)	3 (14.2%)	0	0	0
8 AVERA	9 (42.8%)	1 (4.7%)	0	0	0
9 CPAE	1 (4.7%)	3 (14.2%)	2 (9.5%)	2 (9.5%)	3 (14.2%)
9 AVERA	0	0	2 (9.5%)	8 (38%)	0
10 CPAE	2 (9.5%)	7 (33.3%)	1 (4.7%)	1 (4.7%)	0
10 AVERA	3 (14.2%)	5 (23.8%)	1 (4.7%)	1 (4.7%)	0
11 CPAE	0	1 (4.7%)	1 (4.7%)	6.5(30.9%)	1.5 (7.1%)
11 AVERA	1 (4.7%)	1 (4.7%)	4 (19%)	4 (19%)	0
12 CPAE	0	0	0	3 (14.2%)	8 (38%)
12 AVERA	1 (4.7%)	0	0	4 (19%)	5 (23.8%)
13 CPAE	4 (19%)	5 (23.8%)	1 (4.7%)	1 (4.7%)	0
13 AVERA	8 (38%)	2 (9.5%)	0	0	0
14 CPAE	0	0	1 (4.7%)	5 (23.8%)	5 (23.8%)
14 AVERA	3 (14.2%)	1 (4.7%)	2 (9.5%)	4 (19%)	0
15 CPAE	0	0	0	6 (28.5%)	5 (23.8%)
15 AVERA	2 (9.5%)	1 (4.7%)	2 (9.5%)	4 (19%)	1 (4.7%)
16 CPAE	0	2 (9.5%)	1 (4.7%)	4 (19%)	4 (19%)
16 AVERA	1 (4.7%)	3 (14.2%)	2 (9.5%)	3 (14.2%)	1 (4.7%)
17 CPAE	0	0	0	7 (33.3%)	4 (19%)
17 AVERA	2 (9.5%)	2 (9.5%)	4 (19%)	1 (4.7%)	1 (4.7%)
18 CPAE	1 (4.7%)	4 (19%)	2 (9.5%)	3 (14.2%)	1 (4.7%)
18 AVERA	1 (4.7%)	2 (9.5%)	5 (23.8%)	2 (9.5%)	0
19 CPAE	0	2 (9.5%)	2 (9.5%)	6 (28.5%)	1 (4.7%)
19 AVERA	1 (4.7%)	1 (4.7%)	1 (4.7%)	6 (28.5%)	1 (4.7%)
20 CPAE	0	2 (9.5%)	1 (4.7%)	5 (23.8%)	3 (14.2%)
20 AVERA	1 (4.7%)	1 (4.7%)	2 (9.5%)	5 (23.8%)	1 (4.7%)
21 CPAE	0	0	1 (4.7%)	6 (28.5%)	4 (19%)
21 AVERA	0	0	1 (4.7%)	3 (14.2%)	6 (28.5%)
22 CPAE	0	3 (14.2%)	2 (9.5%)	6 (28.5%)	0
22 AVERA	3 (14.2%)	1 (4.7%)	2 (9.5%)	3 (14.2%)	1 (4.7%)

Discussion of Tables 31, 32, and 33

The following Probe Two statements should be referenced when reading

tables 31 through 43:

1. Doctoral graduates should demonstrate competence in the execution of multiple research designs and methodologies with the premise that one chooses a design and methodology that fits the problem or project to be studied.

2. Doctoral graduates should have a comprehensive understanding of, and ability to apply, research methodologies (both quantitative and qualitative), statistics, and data analysis, both as a user and a consumer.

3. Doctoral graduates should demonstrate efficiency with acceptable research methods (e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners).

4. Doctoral graduates should have the ability to locate and critically evaluate relevant research literature.

5. Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings.

6. Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC).

7. Doctoral graduates should have demonstrated competence in understanding and using technologically-based tools in research investigations (e.g., library facilities, electronic data searches, surfing the internet from home, software related to the field, e-mail, word processing).

8. Doctoral graduates should have demonstrated the ability to articulate and implement findings and to defend the viability of those findings before a panel of experts in the field.

9. Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known.

10. Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies.

11. Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners.

12. Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research.

13. Doctoral graduates should have confidence in their ability to carry out original research of all types.

14. Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field.

15. Doctoral graduates should use skills of reflective practice within their own work.

16 Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment.

17. Doctoral graduates should work with area teams in addressing educational problems.

18. Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study.

19. Doctoral graduates should understand that research is a social process.

20. Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance.

21. Doctoral graduates should be able to compare and contrast existing learning theories.

22. Doctoral graduates should know the relationship between knowledge and ideology.

23. Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers.

24. Doctoral graduates should demonstrate competence as a consumer of research.

25. Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development.

26. Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study.

27. Doctoral graduates should have the ability to critically analyze and synthesize past research.

28. Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field.

29. Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process.

30. Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry, epistemologies, ontologies, etc.

Table 31, Mean Placement of Round III, Probe Two Statements of

Research Competencies and/or Experiences Needed by Doctoral Graduates by

Panel of Experts, represents the relative positions of Round III, Probe Two

statements as perceived by the panel of experts. Tables 32 and 33 compare

the mean ratings for each of the 30 statements of research competencies

and/or experiences needed by doctoral graduates in the future as perceived by

the panel of experts.

Table 31 clearly shows that the panel members were able to agree that

statements 1, 2, 3, 5, 7, 12, 15, 16, 19, 22, 23, 24, 26, 29, and 30 are

competencies and/or experiences needed by doctoral graduates in the future.

They strongly agreed upon statements 4, 8, 9, 10, 11, 14, 18, 27, and 28 as

needed research competencies and/or experiences. Of the 30 statements of

research competencies and/or experiences presented to the panel of experts, they found 24 to be needed by doctoral graduates in the future.

Upon inspection of Table 33, it is immediately noticed that the panel of experts rated competencies 2, 4, 6, 10, 13, 17, 19, and 20 in the same relative position for both Rounds II and III, indicating a high level of agreement for placement of those competencies. Table 32 reveals that five of the 30 statements of competency changed placement position as a result of clarifications given in Round III, Probe Two (See Appendix J). Statement 6, doctoral graduates should be able to compare ... via computer mediated communication (CMC), was disagreed upon in Round II and strongly disagreed upon in Round III. Statements 21, doctoral graduates should be able to compare ... learning theories, and 25, doctoral graduates must have ... instrument development, were agreed upon in Round II and undecided upon in Round III. Statements 8, doctoral graduates should have ... before a panel of experts in the field, and 18, doctoral graduates should be able to distinguish ... recommendations for a study, were agreed upon in Round II and strongly agreed upon in Round III.

An analysis of Tables 31, 32, and 33 reveals that there is a high level of agreement among the panel members as to the relative mean position of each statement of research competencies and/or experiences needed by doctoral graduates in the future. That is to say, the statement numbers that fall into the five Likert scale categories, strongly disagree, disagree, undecided, agree, strongly agree, indicate a high level of agreement among the panel members.

TABLE 31

MEAN PLACEMENT OF ROUND III, PROBE TWO STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
BY PANEL OF EXPERTS
(N=21)

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agreed (4)	Strongly Agree (5)
None	# 6 (2.095)	# 17 (3.300)	# 30 (3.714)	# 08 (4.523)
		# 13 (3.333)	# 19 (3.904)	# 18 (4.523)
		# 20 (3.380)	# 23 (3.952)	# 14 (4.619)
		# 21 (3.380)	# 05 (3.952)	# 11 (4.666)
		# 25 (3.380)	# 15 (4.000)	# 27 (4.809)
			# 29 (4.095)	# 28 (4.809)
			# 22 (4.100)	# 04 (4.857)
			# 16 (4.190)	# 09 (4.904)
			# 07 (4.190)	# 10 (4.952)
			# 01 (4.238)	
			# 24 (4.333)	
			# 12 (4.333)	
			# 26 (4.380)	
			# 03 (4.380)	
			# 02 (4.380)	

See Appendix G for Probe Two Statements of Future Research Competencies and/or Experiences Needed by Doctoral Graduates

TABLE 32

COMPARATIVE LEVEL OF AGREEMENT BY PANEL OF EXPERTS
FOR RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES FOR
ROUNDS II AND III, PROBE TWO
(N=21)

Competency Statement #	Round II Mean	Round III Mean
1	4.333	4.238
2	4.428	4.380
3	4.333	4.380
4	4.714	4.857
5	4.095	3.952
6	2.523	2.095
7	4.095	4.190
8	4.476	4.523
9	4.666	4.904
10	4.761	4.952
11	4.523	4.666
12	4.190	4.333
13	3.400	3.333
14	4.650	4.619
15	3.950	4.000
16	4.250	4.190
17	3.150	3.300
18	4.380	4.523
19	3.850	3.904
20	3.428	3.380
21	3.666	3.380
22	4.050	4.100
23	4.000	3.952
24	4.450	4.333
25	3.619	3.380
26	4.380	4.380
27	4.714	4.809
28	4.571	4.809
29	4.000	4.095
30	3.666	3.714

TABLE 33

COMPARATIVE MEAN ORDER BY PANEL OF EXPERTS FOR
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES FOR
ROUNDS II AND III, PROBE TWO
(N=21)

Competency Statement #	Round II Overall Mean	Competency Statement #	Round III Overall Mean
6	2.523	6	2.095
17	3.150	17	3.300
13	3.400	13	3.333
20	3.428	20	3.380
25	3.619	21	3.380
30	3.666	25	3.380
21	3.666	30	3.714
19	3.850	19	3.904
15	3.950	23	3.952
29	4.000	5	3.941
23	4.000	15	4.000
22	4.050	29	4.095
7	4.095	22	4.100
5	4.095	16	4.190
12	4.190	7	4.190
16	4.250	1	4.238
3	4.333	24	4.333
1	4.333	12	4.333
18	4.380	26	4.380
26	4.380	3	4.380
2	4.428	2	4.380
24	4.450	8	4.523
8	4.476	18	4.523
11	4.523	14	4.619
28	4.571	11	4.666
14	4.650	27	4.809
9	4.666	28	4.809
4	4.714	4	4.857
27	4.714	9	4.904
10	4.761	10	4.952

Discussion of Tables 34 and 35

Table 34, Mean Placement of Round III, Probe Two Statements of

Research Competencies and/or Experiences Needed by Doctoral Graduates by

CPAE Panel Members, represents the relative positions of Round III, Probe

Two statements as perceived by panel members who are affiliated with the

CPAE. Upon examining Table 34, it is apparent that the CPAE panel members

were able to agree or strongly agree that 24 of the 30 statements are research

competencies and/or experiences that doctoral graduates will need to compete

in their future professional roles. They also agreed that statement 6 was not a

needed competency. The CPAE panel members were undecided about the

need for statements 5, 13, 17, 20, and 25 as research competencies and/or

experiences.

Table 35 represents the mean rates, in ascending order, for each of the

30 statements of research competencies and/or experiences needed by

doctoral graduates to compete in their future professional roles as perceived by

the CPAE panel members (N=11). The CPAE mean ratings are compared to

the overall mean ratings by the entire panel of experts (N=21). The CPAE

panel members rated competencies 6, 13, 20, and 29 in the same relative

position as did the overall panel of experts. The CPAE panel members ratings

fell within the same Likert rating scale as did the panel of experts for all but six

statements. The CPAE panel members were undecided about statement 5,

while the panel as a whole agreed that it was a needed competency.

Statement 21 was agreed upon by the CPAE panel members, while the panel

as a whole was undecided upon it as a needed competency. Statements 8 and 18 were agreed upon by CPAE panel members and strongly agreed upon as needed competencies by the panel as a whole. Statements 12 and 22 were strongly agreed upon by CPAE panel members and agreed upon as needed competencies by the panel as a whole

TABLE 34

MEAN PLACEMENT OF ROUND III, PROBE TWO STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
BY CPAE PANEL MEMBERS
(N=11)

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agreed (4)	Strongly Agree (5)
None	# 06 (1.909)	# 25 (2.818)	# 21 (3.545)	# 22 (4.500)
		# 13 (3.000)	# 23 (3.818)	# 14 (4.545)
		# 20 (3.000)	# 01 (3.818)	# 11 (4.545)
		# 05 (3.182)	# 24 (4.091)	# 12 (4.636)
		# 17 (3.200)	# 02 (4.091)	# 28 (4.727)
			# 29 (4.091)	# 04 (4.727)
			# 07 (4.182)	# 27 (4.818)
			# 03 (4.182)	# 10 (4.909)
			# 08 (4.273)	# 09 (4.909)
			# 15 (4.273)	
			# 26 (4.273)	
			# 16 (4.364)	
			# 30 (4.455)	
			# 18 (4.455)	
			# 19 (4.455)	

See Appendix G for Probe Two Statements of Future Research Competencies and/or Experiences Needed by Doctoral Graduates

TABLE 35

COMPARATIVE LEVEL OF AGREEMENT BETWEEN CPAE
AND OVERALL MEAN RATINGS FOR STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
ROUND III, PROBE TWO

Competency Statement #	CPAE Mean	Competency Statement #	OVERALL Mean
6	1.909	6	2.095
25	2.818	17	3.300
13	3.000	13	3.333
20	3.000	20	3.380
5	3.182	21	3.380
17	3.200	25	3.380
21	3.545	30	3.714
23	3.818	19	3.904
1	3.818	23	3.952
24	4.091	5	3.952
2	4.091	15	4.000
29	4.091	29	4.095
7	4.182	22	4.100
3	4.182	16	4.190
8	4.273	7	4.190
15	4.273	1	4.238
26	4.273	24	4.333
16	4.364	12	4.333
30	4.455	26	4.380
18	4.455	3	4.380
19	4.455	2	4.380
22	4.500	8	4.523
14	4.545	18	4.523
11	4.545	14	4.619
12	4.636	11	4.666
28	4.727	27	4.809
4	4.727	28	4.809
27	4.818	4	4.857
10	4.909	9	4.904
9	4.909	10	4.952

Discussion of Table 36

Table 36 illustrates the comparative mean ratings from Round II and Round III by the 11 CPAE panel members of the 30 statements of research competencies and/or experiences needed by doctoral graduates. Upon inspection of Table 36, it is evident that the CPAE panel members rated statements 3, 6, 8, 20, 21, and 22 in the same relative position for both Rounds II and III, indicating a high level of agreement for those six competencies. No competencies were strongly disagreed upon by CPAE panel members in either Rounds II and III.

The most noticeable difference in the mean ratings from Round II to Round III is the considerable shifting in the mean order ratings by the CPAE panel members. While the overall mean orders shifted from Round II to Round III, the actual mean placement changed very little. Only five statements changed placement position as a result of clarifications given in Round III, Probe Two (See Appendix J). Statement 17, doctoral graduates should work with area teams in addressing educational problems, which was originally undecided upon by CPAE panel members in Round II, was agreed upon in Round III. Statement 5, doctoral graduates should be competent in helping practitioners transfer research findings to practice situations, was originally agreed upon by CPAE panel members in Round II, which was undecided in Round III. Statement 11, doctoral graduates should have the ability to design, ... as educational practitioners, which was originally agreed upon by the CPAE panel members in Round II, was strongly agreed upon in Round III. Statement

19, doctoral graduates should understand that research is a social process, which was strongly agreed upon by the CPAE panel members in Round II, was agreed upon in Round III. Statement 22, doctoral graduates should know the relationship between knowledge and ideology, was agreed upon in Round II, and strongly agreed upon in Round III by the CPAE panel members.

TABLE 36

COMPARATIVE MEAN ORDER BY CPAE PANEL MEMBERS
FOR ROUND II AND III OF STATEMENTS OF RESEARCH
COMPETENCIES AND/OR EXPERIENCES NEEDED
BY DOCTORAL GRADUATES
(N=11)

Competency Statement #	CPAE Round II Mean	Competency Statement #	CPAE Round III Mean
6	2.182	6	1.909
13	2.800	25	2.818
17	2.900	13	3.000
20	3.091	20	3.000
25	3.091	5	3.182
5	3.636	17	3.200
21	3.636	21	3.545
1	3.909	23	3.818
23	3.909	1	3.818
2	4.091	24	4.091
7	4.091	2	4.091
26	4.091	29	4.091
29	4.091	7	4.182
3	4.182	3	4.182
8	4.273	8	4.273
11	4.273	15	4.273
18	4.273	26	4.273
30	4.273	16	4.364
24	4.300	30	4.455
15	4.400	18	4.455
16	4.400	19	4.455
22	4.400	22	4.500
12	4.545	14	4.545
14	4.600	11	4.545
19	4.600	12	4.636
4	4.636	28	4.727
9	4.636	4	4.727
10	4.636	27	4.818
27	4.636	10	4.909
28	4.727	9	4.909

Discussion of Tables 37 and 38

Table 37, Mean Placement of Round III, Probe Two Statements of
Research Competencies and/or Experiences Needed by Doctoral Graduates by
AVERA Panel Members, represents the relative positions of Round III, Probe
Two statements as perceived by panel members who are affiliated with the
AVERA. Upon examining Table 37, it is apparent that the AVERA panel
members were able to agree or strongly agree on 25 of the 30 statements as
competencies and/or experiences needed by doctoral graduates. Statements 7,
12, 13, 15, 16, 20, 22, 23, 25, and 29 were agreed upon as needed
competencies by AVERA panel members. The AVERA panel members also
strongly agreed that statements 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 14, 18, 24, 26, 27
and 28 were research competencies and/or experiences needed by doctoral
graduates. The AVERA panel members were undecided as to the need for
statements 17, 19, 21, and 30 as research competencies. The AVERA panel
members disagreed with statement 6 as a needed competency.

Table 38 represents the mean rates, in ascending order, for each of the
30 statements of research competencies and/or experiences needed by
doctoral graduates as perceived by the AVERA panel members (N=10). Those
mean rates are compared to the overall mean rates by the panel of experts
(N=21).

The AVERA panel members rated competencies 6, 10, 11, and 27 in the
same relative position as did the overall panel of experts. Twenty of the 30
AVERA members' ratings fell within the same Likert rating scale as did the

overall panel of experts. Ten statements did not fall within the same Likert rating scale. Statements 19, and 30 were undecided upon by the AVERA members, while agreed upon by the panel as a whole. Statements 13, and 20 were agreed upon by AVERA panel members, while undecided upon by the panel as a whole. Statements 1, 2, 3, 5, 24, and 26 were strongly agreed upon by AVERA members, and agreed upon by the panel as a whole.

TABLE 37

MEAN PLACEMENT OF ROUND III, PROBE TWO STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
BY AVERA PANEL MEMBERS
(N=10)

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
None	# 6 (2.300)	# 30 (2.900)	# 13 (3.700)	# 26 (4.500)
		# 21 (3.200)	# 22 (3.700)	# 3 (4.600)
		# 19 (3.300)	# 15 (3.700)	# 18 (4.600)
		# 17 (3.400)	# 20 (3.800)	# 24 (4.600)
			# 12 (4.000)	# 1 (4.700)
			# 16 (4.000)	# 2 (4.700)
			# 25 (4.000)	# 14 (4.700)
			# 23 (4.100)	# 5 (4.800)
			# 29 (4.100)	# 8 (4.800)
			# 7 (4.200)	# 11 (4.800)
				# 27 (4.800)
				# 9 (4.900)
				# 28 (4.900)
				# 4 (5.000)
				# 10 (5.000)

See Appendix G for Probe Two Statements of Future Research Competencies and/or Experiences Needed by Doctoral Graduates

TABLE 38

COMPARATIVE LEVEL OF AGREEMENT BETWEEN AVERA AND
OVERALL MEAN RATINGS FOR STATEMENTS OF RESEARCH
COMPETENCIES AND/OR EXPERIENCES NEEDED
BY DOCTORAL GRADUATES

Competency Statement #	AVERA Mean	Competency Statement #	OVERALL Mean
6	2.300	6	2.095
30	2.900	17	3.300
21	3.200	13	3.333
19	3.300	20	3.380
17	3.400	21	3.380
13	3.700	25	3.380
15	3.700	30	3.714
22	3.700	19	3.904
20	3.800	5	3.952
12	4.000	23	3.952
16	4.000	15	4.000
25	4.000	29	4.095
23	4.100	22	4.100
29	4.100	7	4.190
7	4.200	16	4.190
26	4.500	1	4.238
3	4.600	12	4.333
18	4.600	24	4.333
24	4.600	2	4.380
1	4.700	3	4.380
2	4.700	26	4.380
14	4.700	8	4.523
5	4.800	18	4.523
8	4.800	14	4.619
11	4.800	11	4.666
27	4.800	27	4.809
9	4.900	28	4.809
28	4.900	4	4.857
4	5.000	9	4.904
10	5.000	10	4.952

Discussion of Table 39

Table 39 illustrates the comparative mean ratings from Round II and Round III by the ten AVERA panel members for the 30 statements of research competencies and/or experiences needed by doctoral graduates. Upon inspection of Table 39, it is evident that the AVERA panel members rated statements 3, 6, 9, 10, 14, 18, 20, and 30 in the same relative position for both Rounds II and III, indicating a high level of acceptance for those eight competencies. No competencies were strongly disagreed upon in either Rounds II and III by AVERA members.

There are some noticeable differences in the mean ratings from Round II to Round III by the AVERA panel members. Nine of the 30 statement means dropped numerically from Round II to Round III. The drops ranged from .100 to .600; most often the decrease was usually from .100 to .200 tenths of a point. Thirteen statement means increased, and eight remained the same.

While the overall mean order changed significantly from Round II to Round III, the actual mean placement changed very little. Only three statements changed Likert placement position as a result of clarifications given in Round III, Probe Two (See Appendix J). Statement 6, doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC), which was originally undecided upon by AVERA panel members in Round II, was disagreed upon in Round III. Statement 21, doctoral graduates should be able to compare and contrast existing learning theories, was agreed upon in

Round II and undecided upon in Round III. Statement 28, doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field, was agreed upon by the AVERA panel members in Round II, and strongly agreed upon in Round III.

In Round II, the AVERA panel members did not disagree to any of the 30 statements, while disagreeing on one of the 22 statements in Round III. AVERA panel members were undecided about four competencies in both Round II and Round III. Twelve of the 30 competencies were agreed upon in Round II, while ten were agreed upon in Round III. In Round II, the panel members strongly agreed upon 14 of the 30 competencies, while strongly agreeing upon 15 of the 30 alternatives in Round III. The changes in mean ratings is a direct reflection of both the clarifications given and the influence of the overall mean ratings by the CPAE panel members.

TABLE 39

COMPARATIVE LEVEL OF AGREEMENT BETWEEN AVERA ROUND II
AND ROUND III OVERALL MEAN RATINGS FOR STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
(N=10)

Competency Statement #	AVERA Round II Mean	Competency Statement #	AVERA Round III Mean
6	2.900	6	2.300
30	3.000	30	2.900
19	3.100	21	3.200
17	3.400	19	3.300
15	3.500	17	3.400
21	3.700	13	3.700
22	3.700	15	3.700
12	3.800	22	3.700
20	3.800	20	3.800
29	3.900	12	4.000
13	4.000	16	4.000
7	4.100	25	4.000
16	4.100	23	4.100
23	4.100	29	4.100
25	4.200	7	4.200
28	4.400	26	4.500
3	4.500	3	4.600
18	4.500	18	4.600
5	4.600	24	4.600
24	4.600	1	4.700
8	4.700	2	4.700
14	4.700	14	4.700
26	4.700	5	4.800
1	4.800	8	4.800
2	4.800	11	4.800
4	4.800	27	4.800
9	4.800	9	4.900
11	4.800	28	4.900
27	4.800	4	5.000
10	4.900	10	5.000

Discussion of Tables 40 and 41

Table 40, Comparative Level of Agreement by Overall Panel of

Experts, CPAE Panel Members, and AVERA Panel Members to the Research

Competencies and/or Experiences Needed by Doctoral Graduates, Round III,

Probe Two, and Table 40, Comparative Mean Order by Overall Panel of

Experts, CPAE Panel Members, and AVERA Panel Members to the Research

Competencies and/or Experiences Needed by Doctoral Graduates, Round III,

Probe Two represent the relative mean placement of each of the 30 statements

of needed research competencies by the entire panel of experts, the CPAE

panel members, and the AVERA panel members. These two tables, graphically

depict the differences in mean placement within each group and between each

individual group and the overall panel of experts.

Research Competencies Strongly Agreed Upon. An examination of

Tables 40 and 41 reveals that the panel members as a whole were able to

strongly agree on nine of the 30 statements. Therefore, the following nine

statements are research competencies and/or experiences that will be needed

by doctoral graduates to compete in their future professional roles in an

information intensive society:

Statement 4: Doctoral graduates should have the ability to locate and

critically evaluate relevant research literature.

Statement 8: Doctoral graduates should have demonstrated the ability to

articulate and implement findings and to defend the viability of those findings

before a panel of experts in the field.

Statement 9: Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known.

Statement 10: Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies.

Statement 11: Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners.

Statement 14: Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field.

Statement 18: Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study.

Statement 27: Doctoral graduates should have the ability to critically analyze and synthesize past research.

Statement 28: Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field.

Additional Research Competencies Agreed Upon. Further examination

of Tables 40 and 41 reveals that the panel members agreed that the following

additional 15 competencies are needed by doctoral graduates to compete in

their future professional roles in an information intensive society:

Statement 1: Doctoral graduates should demonstrate competence in the

execution of multiple research designs and methodologies with the premise that

one chooses a design and methodology that fits the problem or project to be

studied.

Statement 2: Doctoral graduates should have a comprehensive

understanding of, and ability to apply, research methodologies (both quantitative

and qualitative), statistics, and data analysis, both as a user (producer) and a

consumer.

Statement 3: Doctoral graduates should demonstrate efficiency with

acceptable research methods (e.g., review of related literature; design a

researchable problem; formulate acceptable alternatives to solve the problem;

solve the problem; write up an analysis; and defend the work before a

committee of scholars and practitioners).

Statement 5: Doctoral graduates should be competent in helping

practitioners transfer research findings to practice settings.

Statement 7: Doctoral graduates should have demonstrated competence

in understanding and using technologically-based tools in research

investigations (e.g., library facilities, electronic data searches, surfing the

Internet from home, software related to the field, e-mail, word processing).

Statement 12: Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research.

Statement 15: Doctoral graduates should use skills of reflective practice within their own work.

Statement 16: Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment.

Statement 19: Doctoral graduates should understand that research is a social process.

Statement 22: Doctoral graduates should know the relationship between knowledge and ideology.

Statement 23: Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers.

Statement 24: Doctoral graduates should demonstrate competence as a consumer of research.

Statement 26: Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study.

Statement 29: Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process.

Statement 30: Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry,

epistemologies, ontologies, etc.

Comparison of CPAE and AVERA Panel Members. Of the 24 competencies that the panel of experts found to be needed by doctoral graduates in order to compete in their professional roles in an information intensive society, 23 of the same competencies were also considered needed by the CPAE panel members, while 22 of the same competencies were considered needed by the AVERA panel members. Both referent groups found statements 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, 22, 23, 24, 26, 27, 28, 29, and 30 to be research competencies and/or experiences that will be needed by doctoral graduates in order to compete in their future roles in an information intensive society. While the referent groups were able to agree that 24 of the 30 competencies are needed by doctoral graduates, they did not agree as to the relative mean order placement on any of the acceptable competencies. In fact, the only competency that both groups and the panel as a whole were able to agree upon the mean order position was competency statement 6, doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC). This was the only competency statement that the entire panel found unacceptable.

Research Competencies Undecided Therefore Not Accepted. The panel of experts was undecided about the remaining five competencies. They are as follows:

Statement 13: Doctoral graduates should have confidence in their ability to carry out original research of all **(several)** types.

Statement 17: Doctoral graduates should work with area teams in addressing educational problems.

Statement 20: Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance.

Statement 21: Doctoral graduates should be able to compare and contrast existing learning theories.

Statement 25: Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development.

Disagreed to as Needed Research Competency. The only statement that the panel of experts disagreed to as a needed research competency and/or experience was statement six.

Statement 6: Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC). This was the only competency statement that the entire panel found unacceptable.

Kendall W for Round III, Probe Two. A Kendall W was computed for the responses to Round III, Probe Two statements of research competencies and/or experiences needed by doctoral graduates as rated by CPAE and

AVERA panel members. The resulting coefficient of $W = .6823$ indicates a medium to high level of agreement among the panel members. This is not to say that the panel of experts agree that the 30 statements are needed research competencies and/or experiences. What it does imply is that their is agreement among the referent groups (CPAE and AVERA) as to the relative ranking for each of the 30 statements of needed research competencies and/or experiences.

It is interesting to note that the overall panel decreased their level of concordance from .7629 in Round II to .6823 in Round III. This indicates that the clarifications to the Delphi questionnaire and the comments made by the panel members had an impact on the Round III ratings.

TABLE 40

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND AVERA
GROUPS FOR ROUND III, PROBE TWO STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES

Competency Statement #	CPAE Mean	AVERA Mean	OVERALL Mean
1	3.818	4.700	4.238
2	4.091	4.700	4.380
3	4.182	4.600	4.380
4	4.727	5.000	4.857
5	3.182	4.800	3.952
6	1.909	2.300	2.095
7	4.182	4.200	4.190
8	4.273	4.800	4.523
9	4.909	4.900	4.904
10	4.909	5.000	4.952
11	4.545	4.800	4.666
12	4.636	4.000	4.333
13	3.000	3.700	3.333
14	4.545	4.700	4.619
15	4.273	3.700	4.000
16	4.364	4.000	4.190
17	3.200	3.400	3.300
18	4.455	4.600	4.523
19	4.455	3.300	3.904
20	3.000	3.800	3.380
21	3.545	3.200	3.380
22	4.500	3.700	4.100
23	3.818	4.100	3.952
24	4.091	4.600	4.333
25	2.818	4.000	3.380
26	4.273	4.500	4.380
27	4.818	4.800	4.809
28	4.727	4.900	4.809
29	4.091	4.100	4.095
30	4.455	2.900	3.714

TABLE 41

COMPARATIVE MEAN ORDER BY OVERALL PANEL OF EXPERTS,
CPAE PANEL MEMBERS, AND AVERA PANEL MEMBERS OF
THE STATEMENTS OF RESEARCH COMPETENCIES
AND/OR EXPERIENCES NEEDED BY
DOCTORAL GRADUATES

Competency Statement #	Panel Mean	Competency Statement #	CPAE Mean	Competency Statement #	AVERA Mean
6	2.095	6	1.909	6	2.300
17	3.300	25	2.818	30	2.900
13	3.333	13	3.000	21	3.200
20	3.380	20	3.000	19	3.300
21	3.380	5	3.182	17	3.400
25	3.380	17	3.200	13	3.700
30	3.714	21	3.545	22	3.700
19	3.904	23	3.818	15	3.700
23	3.952	1	3.818	20	3.800
5	3.952	24	4.091	25	4.000
15	4.000	2	4.091	16	4.000
29	4.095	29	4.091	12	4.000
22	4.100	7	4.182	23	4.100
16	4.190	3	4.182	29	4.100
7	4.190	8	4.273	7	4.200
1	4.238	15	4.273	26	4.500
24	4.333	26	4.273	3	4.600
12	4.333	16	4.364	24	4.600
26	4.380	30	4.455	18	4.600
3	4.380	18	4.455	1	4.700
2	4.380	19	4.455	14	4.700
8	4.523	22	4.500	2	4.700
18	4.523	14	4.545	8	4.800
14	4.619	11	4.545	27	4.800
11	4.666	12	4.636	5	4.800
27	4.809	28	4.727	11	4.800
28	4.809	4	4.727	9	4.900
4	4.857	27	4.818	28	4.900
9	4.904	10	4.909	4	5.000
10	4.952	9	4.909	10	5.000

W = .6823

Discussion of Tables 42, 43-1, and 43-2

Tables 42, Frequency Distribution of Likert Ratings by overall Panel of

Experts for Statements of Research Competencies and/or Experiences Needed

by Doctoral Graduates Round III, Probe Two, and Tables 43-1, and 43-2

Comparison of Frequency Distribution of Likert Ratings by CPAE Panel

Members and AVERA Panel Members for Statements of Research

Competencies and/or Experiences Needed by Doctoral Graduates represent the

frequency distribution and percentages that each competency statement

received in the final round of the Delphi Questionnaire. These two tables

graphically illustrate why each statement was accepted as a needed

competency by the panel of experts or rejected as a needed competency by the

panel of experts.

Summation of Table 42

Table 42 suggests that the panel as a whole was able to agree on the

majority of statements as needed competencies by doctoral graduates.

Statements 4, 9, 10, 11, 27, and 28 stand out as graphic portrayals of the

complete acceptance as competencies needed by graduate students. All panel

members either agreed or strongly agreed upon those statements as needed

competencies. It is also apparent that there was little dissention on statements

1, 2, 3, 7, 8, 12, 14, 15, 16, 18, 22, 24, and 26 as needed competencies.

Summation of Tables 43-1 and 43-2

Tables 43-1 and 43-2 graphically illustrate the overall acceptance of the majority of the competency statements by both CPAE and AVERA panel members. Of the six competencies that were not accepted by the panel, the CPAE blocked the acceptance of statements 13, 20, and 25. The AVERA blocked the acceptance of statement 21, and the remaining two statements were equally blocked.

The AVERA panel members tended to strongly agree upon more competencies than did the CPAE panel members. The AVERA members strongly agreed upon statements 1, 2, 3, 5, 8, 11, 18, 23, 26, and 28 with a higher percentage than did the CPAE panel members. The CPAE panel members strongly agreed upon statements 9, 12, 15, 16, 19, 22, 24, 27, 29, and 30 with a higher percentage than did the AVERA panel members. The remaining four statements had the same percentages for both groups.

TABLE 42

FREQUENCY DISTRIBUTION OF LIKERT RATINGS BY
OVERALL PANEL OF EXPERTS FOR STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
ROUND III, PROBE TWO

Statement Number	Strongly Disagree(1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
1	1 (4.7%)	1 (4.7%)	1 (4.7%)	7 (33.3%)	11 (52.3%)
2	0	2 (9.5%)	0	7 (33.3%)	12 (57.1%)
3	0	0	3 (14.2%)	3 (14.2%)	15 (71.4%)
4	0	0	0	5 (23.8%)	16 (76.1%)
5	1 (4.7%)	2 (9.5%)	2 (9.5%)	8 (38%)	8 (38%)
6	5 (23.8%)	11 (52.3%)	4 (19%)	0	1 (4.7%)
7	1 (4.7%)	1 (4.7%)	1 (4.7%)	8 (38%)	10 (47.6%)
8	1 (4.7%)	0	0	6 (28.5%)	14 (66.6%)
9	0	0	0	2 (9.5%)	19 (90.4%)
10	0	0	0	1 (4.7%)	20 (95.2%)
11	0	0	0	7 (33.3%)	14 (66.6%)
12	0	0	3 (14.2%)	8 (38%)	10 (47.6%)
13	0	5 (23.8%)	7 (33.3%)	6 (28.5%)	3 (14.2%)
14	0	0	1 (4.7%)	6 (28.5%)	14 (66.6%)
15	0	0	6 (28.5%)	9 (42.8%)	6 (28.5%)
16	0	1 (4.7%)	2 (9.5%)	10 (47.6%)	8 (38%)
17	0	4 (20%)	7 (35%)	8 (40%)	1 (5%)
18	0	0	2 (9.5%)	6 (28.5%)	13 (61.9%)
19	0	3 (14.2%)	3 (14.2%)	8 (38%)	7 (33.3%)
20	1 (4.7%)	3 (14.2%)	6 (28.5%)	9 (42.8%)	2 (9.5%)
21	1 (4.7%)	3 (14.2%)	6 (28.5%)	9 (42.8%)	2 (9.5%)
22	0	2 (10%)	2 (10%)	8 (40%)	8 (40%)
23	0	1 (4.7%)	4 (19%)	11 (52.3%)	5 (23.8%)
24	0	3 (14.2%)	0	5 (23.8%)	13 (61.9%)
25	0	6 (28.5%)	4 (19%)	8 (38%)	3 (14.2%)
26	0	0	2 (9.5%)	9 (42.8%)	10 (47.6%)
27	0	0	0	4 (19%)	17 (80.9%)
28	0	0	0	4 (19%)	17 (80.9%)
29	0	2 (9.5%)	3 (14.2%)	7 (33.3%)	9 (42.8%)
30	2 (9.5%)	1 (4.7%)	4 (19%)	8 (38%)	6 (28.5%)

TABLE 43-1

COMPARISON OF FREQUENCY DISTRIBUTION OF LIKERT RATINGS BY CPAE
PANEL MEMBERS AND AVERA PANEL MEMBERS FOR STATEMENTS ONE
THROUGH 15 OF RESEARCH COMPETENCIES AND/OR
EXPERIENCES NEEDED BY DOCTORAL GRADUATES
ROUND III, PROBE TWO

Competency Number	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
1 CPAE	1 (4.7%)	1 (4.7%)	0	6 (28.5%)	3 (14.2%)
1 AVERA	0	0	1 (4.7%)	1 (4.7%)	8 (38%)
2 CPAE	0	2 (9.5%)	0	4 (19%)	5 (23.8%)
2 AVERA	0	0	0	3 (14.2%)	7 (33.3%)
3 CPAE	0	0	3 (14.2%)	3 (14.2%)	5 (23.8%)
3 AVERA	0	0	0	0	10 (47.6%)
4 CPAE	0	0	0	3 (14.2%)	8 (38%)
4 AVERA	0	0	0	2 (9.5%)	8 (38%)
5 CPAE	1 (4.7%)	2 (9.5%)	2 (14.2%)	6 (28.5%)	0
5 AVERA	0	0	0	2 (9.5%)	8 (38%)
6 CPAE	2 (9.5%)	8 (38%)	1 (4.7%)	0	0
6 AVERA	3 (14.2%)	3 (14.2%)	3 (14.2%)	0	1 (4.7%)
7 CPAE	0	1 (4.7%)	1 (4.7%)	4 (19%)	5 (23.8%)
7 AVERA	1 (4.7%)	0	0	4 (19%)	5 (23.8%)
8 CPAE	1 (4.7%)	0	0	4 (19%)	6 (28.5%)
8 AVERA	0	0	0	2 (9.5%)	8 (38%)
9 CPAE	0	0	0	1 (4.7%)	10 (47.6%)
9 AVERA	0	0	0	1 (4.7%)	9 (42.8%)
10 CPAE	0	0	0	1 (4.7%)	10 (47.6%)
10 AVERA	0	0	0	0	10 (47.6%)
11 CPAE	0	0	0	5 (23.8%)	6 (28.5%)
11 AVERA	0	0	0	2 (9.5%)	8 (38%)
12 CPAE	0	0	0	4 (19%)	7 (33.3%)
12 AVERA	0	0	3 (14.2%)	4 (19%)	3 (14.2%)
13 CPAE	0	4 (19%)	4 (19%)	2 (9.5%)	1 (4.7%)
13 AVERA	0	1 (4.7%)	3 (14.2%)	4 (19%)	3 (14.2%)
14 CPAE	0	0	1 (4.7%)	3 (14.2%)	7 (33.3%)
14 AVERA	0	0	0	3 (14.2%)	7 (33.3%)
15 CPAE	0	0	2 (9.5%)	4 (19%)	5 (23.8%)
15 AVERA	0	0	6 (28.5%)	5 (23.8%)	1 (4.7%)

TABLE 43-2

COMPARISON OF FREQUENCY DISTRIBUTION OF LIKERT RATINGS BY CPAE
PANEL MEMBERS AND AVERA PANEL MEMBERS FOR STATEMENTS 16
THROUGH 30 OF RESEARCH COMPETENCIES AND/OR
EXPERIENCES NEEDED BY DOCTORAL GRADUATES
ROUND III, PROBE TWO

Competency Number	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
16 CPAE	0	0	1 (4.7%)	5 (23.8%)	5 (23.8%)
16 AVERA	0	1 (4.7%)	1 (4.7%)	5 (23.8%)	3 (14.2%)
17 CPAE	0	3 (15%)	2 (10%)	5 (25%)	0
17 AVERA	0	1 (5%)	5 (25%)	3 (15%)	1 (5%)
18 CPAE	0	0	1 (4.7%)	4 (19%)	6 (28.5%)
18 AVERA	0	0	1 (4.7%)	2 (9.5%)	7 (33.3%)
19 CPAE	0	1 (4.7%)	0	3 (14.2%)	7 (33.3%)
19 AVERA	0	2 (9.5%)	3 (14.2%)	5 (23.8%)	0
20 CPAE	1 (4.7%)	2 (9.5%)	4 (19%)	4 (19%)	0
20 AVERA	0	1 (4.7%)	2 (9.5%)	5 (23.8%)	2 (9.5%)
21 CPAE	0	1 (4.7%)	4 (19%)	5 (23.8%)	1 (4.7%)
21 AVERA	1 (4.7%)	2 (9.5%)	2 (9.5%)	4 (19%)	1 (4.7%)
22 CPAE	0	0	1 (5%)	3 (15%)	6 (30%)
22 AVERA	0	2 (10%)	1 (5%)	5 (25%)	2 (10%)
23 CPAE	0	0	4 (19%)	5 (23.8%)	2 (9.5%)
23 AVERA	0	1 (4.7%)	0	6 (28.5%)	3 (14.2%)
24 CPAE	0	3 (14.2%)	0	1 (4.7%)	7 (33.3%)
24 AVERA	0	0	0	4 (19%)	6 (28.5%)
25 CPAE	0	6 (28.5%)	1 (4.7%)	4 (19%)	0
25 AVERA	0	0	3 (14.2%)	4 (19%)	3 (14.2%)
26 CPAE	0	0	1 (4.7%)	6 (28.5%)	4 (19%)
26 AVERA	0	0	1 (4.7%)	3 (14.2%)	6 (28.5%)
27 CPAE	0	0	0	2 (9.5%)	9 (42.8%)
27 AVERA	0	0	0	2 (9.5%)	8 (38%)
28 CPAE	0	0	0	3 (14.2%)	8 (38%)
28 AVERA	0	0	0	1 (4.7%)	9 (42.8%)
29 CPAE	0	1 (4.7%)	2 (9.5%)	3 (14.2%)	5 (23.8%)
29 AVERA	0	1 (4.7%)	1 (4.7%)	4 (19%)	4 (19%)
30 CPAE	0	0	1 (4.7%)	4 (19%)	6 (28.5%)
30 AVERA	2 (9.5%)	1 (4.7%)	3 (14.2%)	4 (19%)	0

Summary of Delphi Findings

When comparing the data in the two classifications of "alternatives to the traditional doctoral dissertation" and "needed research competencies and/or experiences," it becomes readily apparent that the panel of experts believe that there are a limited number of viable alternatives to the traditional doctoral dissertation. It is further noted that the panel of experts believe that doctoral graduates should possess an enormous number of research competencies and/or participate in an enormous number of research experiences.

The CPAE panel members were more accepting of alternatives to the traditional doctoral dissertation than were AVERA panel members as evidenced by the number of statements that each group found to be acceptable as viable alternatives. The CPAE panel members found that ten of the 22 statements were viable alternatives, while the AVERA panel members found only 6 alternatives acceptable. The mean rating of 3.800 by the AVERA panel members for alternative statement 9 was significant enough to push it into the viable alternative category. The CPAE panel members gave statement 11 a mean rating of 3.545, statement 14 a mean rating of 3.864, statement 15 a mean rating of 4.318, statement 17 a mean rating of 3.909, and statement 20 a mean rating of 4.318, all of which were significant enough to push each statement into the viable alternative category despite the AVERA panel members being undecided about each of the five statements.

As depicted in Table 41, there are a significant number of competencies that the overall panel of experts, the CPAE panel members, and the AVERA

panel members found to be needed by doctoral graduates if they are to be competitive in their future professional roles in an information intensive society. The panel members were asked to predict which competencies would be needed. They chose, in mean order from highest to lowest, competencies 10, 9, 4, 27, 28, 11, 14, 8, 18, 2, 3, 26, 12, 24, 1, 7, 16, 22, 29, 15, 5, 23, 19, and 30 as those competencies needed by doctoral graduates to compete in an information intensive society.

Interview Findings

To supplement and enhance the findings of the Delphi component of this study, five individuals, who were perceived as mavericks by their peers, were selected and interviewed to obtain practical data about their experiences with alternatives to the traditional doctoral dissertation. As indicated in the previous chapter, the participants were selected because of their participation in a non-traditional doctoral dissertation. The *snowballing* procedure was used to gain the names of the mavericks. The Delphi panel of experts was asked to recommend persons who had chaired or served on a committee for a non-traditional dissertation for inclusion in the interview.

Two individuals' names appeared repeatedly and they both agreed to be interviewed. Through telephone conversations with the initial two interviewees and several of the Delphi panel members, three additional persons were identified to be considered for inclusion in the interview process. Two of the three were able to be contacted and interviews were set up with them. The fifth

interviewee came about as a result of a recommendation by maverick four. Because the sample was purposive, I was able to include persons in the interview component who could provide answers to the questions that were emerging from both the review of literature and the Delphi responses.

The persons selected for the interviews were representative of the topic under study (Bogdan & Bilken, 1982). Four of the five mavericks who were interviewed had served as chair persons for doctoral candidates who completed a non-traditional dissertation. The fifth maverick who was interviewed had participated in and completed a non-traditional doctoral dissertation.

Two of the five mavericks earned Doctor of Education degrees, while the remaining three earned Doctor of Philosophy degrees. The four mavericks who chaired non-traditional dissertations had from 13 to 20 years of post degree experience as a faculty member. The mavericks were not on the Delphi panel.

The semi-structured interview was used with the five mavericks as a way to access each maverick's knowledge and viewpoint about non-traditional dissertations. Each interview began in the same way: the maverick was thanked for allowing the interview, asked if the researcher had permission to use the information being tape recorded in the study, told that the interview would be semi-structured and was not confined to any preconceived order other than the first question, and then asked to define, in their own words, a dissertation and tell what function the dissertation serves. This allowed the interview a starting point from which further questioning expanded and further dialogue was explored.

<u>Recurrent Themes</u>

The semi-structured interview gleaned nine recurrent themes, as well as addressing many of the issues that had arisen in the review of literature. The ten recurrent themes are:

1. The dissertation is a culminating project or experience.

2. Rigor must be maintained in the research process.

3. There is no model dissertation.

4. Dissertations are very political in relationship to the way the doctoral program is set up.

5. The traditional research paradigm leaves little room for change.

6. Committee members work with and for the student.

7. Regardless of the product that results from the dissertation, a written documentation is necessary to foster accessibility.

8. Non-traditional programs nurture non-traditional dissertations.

9. To foster the growth of non-traditional dissertations, one must have the support of his/her colleagues and department.

10. Non-traditional doctoral programs have similar characteristics.

The ideas and concepts that emerged from the semi-structured interviews clustered around these ten recurrent themes. The mavericks spent a great deal of time discussing what determines a non-traditional dissertation, the programs that foster those non-traditional dissertations, and the commitment to excellence within those programs. Each theme falls into one of those three

categories. The themes are supported by the following interview data:

Theme One: The Dissertation is a Culminating Project or Experience. In response to the opening question, what is your definition of a dissertation and what function does it serve, the mavericks had similar responses. The following are some of the maverick's responses:

> A dissertation should be a culminating experience for doctoral study and it should be something that the student is passionate about. It should be something that a student will find useful to them, and it can be either of two types, "A" or "B". "A" is a theoretical dissertation which deals conceptually with some subject in the field, or "B", it can be a practical application of something which is treated in a way which is systematic, in-depth, and goes beyond an evaluative kind of project (Maverick 1).

> My ideal dissertation is a piece of research that's born of conviction and passion. A dissertation has several purposes. One is in a traditional sense, it has to be original to the literature. It really ought to push the literature back and make some kind of contribution such as amending a problem in the literature, an error, or to expand upon it, or to bridge two disparate aspects of it that haven't really come together. . . . Another purpose though, I think, is to influence the public. I don't think dissertation committees are the right audience for dissertations. People who write dissertations ought to do so for the purpose of influencing policy, modeling program planning; so that's what I think (Maverick 2).

> I would see the dissertation as a major project. Actually, I would use the terms that in my definition that come to mind from Union Institute and the California Institute for Transformative Learning, and a number of other places that call it a critical engagement project. Or, a project demonstrated in excellence. I see doctoral study as being the point at which a person really cuts loose from the shore and sets sail and proves themselves to be a producer of new knowledge that is useful and practical to people, and the dissertation is the primary vehicle for doing that (Maverick 3).

> Well, a dissertation is a culminating project in doctoral education. The student gets an opportunity to practice some of the research skills that he or she has learned during the course of a doctoral study. It's an opportunity for the student to demonstrate a certain sophistication and being able to situate their words appropriately within a research

paradigm, and to show some sophistication about understanding . . . understanding how what they have accomplished in their own project fits into some bigger picture of inquiry (Maverick 4).

The dissertation is an experience. . .a very deep reflective journey, and the knowing empowered me (Maverick 5).

<u>Theme Two: Rigor Must be Maintained in the Research Process</u>.

A major concern that evolved from the literature review was the fear that

relevant research sacrifices methodological rigor. Each maverick made a point

to discuss how active their students were in participating in research

conferences, writing articles, or producing major scholarly works. The nature of

the non-traditional dissertation and the non-traditional doctoral programs

enhance and promote the maintenance of high research standards.

> I think doctoral students should learn a variety of research techniques, both inductive and deductive techniques. I think people should have a splattering, I don't know how they would get it, historical research. Certainly to discern the research that most excites them from that which does not. To have some critical analysis skills of research in general would be my goal. That's been true before though and it's true now and it will be true in the future. I think it's something I have to preserve (Maverick 2).

> I think, in a very real sense, a major objective of every class or workshop session that we have when people are here is to increase their research competencies. . . .we encourage participation of students in the Adult Education Research Conference and the Midwest Research Practice Conference so that they get in kind of the mode to being part of the discourse and get recognized as being part of the discourse. . . .There are certain things that we insist on as being essential to doctoral level work. But what we're finding is that through this peer structure, the students have a far greater interest in maintaining the high standard than even the faculty does because they know that this degree is only worth what the graduates of the program are worth. . . .the peers tend to be the most vigorous advocates for high standards. (Maverick 3)

> The dissertation is the beginning of, hopefully, a life of research. See I'm very romanticized about these whole ideas. I'm excited about

knowledge. I think knowledge and power are very close together and I think there are different kinds of knowledges. The knowledges we're talking about here are the traditional, intellectual knowledges that come out of universities. Now they're very different than knowledges that are produced in other places. But you want a doctorate, hey! Now some people would see me as being very, very traditional on it, so I'm traditional on the notion of scholarship, not of doing five chapter dissertations. (Maverick 1).

For me to make the contributions to knowledge and make them knowing that I can make the collaborative process essential. I believe that. In the process, I know lots and lots more about groups and I'm ready to do other things in my life. Because I can work in groups, little groups, pairs, threesomes, little bit bigger groups, and big groups. That's the way I do work. It is wonderful to know more about our research process and have the rigor of that dissertation woven into it, to then use it at deeper levels and not to be superficial with collaborative inquiry, to treat it very seriously; it's a very serious process. It's risky. (Maverick 5)

Theme Three: There is No Model Dissertation. The mavericks who were interviewed tended to become almost irate over the notion that there is a traditional "model" dissertation. They took exception with the concept of the five chapter dissertation, which the Sternberg definition of a traditional dissertation tended to embrace.

I think more and more it's recognized that the stuff that comes out of a traditional approach dissertation simply produces volumes and volumes of dust avenues; it doesn't really impact the field. . . .I think in a traditional dissertation, one thing you're not likely to continue doing for the rest of your life is what you did in a traditional dissertation. At least you're not going to use that frame in which to work. . . .We encourage our students if they're going to write things, to write them in some form that can be used by others. To write for publication of a book, write as a series of articles for publication. . .But the fact is in a traditional dissertation, you're forced to put in a lot of stuff that's really just filler. It's not really relevant. It's not relevant to anyone except your committee. What you have to say about your methodology is something you probably could and should say in two or three paragraphs, but you have to write a whole chapter on it because that's what the structure requires. (Maverick 3)

...You know what? It goes by the person, not by the procedures, not by the policies. There aren't that many universities that have; I'm sure at O.S.U. there's not a policy that says it must be a five chapter, I'm willing to bet on that. But, if enough people support it, it is the policy. It doesn't matter that it's not written and what you need are people who don't agree with that. (Maverick 2)

There is no five chapter dissertation. There is no model dissertation. You see, when it gets to be formulaic is when it's problematic, and then students get all busted out of shape...when you get within a discourse you develop your dissertation in line with that discourse and you write the dissertation in a way that organically flows from the topic that you have, and there is no formula for a dissertation. I would say absolutely no formula for a dissertation...I get so upset with this five chapter. The first chapter is...The fifth chapter is the conclusions and applications blah, blah, blah. No! No! What you're describing there is a very formulaic presentation that has become a cookbook approach to logical positivistic research. That is so straight jacketed that you lost the sense on inquiry which is what the doctoral dissertation is about and that's what students don't like. (Maverick 1)

Now, by in large, people who are used to a post-positivist paradigm and whose dissertation work came out of that kind of paradigm, they're used to the model where you developed a proposal that had a problem statement. You did your lit review in order to develop your hypotheses in order to show how the hypotheses that you were generating were related to the knowledge that we already had. And then you did a method section of your proposal. And essentially those three chapters moved bodily then into your dissertation and you added your findings and the conclusions. And that's the, I assume, the five chapter dissertation. That's totally inappropriate as a model for a constructivist or a critical theory paradigm. It just doesn't work. It's like taking what we learned, because most of us learned in a post-positivist paradigm. (Maverick 4)

Theme Four: Dissertations are Very Political in Relationship to the Way

the Doctoral Program is Set Up. This theme is interrelated with theme five;

however, there were enough unique statements about the politics of

dissertations to warrant an additional theme.

I think dissertations are very political in the way that the programs are set up. In other interviews you've probably learned about the cohort programs and how important it is for us to get knowledge and insights from people who are marginalized. So you've set off, purposely, to

recruit people from African American populations and Latino populations and setting up cohorts where they stay together for that support group mechanism and the non-tradition is the sense of it all. That's real important to us. Very, very important. The resistance to this sort of thing, you know, is quite up front. Sometimes there are people who wonder if you're willing to accept, let's say urban scholars who are writing about issues that aren't very traditional, and you're running programs that meet on weekends and they all stay together in cohort fashion, well, what kind of quality could it be? (Maverick 2)

. . .All of the big ten universities combined graduate only a few Latino doctorates. I mean it's really disgusting how few Latino people go to college but then even fewer go to graduate school. Just a small, small fraction of them go on to doctoral programs. With African American males, it's pretty similar too. I think Northern has graduated probably more African American males just from this one program (adult ed) than all of the big ten universities combined over the past five years. I think we've graduated 50. And to me it's absolutely outrageous. There's a moral issue here, and I think that we have to stand up for it. And that's why it's so political. Because how you display sort of this moral conviction - you can do that if you have the power and if you don't, you'll be hurt. . . The program is a big program...Very few professors have left the program. I think that's helped with the university. We've gotten around to be on committees and we have an audience with people who could have hurt us but pretty much didn't want to. I think that helps, we're not in fear of anyone on campus. . . .because of the size. . . .there are only 63 doctoral programs on campus but we graduate a third of all doctoral students here. . . .But those numbers are so much higher than anyone else that, yes suspicions of lack of quality are raised. (Maverick 2)

There are people in our own institution who I think have not a clue about how our dissertation works in our college. . . .and are highly suspect of them. . . and keep looking at us with a leery eye. So I know that that exists all over. There's a tremendous amount of security in taking that kind of positivist stance. If what you need is to have a very clear sense of the rules and you learn that - there's a lot of security in that. (Maverick 3)

. . .but this is a very non-traditional institution. . . .it really means that we're pulling a lot of the right strings in our program in terms of getting institutional support for the way in which we are conceiving the dissertation. . . .We really had an opportunity here, to in a sense reinvent graduate education in adult ed from the bottom up without any political pressures from either the institution or the department saying we have to do this or we have to do that. (Maverick 3)

...I set up this plan for the all day defense for the thINQ students. It was kind of a masterful notion about how the committees could kind of be there for only half the time. I really put a lot of thought into orchestrating people coming and going. But the students would have been there the whole time. Students would have been featured during a certain questioning process. But my rationale for how the defense should go was that it would be a conversation that could build on itself because the dissertations have something in common and that the defense could be a much richer experience for everyone if the conversation built....And it would have been a wonderful defense, the one I designed. It was rejected by the Teacher's College office system of doctoral studies as much, much too far out, whatever. (Maverick 4)

Theme Five: The Traditional Research Paradigm Leaves Little Room for Change. In explaining the differences between traditional and non-traditional dissertations, the mavericks tended to reflect on the positivist research paradigm. They seemed to believe that the cutting edge research is not coming out of a traditional paradigm, but rather is emerging from non-traditional programs which promote non-traditional dissertations.

Positivism is really, in a sense, an attempt to be positive about what is true and what isn't. . . .it conveys a whole sense of epistemology of kind of what is truth. What's legitimate discourse and what isn't. But, ultimately giving us a sense of absolute certainty about what is. It plays into very easily the whole structuralist paradigm. In which what we really become concerned with is defining what is and how things are, which leaves us with not a clue about how we can change things or how things can be different. You know, it winds up becoming a form of legitimizing the status quo. It gives a rationale. It establishes the rationale or explanation for the way things are, so that we can be content, I would assume, with the way things are. We have found that the real interest of students is generally in changing things and sometimes the research paradigm, in a traditional sense, disabuses that vision. (Maverick 3)

...logical positivist research is applying a natural or biological science paradigm on a social science. In 1976 when I came here, in the college of education, there was a five chapter dissertation that everybody did, and it was much ado about nothing. I bet those dissertations never get taken off the shelf....It's another formulaic kind of, not going back to the epistemological base of what is knowledge and how do you create knowledge and what are the ways that that knowledge can be

developed. (Maverick 1)

...It's risky. Well, it's about change. It's about harvesting change. We can say we're ready for change, but sometimes the changes that appear are not the ones that we were thinking were going to happen. Sometimes the changes are exactly what is not to happen or supposed to happen. Let me give you an example. We have a little story that I think in our dissertations is just kind of a side bar. We kind of muted the story, but it's about our proposal. We get to our proposal hearing and we are so excited. We've worked hard, we know that we have really nice proposals. They're 80 some odd pages long; they've been polished. Elizabeth was so good at working with us. She was so excited for us. We know that the people going to hear the proposal are two other faculty, one is a woman we know and one is a woman we don't know. The woman we know, Victoria Marsick, we believe in her and we believe that she's going to be eager to hear what we have to say. So we just assumed that the third person was going to just love us too. Love is real important to the composers in the world, and it was important to me. It was important to all of us. We didn't have a sense of the academic culture either, a real sense of it, because we were in a non-traditional program. So the chair of the department comes waltzing in. She kind of lays the document down on the table and she lays her pen down on the table and she starts into saying what she doesn't understand about it and why we can't do it the way we've outlined it without hearing us. We are working in a dissertation project that has this grounding principle, "work with people, not on them, not for them, but with them." We had committed to that. (Maverick 5)

Theme Six: Committee Members Should Work With and For the

Student. The mavericks seemed to believe that a great number of doctoral

committees do not work with or for the student. Several of them believed that

part of the dissertation dilemma is the friction that often exists between the

adviser and the advisee.

. . .Students are being asked to define a project, not out of the context of their life or the impulses of their life so much as, out of the impulses of a program that sets very real constraints on what they're able to do and the time in which they're able to do it. . .And at the same time, having to navigate tumultuous waters of sometimes recalcitrant committees in trying to work out compromises between various people on the committee and trying to keep one's sanity throughout the whole process.

. .So all of that is part of the tradition. It's kind of defining a project in a very limited frame. Engaging in research under, I think, the most unworkable conditions; the kind of conditions that nobody would ever choose if they were going to engage in serious research. You would not choose to enter into those kinds of power relations, both with a group of faculty members and an institution, if what you really were after was to produce an interesting, worthwhile knowledge. (Maverick 3)

I believe it's inordinately repugnant for a professor to tell a student what to research. It's like telling someone what's important and I think that people are not made that way. And professors go way too far with what they tell someone with their research....I think, by far for a non-traditional dissertation, that's the number one thing is having a committee that will work with you. If you get one that's recalcitrant and you know sticks in, I mean traditional then, I don't know what I'd do. Depends on how bad I want the dissertation. You know lingering through it. I keep doing it with my left foot and I'm really writing my book with the other. A factor analysis of the reasons people drop out of literacy programs. You know, do that for the dissertation. It will be a nice little five chapters. But really look at holocaust survivors and their children's disabilities with learning literacy....I see the committee members as hitchhikers in the back seat of a car telling them how to drive, how fast, speed up, no slow down, turn left, turn right, feminist literature, no, HRD, and its just I think it's infuriating at a point when you don't want to be graded. You don't need it. You don't want that; you want to be relevant to what you're doing yourself....Most of my dissertation committees now include at least one person from the outside. It might be overkill to get big names, sort of like name dropping, but their points of view are incredibly important. In one of our cases when we used this technique, one of our students was appointed to the presidential commission on aging. I wasn't appointed to the presidential commission on aging, Stephanie was and it was because her committee was set up to help her do that. (Maverick 2)

Where the wiggle room and the ability to be creative with what a student wants to do lies with the committee and particularly with the chair. So, as I say to students, choose your chair of your committee as closely as you'd choose your spouse....We give students an out after the comprehensive in terms of choosing a new committee. So that they can choose a dissertation committee very wisely and not be stuck with somebody who's assigned to them or somebody they chose up front only to find that maybe they don't really think they'd be the best ones for the dissertation at the end...we have a lot of helps built in to help the students get their feet down on a question and work along with it....I have what you call poet society and every month on Saturday morning people, it's completely voluntary, can come together who are working on their dissertation with me and we'll be helpful to one another. They can

do that all through their dissertation because at times you can get caught up and you feel very much alone. I don't think any student should fail an oral defense because it's the professor's job to see to it that a student is ready for an oral defense and has a defensible dissertation. (Maverick1)

Elizabeth was so good at working with us. She was so excited for us. (Maverick 5)

Theme Seven: Regardless of the Product that Results from the Dissertation, a Written Documentation is Necessary to Foster Accessibility. In discussing the non-traditional dissertation, it became apparent that written documentation is crucial to the dissemination of knowledge. In order to foster accessibility, one must have written documentation.

The product that someone comes up with could be a project that is not a text. We would require an accompanying text that would go with it that would be much briefer than what one would ordinarily associate with a dissertation text. That would be a commentary analysis of the project that was undertaken. (Maverick 3)

I think a dissertation has to be produced in some kind of language form. (Maverick 1)

...we've talked about that here and think that there should be a written record primarily to foster accessibility. I know we have some students here who are doing some very innovative work in integrating art as a way of knowing into their dissertation work. I know that a CD-ROM is going to be part of what they end up doing. When we talked about the student's inquiry about whether or not there also needed to be a written record, the conclusion that we came to, and I certainly endorse this, is that to make that dissertation more accessible internationally it should be available in a standard written form. (Maverick 4)

Theme Eight: Non-Traditional Doctoral Programs Nurture Non-Traditional Dissertations. The following is a reflective look at the dissertation experience of Maverick 5:

The story begins with something that has become mythic for us which we refer to as the invitation. I will never forget Elizabeth reading a letter

to me and asking us if we wanted to explore a paradigm with her and what we needed to do was to have a tolerance for ambiguity....I asked myself, haven't I been in ambiguity all of my life? So that's where it started...We got the beginning of the plans in November and the pace felt right...The idea of putting something very theoretical, very analytical, very critically reflective on paper, using an outside the paradigm model. When I think about that particular journey, I'm so glad I didn't know all of those things when I started the journey. But the group really nurtured me. Each one of us in the group found his or her place. I'm still learning the value of my dissertation and defense experience....I really did take a journey, a very deep reflective journey, and the knowing empowered me. And before I only had power when I was facilitating or being just a nice woman. Now I have many different kinds of power. I attribute it to the reflective process of writing and gathering that data out of that dissertation experience. And of having a unique form of dissertation that uniquely matched me....There is the power of the printed word.

Theme Nine: To Foster the Growth of Non-Traditional Dissertations, One Must Have the Support of His/Her Colleagues and Department. Within institutions there are forces that question the role of non-traditional dissertations; however, the commitment level of the persons involved in those non-traditional approaches fosters continued growth.

There are some faculty in the. . .College of Education who I think, you know, they're fairly traditional. But this is a very non-traditional institution. The whole institution is; our adult ed. program is certainly more non-traditional than the institution, but there's a very strong commitment. . .at being first of all an adult education institution. Which is one of the reasons why with adult ed programs folding all around the country, here is . . .starting a doctoral program in adult education. . . .It's because there's a strong commitment to it. There's also a strong commitment to teaching at this institution. . . so a strong commitment to students and also a strong commitment to practice. (Maverick 3).

. . . another thing, which I think is critical for programs of adult education, I know it is, is to invite professors from across the campus especially from Liberal Arts and Science where they enjoy sort of this prestige that we don't enjoy in Professional Science. So, we get someone from philosophy areas to join in the quest. And their insights aren't any better than ours, I don't think, but the station of their discipline is much higher and therefore they shed light on it. Non-traditional folk always have to

justify their programs more than the traditional programs. . . .In our case, one of the things that's helped our program the most . . . it's a very big faculty for adult education. For any faculty, it's big. It's also very diverse. There are people...who are pretty far left and that are in feminism, social structure is critical. We all stay together. We'll support each other 100% and we never step on each other. Never, ever! It's very supportive. So if one of us was waging a battle across campus, the other would help. It helps a lot when you know you have the support of your colleagues. Even if you know they disagree, but they're going to support you anyway. (Maverick 2)

...when you're forced into doing things in such a formulaic way that what ends up is students get caught up in the formula and they know a lot about the formula but they know very little about the research. So, could a five chapter dissertation be written in an exciting manner? Well, that is not even a question to me. Should it be done? No! and you should stop it! And that's what we did. We stopped that foolishness here...You see, you have to have a faculty who's prepared to argue for that and students as well if need be. Because that kind of argument starts with the fact that it's inappropriate. It's absolutely inappropriate...you've got academic freedom. (Maverick 1)

Theme Ten: Non-Traditional Doctoral Programs Have Similar

Characteristics. Perhaps, the one aspect of non-traditional dissertations that

was found to be a component of each of the programs that the mavericks

represented was that of collaboration.

> . . .there is a strong emphasis on collaboration in the development of the critical engagement project. Which does not mean that everybody's engaged in a collaborative project. Some people are doing their own project, but they're doing it collaboratively. That is, they're part of the team of students from the beginning; a small group, five or six students, who work together and support each other in their work. (Maverick 3)

> ...A real interest in understanding the rationale in which you situate your design choices. I think that's an important competency for researchers. A realist interest in that and a real curiosity about subtleties of difference in rationale and the relationship between your rationale and your eventual design choices. I think skillfulness in collaboration is a very important competency for the future. (Maverick 4)

For me to make the contributions to knowledge and make them knowing

that I can make the collaborative process essential. I believe that. In the process I know lots and lots more about groups and I'm ready to do other things in my life. Because I can work in groups, little groups, pairs, threesomes, little bit bigger groups, and big groups. That's the way I do work. It is wonderful to know more about our research process and have the rigor of that dissertation woven into it. To then use it at deeper levels and not to be superficial with collaborative inquiry. To treat it very seriously, it's a very serious process. It's risky. (Maverick 5)

One of the distinguishing issues that arose as a result of the semi-structured interviews and the literature review was that there is an enormous distinction between a non-traditional program and a non-traditional dissertation. While there are several programs that have a non-traditional format, and perhaps a non-traditional dissertation process, the culminating product looks very much like a traditional dissertation in many of the non-traditional programs.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS,

AND IMPLICATIONS

Introduction

The purpose of this study was to determine if there are viable alternative

research strategies, other than the traditional doctoral dissertation, which may

be more beneficial to the doctoral student in an information intensive society.

The secondary purpose was to determine which research competencies and/or

research experiences will be needed by future doctoral graduates in an

information intensive society. A three round Delphi questionnaire was used to

determine what the experts in the field perceived as viable alternatives to the

traditional doctoral dissertation and needed competencies and/or experiences

for doctoral graduates in the future. A semi-structured interview was employed

to supplement the Delphi data.

Chapter V is divided into four sections which reflect the findings of this

research. The first section presents a summary of the findings followed by the

conclusions. Chapter V concludes with recommendations for further research

and implications of the study.

Summary of Findings

This study sought to answer the following research questions:

1. Are there viable alternatives to the traditional doctoral dissertation which may be valuable to future doctoral graduates in order to compete in their professional roles in an information intensive society?

2. What research competencies and/or experiences will be required of doctoral graduates in order to compete in their future professional roles in an information intensive society?

Findings of the Review of Literature

The review of literature indicated that changes in attitude are necessary before alternatives to the traditional doctoral dissertation will be accepted within the academe. The struggle to change the status quo within doctoral programs is not new. Tradition is worn like armor and if that tradition is challenged, the warriors of that tradition are ready to do battle.

The battle to change tradition was central to the literature review. The investigation focused on the importance of research to maintain the vitality of the United States by better preparing competent researchers. It investigated the myth that Ph.D. programs and degrees are superior to Ed.D. programs and degrees. It was found that there is little support for the theory that the Ph.D. is superior to the Ed.D. because of the recent emphasis placed on research and statistics in most Ed.D. programs. The issue remained one of adequately preparing doctoral graduates to conduct research.

To adequately prepare competent researchers, an understanding of research paradigms became an issue. That issue was addressed by looking at the research traditions that have dominated doctoral research from time immemorial. Paradigms for conducting research have fallen into two worldviews: the quantitative worldview and the qualitative worldview. Through reviewing the historical perspective and comparing the research issues within the two dominant paradigms, the review of literature found that the predominant theme has been one of following research traditions. The quantitative and qualitative worldviews are no longer on a collision course. What was once unacceptable in the tradition of research, the qualitative methodology, has now been embraced by most institutions of higher learning. The battle may continue at some institutions, but it no longer rages at the home front of most institutions.

A new battle has emerged in the form, once again, of traditional approaches versus alternative approaches. This new battle is at the heart of the investigation. That battle is taking place in research institutes across the nation in the form of questioning the role of the traditional doctoral dissertation as the sole strategy to culminate the completion of the doctoral degree. The literature review found that the role of the doctoral dissertation has come under scrutiny for some time. William James in his 1903 address, *The Ph.D. Octopus*, questioned the value of the thesis as a credentialing tool. Atkinson, 1939, wrote about his disillusionment with the dissertation experience.

It became evident in the review of literature that the disillusionment with the dissertation process plays in integral role in the ABD phenomena. The

alarmingly high attrition rates and increase in the time spent to earn a degree by doctoral candidates have alarmed the academe. The dissertation was listed in every study as one of the major barriers to the completion of a doctoral degree. Alternatives to the traditional dissertation were found to be a possible solution to the ABD phenomena and the time spent to earn a doctoral degree.

Several studies have been conducted concerning the role of the dissertation process and how to best improve that process. Solomon and Solomon, 1993, call for an end to the traditional dissertation in favor of practical products such as publications in scholarly journals. The conclusions of the remaining studies reviewed call for improved advising, shortening the dissertation, and practical application for Ed.D. dissertation. Most of the studies have not addressed the relevance of alternatives to the traditional doctoral dissertation as a primary focus of the study.

Many of the institutions that currently offer alternatives to the traditional doctoral dissertation do so in process only. The format of the doctoral program has changed, the actual dissertation requirement has not in most of the institutions reviewed. The distinguishing feature of the majority the non-traditional doctoral programs is the admitting of cohorts who remain together throughout the doctoral program and who attend weekend and summer sessions. The only program that met the requirement of the study's definition of an alternative strategy was at National-Louis University. The doctoral students can opt for a non-traditional product within their critical engagement project.

The literature review revealed that within the fields of adult education and vocational education, few studies have been conducted to determine which address the issue of viable alternatives to the traditional doctoral dissertation. This study addresses that issue.

Findings of the Delphi Component

The information analyzed in this study was gathered through the use of mailed questionnaires via the Delphi method and from semi-structured face-to-face interviews. A Likert-type rating scale was used to gain the perceptions of the expert panel members with regard to how each expert viewed the acceptance of alternatives to the traditional doctoral dissertation, and on how each viewed the importance of research competencies and/or experiences needed by doctoral graduates in the future.

A panel of experts was selected based on recommendations received from members of the Commission of Professors of Adult Education (CPAE) and from members of the American Vocational Education Research Association (AVERA). Thirty members were contacted and 22 agreed to participate in the three rounds of the Delphi study. Twenty-one participants completed the project.

Round I Findings. In the first round of the study, participants identified 58 alternatives to the traditional doctoral dissertation which were reduced to 22 statements of alternatives to the traditional doctoral dissertation. In addition, the participants identified 78 research competencies and/or experiences that

were needed by doctoral graduates which were reduced to 30 statements.

Round II Findings. In the second round of the study, the 21 participants in the Delphi component of the study, 11 associated with the CPAE and ten associated with the AVERA, were asked to rate each of the 22 statements as to their level of agreement or disagreement with the statement of viable alternatives to the traditional doctoral dissertation process. The panel members were also asked to rate each of the 30 statements of research competencies and/or experiences as to their level of agreement or disagreement as to the need for each statement of research competencies and/or research experience.

Round III Probe One Findings. The third round of the study asked the participants to re-evaluate their previous rating in light of comments from other panel members. They were provided with the overall panel mean for each statement. A total of 22 viable alternatives to the traditional doctoral dissertation were identified by the Delphi panel of experts.

Viable Alternatives to the Traditional Dissertation. The panel of experts were able to agree to ten of the 22 statements as alternatives to the traditional doctoral dissertation. Those viable alternatives listed below in mean order of agreement represent the willingness of the panel of experts to consider change within the traditional doctoral dissertation; also included is the mean for each statement:

1. "Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation (M=4.476).

2. The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the Internet) (M=4.380).

3. Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation (M=3.785).

4. Synthesis and analysis of previously related literature to formulate new ideas is a viable alternative to the traditional doctoral dissertation (M=3.619).

5. A series of scholarly, refereed, published materials are viable alternatives to the traditional doctoral dissertation (M=3.571).

Statement 14: A collaborative (group) research study, with one or multiple products, is a viable alternative to the traditional doctoral dissertation (M=3.547).

Statement 17: Participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the traditional doctoral dissertation (M=3.547).

Statement 9: Generating a "work" which represents (A) theoretical and research background preparation, (B) application of conceptual ideas to the creation of a "work", and (C) presentation of the work with adequate theoretical-conceptual background and documentation of judgement by an expert panel is

a viable alternative to the traditional dissertation (M=3.523).

Statement 19: High quality research based projects which contribute to the knowledge base and link theory to practice are viable alternatives to the traditional doctoral dissertation (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development, etc.) (M=3.523).

Statement 11: Project dissertations in which a systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects) are viable alternatives to the traditional doctoral dissertation (M=3.500).

Statements Not Accepted as Viable Alternatives. The panel of experts agreed that the remaining 12 statements of alternatives to the traditional doctoral dissertation were not viable. The following are the statements of alternatives to the traditional doctoral dissertation that the panel did not find viable, listed in mean order of least acceptable; also included is the mean for each statement:

Statement 8: A year of study and working abroad in the area of emphasis is a viable alternative to the traditional doctoral dissertation. This statement received particularly caustic comments from the overall panel (1.190).

Statement 13: Doctoral dissertations are unnecessary. Research should focus on the development of usable materials that will help others work in more

democratic and critical ways with students, as well as helping students explore the development of their own critical consciousness as educators (M=1.571).

Statement 7: There should be no alternative to the doctoral dissertation (M=1.904).

Statement 10: A piece of well grounded and scholarly written legislation drafted for a state or federal legislature could be used as a viable alternative to the traditional doctoral dissertation. Again, panel members made caustic comments about this alternative (M=2.047).

Statement 3: Accepted publication of a critical review of the literature in a recognized journal in the field is a viable alternative to the traditional doctoral dissertation (M=2.142).

Statement 4: Documents and oral presentations describing major educational intervention(s) that is formulated from relevant theories and formatively evaluated using the principles of disciplined inquiry are viable alternatives to the dissertation (M=2.523).

Statement 18: Development of new theories of learning applicable to learning via computer generated communication (CMC), rather than reliance on theories developed by others, are viable alternatives to the traditional doctoral dissertation (M=2.857).

Statement 5: Interdisciplinary research - perhaps conducted as a team member - would be a viable alternative to the traditional dissertation, especially in terms of addressing "real world" problems (M=2.952).

Statement 22: A software program, a performance script, or other such product designed around certain pedagogical or artistic principles is a viable alternative to the traditional doctoral dissertation (M=3.047).

Statement 1: Works that are publishable as sole authored articles in refereed education or social science journals are viable alternatives to the traditional doctoral dissertation (e.g., AERA, AVERA, or APA journals) (M=3.214).

Statement 6: A scholarly book published by a commercial publisher is a viable alternative to the traditional doctoral dissertation (M=3.428).

Statement 16: An "applied or action research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the caliber normally expected in advanced professional practice is a viable alternative to the traditional doctoral dissertation (M=3.476).

Round III Probe Two Findings. A total of 30 research competencies and/or experiences needed by doctoral graduates in the future were identified by the panel of experts. The panel of experts reached agreement on 24 of the 30 statements as needed research competencies and/or experiences.

Research Competencies Needed By Doctoral Graduates. The following are the research competencies and/or experiences that the panel of experts found acceptable, listed in mean order of acceptance; also included is the mean for each statement:

Statement 10: Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies (M=4.952).

Statement 9: Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known (M=4.904).

Statement 4: Doctoral graduates should have the ability to locate and critically evaluate relevant research literature (M=4.857).

Statement 27: Doctoral graduates should have the ability to critically analyze and synthesize past research (M=4.809).

Statement 28: Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field (M=4.809).

Statement 11: Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners (M=4.666).

Statement 14: Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field (M=4.523).

Statement 8: Doctoral graduates should have demonstrated the ability to articulate and implement findings and to defend the viability of those findings before a panel of experts in the field (M=4.619).

Statement 18: Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study (M=4.523).

Statement 2: Doctoral graduates should have a comprehensive understanding of, and ability to apply, research methodologies (both quantitative and qualitative), statistics, and data analysis, both as a user **(producer)** and a consumer (M=4.380).

Statement 3: Doctoral graduates should demonstrate efficiency with acceptable research methods (e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners) (M=4.380).

Statement 26: Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study (M=4.380).

Statement 12: Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research (M=4.333).

Statement 24: Doctoral graduates should demonstrate competence as a consumer of research (M=4.333).

Statement 1: Doctoral graduates should demonstrate competence in the execution of multiple research designs and methodologies with the premise that

one chooses a design and methodology that fits the problem or project to be studied (M=4.238).

Statement 7: Doctoral graduates should have demonstrated competence in understanding and using technologically-based tools in research investigations (e.g., library facilities, electronic data searches, surfing the Internet from home, software related to the field, e-mail, word processing) (M=4.190).

Statement 16: Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment (M=4.190).

Statement 22: Doctoral graduates should know the relationship between knowledge and ideology (M=4.000).

Statement 29: Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process (M=4.095).

Statement 15: Doctoral graduates should use skills of reflective practice within their own work (M=4.000).

Statement 5: Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings (M=3.952).

Statement 23: Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers (M=3.952).

Statement 19: Doctoral graduates should understand that research is a social process (M=3.904).

Statement 30: Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry, epistemologies, ontologies, etc. (M=3.714).

Research Competencies Not Accepted by Panel of Experts. The panel of experts agreed that the remaining six statements of research competencies and/or experiences were not needed by doctoral graduates in the future. The following statements were not accepted by the panel of experts, listed in mean order of least acceptable; also included is the mean for each statement:

Statement 6: Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC) (M=2.095).

Statement 17: Doctoral graduates should work with area teams in addressing educational problems (M=3.300).

Statement 13: Doctoral graduates should have confidence in their ability to carry out original research of all (several) types (M=3.333).

Statement 20: Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance (M=3.380).

Statement 21: Doctoral graduates should be able to compare and contrast existing learning theories (M=3.380).

Statement 25: Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development (M=3.380).

Findings of Interviews

In addition to the Delphi study, five semi-structured interviews were conducted. Four persons identified as mavericks by their professional peers were interviewed to gain insight into the current non-traditional dissertations practiced at their institutions. A fifth interviewee, a recent graduate of the AEGIS Program, offered insights into the actual process of being a member of a non-traditional dissertation group.

The semi-structured interview gleaned ten recurrent themes. The ten recurrent themes are:

1. The dissertation is a culminating project or experience.

2. Rigor must be maintained in the research process.

3. There is no model dissertation.

4. Dissertations are very political in relationship to the way the doctoral program is set up.

5. The traditional research paradigm leaves little room for change.

6. Committee members work with and for the student.

7. Regardless of the product that results from the dissertation, a written documentation is necessary to foster accessibility.

8. Non-traditional programs nurture non-traditional dissertations.

9. To foster the growth of non-traditional dissertations, one must have the support of his/her colleagues and department.

10. Non-traditional doctoral programs have similar characteristics.

Conclusions

Doctoral granting universities and colleges continue to view the dissertation as the crowning achievement for their highest degree. Challenging this traditional academic requirement as the sole viable culminating experience to the doctoral degree has been the focal point of this study. The role of research is integral to the dissertation process; it is for that reason that a second probe, asking the panel members to provide a list of research competencies and/or experiences that will be needed by doctoral graduates to compete in their future professional roles, was added to this study. To enhance the researchers' understanding of non-traditional doctoral dissertations, interviews were conducted with persons who had first hand experience with non-traditional dissertations. The following conclusions emerged as a result of the findings of the study:

<u>In Answer to Research Question One</u>

The first research question asked: Are there viable alternatives to the traditional doctoral dissertation which may be valuable to future doctoral graduates in order to compete in their professional roles in an information intensive society?

1. The Delphi panel of experts verified that there are alternatives to the traditional doctoral dissertation by choosing ten such alternatives; however, only two of ten alternatives chosen could be considered viable. Statement one, "Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation, has been an accepted practice for many years and should not have been included in this study as an alternative; therefore, it is not a viable alternative.

Statement two, The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the Internet), is a viable alternative to the traditional doctoral dissertation. It was both accepted and agreed upon by the overall panel with a mean of 4.380. Again, it should be noted that this alternative deals with the presentation of the finished product and not with the dissertation itself and therefore some may not see this as a viable alternative. Statement three, Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation, was accepted as a viable alternative with a mean of 3.785. Beyond statements two and three, no viability was established.

At this point in time there appears to be few viable alternatives to the traditional doctoral dissertation that would be accepted within colleges and universities. There were several possible alternatives identified by the panel of

experts; however, this study could not get them to agree on <u>viable</u> alternatives.

2. In order to implement several of the suggested alternatives to the traditional doctoral dissertation, graduate programs will have to modify the existing dissertation process and product requirements.

3. Implementing change is a slow process. While this study clearly suggests that changes are needed in the dissertation component of the doctoral degree, the implementation and acceptance of those changes are questionable.

> Some education scholars see the dissertation as the lifeline to colleges of education surviving in the pro science, engineering, or business environment of the modern university. Changing the nature of the dissertation may be seen as lowering standards and jeopardizing the livelihood of colleges of education which are already marginal within many universities. (Comment from Expert Panel Member 13)

The panel found few viable alternatives to the traditional dissertation. The dissertation continues to be seen as integral to what it means to earn a doctorate. That tradition will be difficult to change because many view the doctorate as a test of one's research skills and of one's ability to be self-directed. Until a viable alternative that replicates the intent of the dissertation is agreed upon, it is unlikely that the traditional doctoral dissertation will be changed within the academe.

4. While it was not the intention of this study to focus on comparing how adult educators and vocational educators view alternatives to the traditional dissertation, the findings mandated some comparisons. Panel members who

were affiliated with the CPAE were more willing to accept alternatives to the traditional doctoral dissertation than were panel members affiliated with the AVERA. This is not a startling conclusion in light of the traditional nature of vocational education. It is a startling finding when one considers that a great number of persons who seek doctoral degrees with a vocational emphasis are practitioners. In light of the increased number of non-traditional Adult Education Programs, it seemed appropriate that the panel experts who are adult educators would be more willing to accept alternatives to the traditional dissertation.

5. While the CPAE panel members were more willing to accept alternatives to the traditional dissertation, they were extremely conservative in the selection of those viable alternatives. Nonempirical studies was listed as the most acceptable alternative to the dissertation. This, in all reality, should not have even been listed as an alternative since it has been done and has been accepted for some time in most major colleges and universities.

6. The panel of experts offered viable alternatives to the traditional doctoral dissertation in two forms: process and product. Clearly, this indicates a level of confusion on what should be considered as an alternative. The process alternatives dealt with research issues, while the product alternatives dealt with issues of delivery or how the final product is packaged.

7. The following alternatives to the traditional doctoral dissertation are likely to be accepted by doctoral programs that embrace both adult education and vocational education components within the same department:

a. A series of scholarly, refereed, published materials with strict guidelines could most likely be negotiated upon. The reluctance of the panel of experts to accept refereed journal articles may be more of a reflection of the fear of loss of mentorship by the doctoral committee than a real concern for lack of scholarship. If journal articles are accepted as a viable alternative to the traditional doctoral dissertation, a set of judges, external to the university or college, become integral to the granting of a doctoral degree. This may instill some fear in those who are the decision makers in doctoral programs;

b. Nonempirical studies such as philosophical, historical, or conceptual analyses, as indicated earlier, this is not a viable alternative because it has been done and continues to be practiced in the academe;

c. High quality research based projects which contribute to the knowledge base and link theory to practice (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development, etc.); and

d. The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product (e.g., CD-ROM or hypertext programs, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the Internet) are viable alternatives to the traditional doctoral dissertation.

It is highly unlikely that any of the remaining six alternatives that were agreed upon as viable alternatives by the panel of experts would be embraced by a department that houses both fields.

In Answer to Research Question Two

The second research question asked: What research competencies and/or experiences will be required of doctoral graduates in order to compete in their future professional roles in an information intensive society?

8. The Delphi panel of experts verified that there are 24 research competencies and/or experiences that will be needed by doctoral graduates to compete in their future professional roles in an information intensive society. The acceptance of 24 of the 30 recommended competencies indicates the importance placed on research and the overall value of the research process within adult education and vocational education.

9. The 24 research competencies and/or experiences that the panel of experts perceived as needed by doctoral graduates revolved around five themes: (1) an understanding of the research process; (2) an understanding of both qualitative and quantitative research methodologies; (3) an understanding of research as it relates to practice; (4) an ability to do collaborative research; and (5) an understanding of technology as it relates to accomplishing the other four themes. The first three themes have been a component of the doctoral degree for many years; however, the emphasis placed on the last two themes is relatively new. It is interesting to note that the panel of experts' mean rating for one's ability to work as a collaborative researcher was 4.095; yet, they accepted co-authored dissertations, representing collaborative projects with other doctoral students with only a 3.785 mean rating. In addition, they did not accept doctoral graduates working with area teams as a necessary research

experience. All three issues revolve around collaborative research; yet there is a great deal of ambiguity surrounding the acceptance of different methods which provide opportunities for that collaboration.

Other Conclusions

10. A non-traditional dissertation can be conceptualized into two frameworks. First, the research process that one chooses to produce a dissertation may be non-traditional. The collaborative dissertation and field based projects fall into this category. Second, the product that results from ones' research may be non-traditional. This product could take many forms: a series of articles, a video, a software program, a media production, portfolios, etc.

11. A non-traditional dissertation is more likely to come out of a non-traditional program, than a traditional program. The distinguishing features of non-traditional programs are: (1) the graduate students enter as cohorts; (2) the graduate students engage in collaborative research; (3) the graduate students attend classes on extended weekends and during residential summer sessions; and (4) the programs are designed to be completed in three years.

12. Although the Ed.D. started out as a practitioner-oriented degree when first instituted at Columbia University, it has evolved into a degree that differs from the Ph.D. only in ideology. The rigor of the Ed.D. is comparable to that of the Ph.D.

13. While the Kendall W was used to determine the amount of agreement among the CPAE and AVERA panel members, it is a prime example of how a statistic can be applied to a study without any real relevance. The Kendall W is designed to be used when raters are required to rank order the variables being considered in the study. This study was not concerned with how the alternatives or competencies were ranked; it was concerned with identifying viable alternatives to the traditional doctoral dissertation and identifying needed research competencies and/or experiences. Interpreting the Kendall W as showing agreement for both probes was misleading because ranks were assigned to means by the researcher and not by the panel of experts. Therefore, I must conclude that the Kendall W was an inappropriate statistic to apply to this study.

14. The review of literature indicates that the dissertation is a leading contributor to the All But Dissertation phenomena. Colleges and universities from across the nation have conducted studies into why so many doctoral candidates never finish their dissertation; yet, no real changes have been implemented within the doctoral programs to reduce the problem. If the All But Dissertation problem is to be resolve, the traditional dissertation process as we know it must be revamped.

Implications

1. The continued emergence of non-traditional programs may indicate that a paradigm shift is taking place within adult education doctoral programs.

Those programs and the "paradigm pioneers" who have challenged the status quo may be the new wave of the future. The problems that are facing doctoral programs continue to exist and to multiply. Perhaps, the solution to those problems lie, not with existing strategies and traditional programs, but within the framework of an emergent paradigm embraced by those paradigm pioneers who are not willing to settle in and never take risks. Joel Barker (1993) best describes who those "paradigm pioneers" are:

> What's the difference between a pioneer and a settler? It is the settler who always is calling toward the horizon, "Is it safe out there now?" The voice calling back, "Of course, it's safe out here!" is the pioneer's. That is because the pioneers take the risk, go out early, and make the new territory safe. (p. 71)

The difference may very well be the continued existence of an adult education program within ones' university or college.

2. Universities and colleges that remain locked into the traditional doctoral dissertation mode may be inhibiting creative paradigms from emerging. When tradition dictates the dissertation process, it also actively eliminates the power of choice and the opportunity for change. Doctoral students should be given some choices in the expression of their research. The traditional dissertation format is not the only scholarly means to prove ones' ability as a competent researcher. The successful growth of doctoral programs within universities and colleges may mandate this change in order to provide answers to the ABD crisis and the lengthy time needed to complete a doctoral degree.

3. The academe has typically equated the volume of publication by a scholar with that scholar being on the cutting edge of research. I would contend that this may not be the case. Initially, the CPAE and AVERA affiliates were asked to nominate individuals who they believed were on the cutting edge of research. This request came after an explanation of the research topic. Of the 21 Delphi panel experts, only two had actually participated on committees which accepted non-traditional dissertations. No vocational education panel member had participated in non-traditional dissertation work. All of the participants were proliferate in their writing within the field; yet few would be considered as the paradigm pioneers who are on the cutting edge research.

Recommendations

Engaging in research has the tendency to leave one feeling a sense of urgency to continue the quest, to raise questions, to find solutions, but most especially to remain involved in this process called inquiry. To that end, several recommendations are deemed appropriate as a result this study. Those recommendations are:

1. A follow-up study should be conducted which is intended to compare the philosophies which underpin the dissertation within the fields of Adult Education and Vocational Education. This is needed because the two fields are often couched in the same department within the university or college. Maybe one needs to ask whether or not it is appropriate to place the two fields under a singular mast?

2. A follow-up study should be conducted to include current doctoral candidates and recent doctoral graduates in order to gain their perceptions of the doctoral dissertation from both a process and product standpoint. As a component of this study, it would be relevant to include perceived research competencies in order to determine if the candidates and graduates felt prepared to conduct the research involved with the completion of a dissertation. At the heart on any obtained competency is one's ability to apply that competency.

3. A new study that compares the Ph.D. and Ed.D. dissertation process and dissertation requirements in relationship to the philosophies underlying each degree should be conducted. The division between researchers and practitioners was apparent in this study. That division stems from the perceived need to separate theory and practice and from the epistemological assumptions underlying the ideologies of each degree. The recommended study would shed some light on the issues surrounding program differences and perhaps find some workable solutions to the problem so that the concepts of research and practice become integrated within both degrees.

4. Dissertation advisers and committees should be more open and creative in helping doctoral candidates design alternative dissertations or alternatives to the dissertation. This may necessitate both the advisers and advisees becoming pioneers of paradigms within their own university settings. Unless a college of university graduate college dictates the process and product required to earn a terminal degree, there is no reason that learned people must

remain locked into the traditional dissertation practice. While some project or experience would remain as the culmination to the doctoral degree, it should be one which has some practical value to the researcher. That is not to say that this recommendation advocates only practitioner oriented projects; rather, it means whatever project the researcher is passionate about ought to be given careful consideration by the adviser and committee.

5. Graduate programs should expand the research course requirements to include an overview of both quantitative and qualitative research methodologies. As research traditions evolve and expand, it becomes crucial for graduate students to have an understanding of several research methodologies. While the panel of experts were adamant about have many research competencies, they felt a thorough understanding of one research methodology was adequate. Perhaps, one should re-evaluate the definition of adequate. Adequate researchers will never be cutting edge researchers. They will remain on the fringe of discovery because they lacked the research competencies needed to become a good researcher. Graduate programs, especially doctoral programs, should incorporate various research methodologies in the curriculum through class assignments and projects. These assignments/projects should not be restricted to research courses, but should be addressed in all doctoral level classes.

6. Graduate programs should require students to engage in research at the beginning of their course work. Research should not be seen as a culminating experience to graduate course work; rather, it should be seen as a

continuing process of evolution which expands the entire graduate program. There should be an entry level research methodology course required of all doctoral students. This course would give one an overview of what is available in the methodological pantry. To be able to conduct creative research utilizing alternative research strategies, one must first know that those strategies exist and how to implement them into one's research. Research and statistics are feared by many graduate students because they feel inadequately prepared in those subject areas. This entry level course should not assume that the student has a knowledge or an understanding of the subject matter. The course should be designed to both teach the subject and force the student to get into the research process. Both quantitative and qualitative methodologies should be discussed. The intent of this course would be to give the doctoral student a taste of the many available research methods available to him/her through class instruction, assignments, and group projects. If the course were designed correctly, the best compliment that a student could given upon exiting the course would be to say "I am a jack of all trades, and a master of none." Mastering a specific research methodology would come down the road in future research course work. Certainly, graduate programs should consider the importance of having better trained researchers exiting doctoral programs. The only way to accomplish that goal is to redefine the role of research within the curriculum.

7. Doctoral degree granting institutions should evaluate what the non-traditional doctoral programs are doing in the area of research. A great deal of

the serious work that is going on is coming out of non-traditional research paradigms (Maverick 3). The willingness to change may be the difference between remaining viable and losing a program within a college or university.

The emerging practices of cohorts, collaborative research, culminating projects, and mentorships may be a flash in the pan for the non-traditional programs, or they may be the embers passed from institution to institution to keep the fires of research burning. Research colleges and universities must ask themselves if they are willing to take the risk and be "paradigm pioneers" or remain content on past laurels and perhaps miss the spark the creates the next theory or wave of the future.

8. Since the collaborative process is gaining ground among both professor and student, it seems appropriate to recommend a mentoring program be put into place within doctoral graduate programs. This program would not be the typical teacher/student one-on-one relationship, but rather an entire philosophical change within the program. What is being proposed is to provide mentorship throughout the graduate process, from the initial enrollment process through the graduation ceremony. Some issues that would be addressed by this mentorship philosophy would be improved advising, regular monitoring or progress, breaking down the barriers to degree completion, round table discussions involving all levels within the university/college setting, opportunities for informal contact with faculty advisor, a student-faculty research council which meets on a regular basis, collaborative class projects, improved training with new technology, attaining research competence, and alternative

culminating projects/experiences to name a few. One does not have to reinvent the wheel to make the research process meaningful to the doctoral student. Often times, all that is needed is reshaping what already exists. Incorporating a mentoring philosophy will foster the research process as well as promote the timely completion of the culminating project or experience.

"Ultimately, now and in the future much of the success or failure of doctoral education hangs on the role and nature of the dissertations" (Hamilton, 1993, p. 55).

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APPENDIXES

APPENDIX A

COVER LETTER SENT TO AVERA AND CPAE MEMBERS

RETURN POST CARD

DATE

NAME
INSTITUTIONAL AFFILIATIONS
DEPARTMENT
ADDRESS

Dear **NAME:**

  Research is an integral part of the doctoral experience. The completion of the dissertation is critical to affirming the skills of the doctoral candidate. I am a doctoral student in the Occupational and Adult Education Department at Oklahoma State University located in Stillwater, Oklahoma. I am currently at the dissertation phase of my doctoral degree. My dissertation is entitled Identifying Research Strategies for the Future: Alternatives to the Dissertation. The framework of the study requires a Delphi panel of experts. I am in the process of assembling that panel.

  Because of your involvement in the American Vocational Education Research Association, I am asking you to provide me with the names and institutional affiliations of five individuals you consider to be on the cutting edge of educational research. The panel members will be asked to identify what he/she sees as future requirements or changes that may be effective in developing needed research competencies and the products that would demonstrate those competencies.

  It is my hope that this study will result in the discovery of new ways to conduct doctoral level research. Your assistance in identifying experts for my panel is greatly appreciated. Please use the enclosed postcard to list the names and institutional affiliations of people you believe can provide the information I will need for my research. Thank you for your participation in this endeavor.

Sincerely,

Kathryn A. Sanders
901 West Southpark Boulevard
Broken Arrow, Oklahoma 74011
(W - 918-247-6333)
(H - 918-455-3114)

DATE

NAME
INSTITUTIONAL AFFILIATION
DEPARTMENT
ADDRESS

Dear **NAME**:

Research is an integral part of the doctoral experience. The completion of the dissertation is critical to affirming the skills of the doctoral candidate. I am a doctoral student in the Occupational and Adult Education Department at Oklahoma State University located in Stillwater, Oklahoma. I am currently at the dissertation phase of my doctoral degree. My dissertation is entitled Identifying Research Strategies for the Future: Alternatives to the Dissertation. The framework of the study requires a Delphi panel of experts. I am in the process of assembling that panel.

Because of your involvement in the Commission of Professors of Adult Education, I am asking you to provide me with the names and institutional affiliations of five individuals you consider to be on the cutting edge of educational research. The panel members will be asked to identify what he/she sees as future requirements or changes that may be effective in developing needed research competencies and the products that would demonstrate those competencies.

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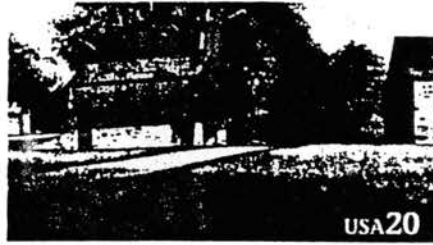
Sincerely,

Kathryn A. Sanders

901 West Southpark Boulevard
Broken Arrow, Oklahoma 74011
(W - 918-247-6333)
(H - 918-455-3114)

USA**20**

Kathryn Ann Sanders
901 W. South Park Blvd.
Broken Arrow, OK 74011-2060

	Name	**Institution**	**Location**
1.			
2.			
3.			
4.			
5.			

Your Name: _____

APPENDIX B

DELPHI PANEL OF EXPERTS

Dr. Kirby Barrick
Ohio State University (Moved to University of Illinois - Urbana at end of study)
208 Agriculture Administration Building
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Champaign, Illinois 61820

Dr. Jamie Cano
Ohio State University
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Austin, Texas 78736

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Room 276 Teacher Education Building
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Department of Educational Studies
2125 Main Mall
Vancouver, British Columbia
Canada V6T124

APPENDIX C

COVER LETTER SENT TO PANEL MEMBERS

DELPHI ROUND I QUESTIONNAIRE

245

DATE

NAME
INSTITUTIONAL AFFILIATION
DEPARTMENT
ADDRESS

Dear Dr. **NAME,**

Thank you for agreeing to participate as a panel member for my Delphi study. It is both a compliment and a burden as people like me tend to seek out those of you held in esteem by your peers in order to complete our dissertations.

The title of my dissertation is: **Identifying research strategies for the future: Alternatives to the doctoral dissertation.** Recent arguments have been made that the traditional doctoral dissertation should be modified to meet the needs of the doctoral candidate and the needs of an ever changing society (Solomon & Solomon, 1993). The relevance of the dissertation to one's professional goals has come under scrutiny from business, industry, and academe. The purpose of my study is to inquire from experts in the field as to if there should be alternatives to the traditional doctoral dissertation. While the issue of problems in the doctoral process has received attention in the literature (James, 1911; Atkinson, 1939; Wilson, 1965; Altbach, 1971; Madsen, 1983; Bowen & Rudenstine, 1992; Beeler, 1993 to name a few), little attention has been given to the dissertation itself as an adequate instrument to prepare graduates for research in their future professional roles.

Utilizing the Delphi method of research for this study will enable you as a top researcher in the nation in your field to come to consensus on alternatives that would assist doctoral graduates to compete in future professional roles. Your expertise will generate ideas that may serve to catapult future educators into new ways of acquiring and demonstrating research skills. I will also be conducting a semi-structured interview with six or seven individuals who have successfully chaired or served on a doctoral committee which excepted a non-traditional dissertation or alternative to the dissertation. Your providing me with the names of those educators on the demographic data sheet will help me to identify the participants. As a participant in my study, you will receive details of the findings of my study.

Round I is enclosed in this mailing. Please take a few minutes (or several) to complete the probes for Round I of my Delphi study. Also, a consent form and a demographic questionnaire are attached. Please fill them out as completely as possible; it is a critical component of my study. After **you have completed the questionnaire, Delphi probe, and signed the consent form**, please return them in the enclosed self-addressed and stamped envelope. After the results have been received and tabulated, you will receive those statements and be asked to respond to their viability on a Likert scale. **A prompt response would be greatly appreciated. I am hoping to have responses to Round I by mid to late August.**

Thank you for giving of your time so generously and agreeing to participate in my study. Your expertise will certainly give credibility to the study.

Sincerely,

Kathy Sanders
901 West Southpark Boulevard
Broken Arrow, Oklahoma 74011

918-455-3114 (Home)
918-247-3805 (Office)
ksanders@gorilla.net (E-Mail)

DELPHI - ROUND I

The following definition is needed to clarify the position of the researcher:

The definition of a traditional dissertation is an adaptation of David Sternberg's definition of a full dissertation (found in his book, How to complete and survive a doctoral dissertation). A traditional dissertation is defined as one:

> which requires (1) exhaustive library review/survey of related literature; (2) construction of a researchable problem, related hypotheses (objectives), which makes some original contribution to the field; (3) experimental work and/or fieldwork with subjects and/or groups; (4) an elaborate methodology for analyzing the data collected; (5) a lengthy, literary write-up, analysis and discussion of the results of such experimental work or fieldwork; (6) a formal, oral defense of the dissertation before a committee (Sternberg, 1981, 11).

1. With that definition in mind, please list statements of alternatives to the traditional dissertation which may be valuable to future doctoral students in order to compete in their future professional roles in an information intensive society. One such statement might be: Published works are a viable alternative to the traditional dissertation requirement.

2. With that definition in mind, please list at least three statements of research competence and/or research experience that doctoral graduates must have to compete in their future professional roles in an information intensive society. One such statement might be: Doctoral graduates should have a comprehensive understanding of the resources needed to complete a review of literature such as library facilities, electronic data searches, surfing the internet from home, etc.

APPENDIX D

DEMOGRAPHIC DATA FORM

DEMOGRAPHIC INFORMATION

NAME
INSTITUTIONAL AFFILIATION
DEPARTMENT
ADDRESS

1. Work telephone number:_____Home telephone number:_____

2.. E- Mail Address:_____

3. I prefer receiving Delphi correspondence by: **(circle one)**

Hard copy only   Hard copy and disk   E-mail only   E-mail and hard copy

4. I have earned a: **(circle one)** Ph.D.   Ed.D.   in_____

    within that degree I have a specialization in _____

5. The number of years as a faculty member after completing your Ph.D./Ed.D.:_____

6. My current position is:_____

7. Carnegie classification of your institution: **(circle one)**

    a.   Research University I

    b.   Research University II

    c.   Doctoral Granting University/College I or II

    d.   Comprehensive University/College I or II

    e.   Not sure of carnegie classification

8. I have chaired or served on a doctoral committee which accepted a non-traditional

    dissertation: YES   NO

9. Please provide me with the names and institutional affiliations of those individuals whom you consider mavericks in the field, that is to say, they have challenged the traditional doctoral dissertation by adapting an alternative strategy.

Name   Institutional Affiliation

_____

_____

_____

APPENDIX E

DELPHI PANEL CONSENT AND

AGREEMENT FORM

CONSENT AND AGREEMENT FORM TO CONDUCT RESEARCH

You have been asked by a graduate student of Oklahoma State University working on a dissertation to participate in a Delphi study in order to elicit your views concerning alternatives to the traditional doctoral dissertation. I will be unable to use the information from you unless this consent form has been signed by all parties. The form will be filed and retained for at least two years in my records.

The following statements need to be agreed to and your signature acknowledges agreement and consent:

* I understand that participation in this study is voluntary and that there is no penalty for refusal to participate and that I am free to withdraw my consent and participation in this project at any time without penalty after notifying the dissertation advisor.

* I understand that the Delphi technique will be conducted according to commonly accepted research procedures and that information gathered from the study will be used by the researcher.

* To assure the integrity of the research and to validate the responses made by the participants, I understand that the results of each Delphi round will be preserved for a period of at least two years before being destroyed.

* I understand that I have been selected to participate as a panel member in this Delphi study because I am considered an expert in the field as indicated by the nomination process of my peers, and as a recognized expert, my name and institutional affiliation will be identified as a panel member, however, my individual responses will not be linked directly to my name.

* I understand that correspondence for this study will take approximately three months to complete because of a three round Delphi.

* I understand that the project will not cover topics that could reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability or deal with sensitive aspects of the subject's own behavior such as illegal conduct, drug use, sexual behavior, or use of alcohol.

You may contact the dissertation adviser, Dr. Robert E. Nolan, Occupational and Adult Education, 414 Classroom Building, Oklahoma State University, Stillwater, Oklahoma 74078; (405) 744-6275, should I wish further information about the research. I also may contact Jennifer Moore, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, Oklahoma 74078; (405) 744-5700.

I have read and fully understand this consent form. I understand that my responses will not be identified with my name in this project. I sign this form freely and voluntarily. A copy has been given to me.

DATE:_____ TIME:_____ (A.M./P.M.)

SIGNED:_____
(Signature of Participant)

I certify that I have explained, in writing, all elements of this form to the subject before requesting the subject to sign it and provided the subject with a copy of this form.

DATE:_____ TIME:_____ (A.M./P.M.)

SIGNED:_____
(Signature of Doctoral Student)

I agree to abide by the language and the intent of this consent form.

DATE:_____

SIGNED:_____
(Signature of Dissertation Adviser)

APPENDIX F

DELPHI ROUND I RESULTS: REFINED CATEGORIES

IN RESPONSE TO DELPHI PROBE NUMBER ONE: THE FOLLOWING
CATEGORIES WERE IDENTIFIED:

DELPHI: ROUND I - PROBE ONE

**STATEMENTS OF ALTERNATIVES TO THE TRADITIONAL DOCTORAL
DISSERTATION WERE REFINED AS FOLLOWS:**

SET ONE

Published articles: 1, 3, 6,15, 21, 23, 25, 27, 33, 34, 35,38,39,48, 57

1. Works that are publishable as sole authored articles in refereed,
    education or social science research journals that consider the broad
    philosophical, theoretical, and critical perspectives of educational policy
    and practice. (e.g., AERA or APA journals).

3. A compilation of juried essays or narratives that examine a particular
    educational issue from multiple social science and epistemological
    perspectives.

6. Several journal articles would be an appropriate alternative to the current
    dissertation report format.

15. Each dissertation should include a section or similar part that
    communicates the study directly to the field. This could be a manuscript
    for an article in a refereed or popular journal or a tape of a presentation
    that is to be given.

21. Alternative to the 5 chapter, hard-bound product: A number of published
    works (probably 3 - 5) could substitute for the hard-bound dissertation
    product. If this were to be used as an alternative, though, I would insist
    that a majority (e.g., 2 of 3 or 3 of 5) follow either a quantitative or
    qualitative process of inquiry (Sternberg again) and that the same ratio of
    articles be published or accepted for publication in scholarly and highly
    respected journals. These outlets should be specifically spelled out
    ahead of time for students and be those identified by APA or other
    scholarly organizations based on a number of elements such as
    scholarship, referee process, topical areas, reputation, etc.

23. I would like to see the research study conducted with the traditional high
    level of rigor, but I think the research product should be more open. I
    would definitely prefer several articles and presentations to the traditional
    format. I would also like to encourage creative forms of expression in
    those products, e.g., narratives, dramatic readings, videos, etc.

25.   Scholarly refereed published materials are viable alternatives to the traditional dissertation requirement.

27.   Previously published works on a central theme are an alternative to the traditional dissertation.

33.   Completing and documenting a major change process with an educational organization (for example, via a published article, formal report).

34.   Accepted publication of a data based research project in a recognized journal in the field.

35.   Accepted publication of a critical review of the literature in a recognized journal in the field.

38.   For the Ph.D., the point is to have a significant contribution to the field's knowledge base. This can be achieved by research conducted in any of the accepted methodologies, but it can be articulated in ways other than a dissertation. Publishing results in refereed journals is the model used in Finland and would be a preferred way to disseminate knowledge.

39.   For the Ph.D., acceptance of research findings at the AERC in combination with publishing in refereed journals would seem a viable alternative.

48.   Three journal articles in peer refereed journals may substitute for the dissertation.

57.   A collection of publications in a well-defined area of scholarship or practice. These would have to satisfy certain standards of third party analysis.

SET TWO

Solo: 2, 4, 8, 9, 10, 13, 17, 22, 31, 40, 43, 45, 52, 53, 54, 55,

2.   Documents and oral presentations describing a major educational intervention(s) that is formulated from relevant theories and formatively evaluated using the principles of disciplined inquiry.

4.   A book published by a commercial publisher could be considered for meeting the dissertation requirement; however, it should have required the candidate to use the same type of skills as that required by the dissertation.

8. Interdisciplinary research, perhaps conducted as a team member, would be valuable as an alternative to the traditional dissertation, especially in terms of addressing "real world" problems.

9. Using texts as a data source is a viable alternative to the traditional method of data collection.

10. There should be no alternative to the doctoral dissertation.

13. A year of study and working abroad in the area of emphasis is a viable alternative to the traditional dissertation.

17. Generating a "work" which represents (A) theoretical and research background preparation, (B) application of conceptual ideas to the creation of a "work", and (C) presentation of the work with adequate theoretical/conceptual background and documentation of judgement by the expert panel.

22. Alternative to the 5 chapter, hard-bound product: I suppose that it is entirely possible that a piece of legislation drafted for a state or federal legislature could be used as an alternative to the traditional dissertation document. But, if the legislation is not well-grounded in past works, does not reflect scholarly thinking, and is used to advance a personal agenda or reflects what I think is best, then it is worthless as a scholarly exercise.

31. Project dissertations are a viable alternative in which a systematic approach is applied to a problem or practice, for example, development and testing of a video or written material for training and development.

40. For the Ed.D., the point is new research and its practical application. It seems to me that successful implementation of findings over a wide area of practice -- such as a successful change in teaching methods over a region or in several, institutions might be an alternative.

43. "Nonempirical" studies, such as philosophical, historical, or conceptual analyses.

45. Scholarly report of innovative community-based education of prospects.

52. Doctoral dissertations are unnecessary. The chief function is to allow professors to exercise their power over students and to impose their ideological agendas.

53. Doctoral dissertations should focus on the development of usable materials that will help others work in more democratic and critical ways with students.

54. No doctoral dissertation should be written solo. Group coordinated dissertations should be the norm.

55. Doctoral dissertations should focus on students exploring the development of their own critical consciousness as adult educators.

SET THREE

Collaborative research: 5, 16, 24, 36, 37, 42, 47, 49,

5. A collaborative (group) research study would be a viable alternative.

16. Students should be encouraged to work as teams on a particular dissertation with one obvious benefit; learning how to team with others in completing major projects.

24. I'd also like to see the option of collaborative research among doctoral candidates, since such research is more and more valued in the academe.

36. Group/team research projects that have one or multiple products.

37. Partnership projects with educational organizations and programs with a tangible demonstrable change or product that requires high level conceptual and leadership skills.

42. Co-authored dissertations, representing collaborative projects with other doctoral students.

47. Dissertations may be collaborative between two or more researchers.

49. Researcher and researched may collaborate on the research.

SET FOUR

Applied or action research: 7, 18, 32, 46, 51, 56,

7. An action research project would be a particularly useful alternative for helping graduates connect research and practice.

18. Conducting an "action research product" which draws upon the elements of the above definitions of "dissertation" - yet presumes the knowledge construction comes from the field - and would be compared or characterized by additional discussion of formal concepts and theories.

32. Applied research is a viable alternative; as for example, an action research study.

46. Participatory action research projects which involve practitioners as researchers within a shared area of concern.

51. Action research is an acceptable methodology.

56. An "applied research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the kind normally expected in advanced professional practice. Part of the project would be an appropriate rationale/research base/conceptual analysis to support or justify the primary product.

SET FIVE

Project based : 11, 26, 28, 41, 44

11. Projects which contribute to the knowledge base are viable alternatives to the traditional dissertation (such as curriculum designs, testing various teaching methods).

26. High quality, research-based products are viable alternatives to the traditional dissertation requirement. Such products must have acceptable levels of validity, reliability, and utility and must be developed with processes acceptable to the relevant profession(s). Examples of such products might include videos, assessment instruments, computer programs, scholarly textbooks, curriculum or program guides, and facility design(s).

28. Development of new research procedures and methodologies, such as norm-referenced instrument, meet the requirement of contribution to the knowledge base.

41. Development of new theories of learning applicable to learning via computer generated communication (CMC) is a viable alternative to reliance on theories developed by others.

44.   Development of new and innovative instructional or curricular materials or resources, such as interactive software, self-instruction programs, etc.

SET SIX

Generating new knowledge: 12, 29

12.   Synthesis and analysis of previous related literature to formulate new ideas is a viable alternative to the traditional dissertation.

29.   A thorough meta-analysis of previous research in an area of focus may be equivalent to independent research that generates "new" knowledge.

SET SEVEN

Dissertation in different package: 14, 19, 50, 58

14.   Dissertations should be submitted electronically, thus providing students with greater flexibility to include audio and/or visual descriptions of the study and making copies available to others via the internet.

19.   Alternative to the 5 chapter, hard-bound product: A CD-ROM or hypertext program that would describe past literature, identify the issues the product addresses (problem/objectives), provide norm data from field tests and trials, offer evidence to the user that the product fits in with the greater body of literature and our understanding. Here, all of Sternberg's elements are included but with a different "package." The package can be different but the base elements underlying or supporting the package must be present and explicitly presented to the reader.

50.   Alternative forms of representation to the traditional dissertation are acceptable (such as video, multi-media)

58.   A software program, a performance script, or other such product designed around certain pedagogical or artistic principles.

SET EIGHT

Linking theory and practice: 20, 30,

20.   Alternative to the 5 chapter, hard-bound product: A well developed and researched curriculum guide or instructional unit. Again, the process must be followed but the final product could be different (if the Graduate College would allow an alternative format, which is another problem in and of itself). This approach would circumvent the problem I have witnessed ad nauseam when looking at curriculum materials which are

packaged in glossy covers with absolutely no basis for claiming that they are better or worse than anything used previously. We have people jumping to use them because they are new or because they have a purple and gold cover or because they are free or because.....

30. A valuable alternative to the traditional dissertation could be original research-related efforts and writing activities that link theory and practice and result from:

A. a program evaluation or any type, e.g., formative, summative, impact
B. a program (quality or process) improvement project
C. a curriculum development project
D. an exhaustive review of existent literature and archival documents (products are manuscripts addressing history, philosophy, critical theory, etc.)
E. a secondary analysis of existing data sources (e.g., National Longitudinal Studies)
F. an organizational change project
G. an administrative/managerial change project

IN RESPONSE TO DELPHI PROBE NUMBER TWO: THE FOLLOWING
CATEGORIES WERE IDENTIFIED:

DELPHI: ROUND I - PROBE TWO

**STATEMENTS OF RESEARCH COMPETENCE AND/OR RESEARCH
EXPERIENCES WERE REFINED AS FOLLOWS:**

SET ONE

Competence in research methods: 1, 13, 36, 37, 39, 48, 52, 55, 77

1. Demonstrated competence in the design and execution of multiple (at least 2) research methods.

13. Doctoral graduates should be familiar with several approaches to research inquiry.

36. Doctoral graduates must demonstrate facility with acceptable research methods; e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners.

37. Doctoral graduates must have a comprehensive understanding of historical and contemporary research processes such as statistics and triangulation used to treat quantitative and qualitative data.

39. Doctoral graduates should have a comprehensive understanding of and ability to apply research methodology, statistics, and data analysis.

48. Doctoral graduates should be able to develop a research problem and protocol for data gathering and analysis.

52. Doctoral graduates should have knowledge of various forms of research designs and methodology, with the premise that one chooses a design and methodology that fits the problem or project to be studied.

55. Doctoral graduates should have demonstrated ability to formulate and investigate a significant question/problem with accepted research methodology or methodologies.

77. Doctoral graduates should know the various forms of research and their strengths and limitations.

SET TWO

Comprehensive review of literature: 2, 10, 23, 29, 56, 62, 64

2. Review, critique, and synthesize a variety of educational and social science literatures using appropriate methods, e.g., a best evidence synthesis.

10. Doctoral graduates should have the ability to locate and critically evaluate relevant research literature.

23. Doctoral graduates should be capable of conducting a comprehensive review of literature/research for a specific area.

29. Doctoral graduates should be able to conduct an exhaustive literature review.

56. Doctoral graduates should have demonstrated mastery of the relevant and related literature.

62. Doctoral graduates should be able to identify relevant sources of literature and locate appropriate published works within these resources, including electronic and internet sources.

64. Doctoral graduates should be able to critically read, review, and summarize relevant literature.

SET THREE

Research to practice: 3, 66, 74

3. Execute a complete research investigation that enables an educational leader or practitioner (someone other than an academic) to make an informed decision regarding their practice -- an investigation that illustrates the use of evaluation and research in practice.

66. Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings.

74. Doctoral graduates should be able to see their practice through the learners' eye.

SET FOUR

Technology with research: 4, 5, 6, 22, 49, 50, 54, 60, 61, 78,

4. Demonstrated competence in using technologically-based tools (e.g., software) in research investigations.

5. A comprehensive understanding of the resources needed to complete a review of literature such as library facilities, electronic data searches, surfing the internet from home, etc.

6. Since you have already listed the ability to understand resources, I would also add the ability to use these resources.

22. Doctoral graduates should be computer literate - in (a) word processing, (b) e-mail use, and (c) software related to field of study.

49. Doctoral graduates should use electronic data searches for literature review.

50. Doctoral graduates should communicate via Internet.

54. Doctoral graduates should be knowledgeable about using a variety of computer data bases and analysis systems on the computer.

60. Doctoral graduates should be able to illustrate how these theories apply to learning via computer mediated communication (CMC).

61. Doctoral graduates should be able to identify ways learning occurs through CMC that does not fit existing learning theories.

78. Doctoral graduates should know the techniques and resources for searching/locating all relevant prior work (Internet, CD-ROM, ERIC, other data bases, conventional library searches).

SET FIVE

Understanding of own and others research: 7, 8, 9, 40, 44, 51,

7. The ability to synthesize information from different sources in developing conceptual and theoretical frameworks for research studies.

8.   Another competency is the ability to draw conclusions and develop recommendations based on research findings. This competency might be separated into drawing conclusions based on research findings and developing recommendations based on research findings.

9.   Doctoral graduates should have the ability to interpret and critique a wide range of research methods, including both quantitative and qualitative methods.

40.   Doctoral graduates should have the ability to interpret research findings, discuss relevance to the body of knowledge, and propose implications.

44.   Doctoral graduates should be able to review and critique research produced by themselves and others.

51.   Doctoral graduates should be able to conceptualize and sort through multiple forms of data to make a cohesive and well thought through problem statement/purpose/etc.

SET SIX

Publish own research: 11, 14, 43, 47, 58

11.   Doctoral graduates should have the ability to design and carry out research that can inform their work as educational practitioners.

14.   Doctoral graduates should be capable of publishing their dissertation research.

43.   Doctoral graduates should be able to present and defend original research or research-related information (as specified in definition) to a wide variety of audiences, including scholars, policy makers, and practitioners.

47.   Doctoral graduates should have the skills and knowledge to lead original research or research related projects.

58.   A successful doctoral candidate should be in the "business" of creating knowledge -- for the rest of their career -- and, ideally, should have the capability of articulating and disseminating such knowledge.

SET SEVEN

Solo: 12, 27, 38, 59, 67, 68, 76,

12.   Doctoral graduates should understand that research is a social process.

27. Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research.

38. Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance.

59. Doctoral graduates should be able to compare and contrast existing learning theories.

67. Doctoral graduates should use skills of reflective practice within their own work.

68. Doctoral graduates should work with individual area teams in addressing educational problems.

76. Doctoral graduates should know the relationship between knowledge and ideology.

SET EIGHT

Importance of problem: 15, 16, 17, 18, 26, 63, 69

15. Doctoral graduates need to be able to define a problem.

16. Doctoral graduates need to indicate why that problem is important.

17. Doctoral graduates should study that problem and place their findings in perspective with what is known.

18. Doctoral graduates should stand before their peers to present and defend what they concluded.

26. Doctoral graduates should have knowledge of research tools and critical understanding of their use and outcomes in relation to investigation of a "problem".

63. Doctoral graduates should engage in critical process of problem-solving with other practitioners and researchers.

69. Doctoral graduates should have problem-posing ability.

SET NINE

Consumers of research: 19, 24, 45

19. Doctoral graduates must have a comprehensive knowledge of statistics, both as a user and a consumer.

24. Doctoral graduates should demonstrate competence as a consumer of research.

45. Doctoral graduates should be exceptionally skilled at being research consumers.

SET TEN

Data analysis qualitative and quantitative: 20, 71,

20. Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development.

71. Doctoral graduates should be able to conduct data analyses - both quantitative and qualitative - and know how to make sense of and work with large amounts of varied data.

SET ELEVEN

Disciplined inquiry: 21, 25, 32, 35, 73,

21. Doctoral graduates should have the capability of conducting disciplined inquiry in field of study.

25. Doctoral graduates should be capable of conducting a study from start to finish.

32. Doctoral graduates should have experience. I think they should first have the experience of working with their chair or another mature researcher on a research project, preferably one they work on from conceptualization to write-up of the findings.

35. Doctoral graduates also need whatever it takes to persevere on a project - to explore it fully and not end on this side of complexity rather than on the far side of complexity, i.e., making sense of it all for us.

73. Doctoral graduates should be able to research their own contexts for practice.

SET TWELVE

Gather and understand data: 28, 30, 31,33, 42

28. Doctoral graduates should have the ability to critically analyze and synthesize past research.

30. Doctoral graduates should be able to gather data and analyze that data.

31. Doctoral graduates should be able to discuss the results in light of the available literature.

33. Doctoral graduates should possess competence - they need to learn how to critique the literature in an area. If they can't assess strengths and weaknesses of other studies, knowing what those studies are is irrelevant and even potentially dangerous.

42. Doctoral graduates should be able to synthesize previous research and writing and present a summary of the literature to date.

SET THIRTEEN

Ability to write: 34, 41,

34. Doctoral graduates need to know how to write clearly and concisely - without that, they will not be able to make a useable contribution to their field.

41. Doctoral graduates should write clearly and understandably, using commonly accepted technical writing skills.

SET FOURTEEN

Defend findings: 46, 57,

46. Doctoral graduates should have confidence in their ability to carry out original research of all types.

57. Doctoral graduates should have demonstrated ability to articulate/implement findings and to defend the viability of those findings before a panel of experts in the field.

SET FIFTEEN

Collaborative research: 53, 65,

53. Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams).

65. Doctoral graduates should author or co-author works which are capable of being published through a peer-review process.

SET SIXTEEN

Philosophy issues: 70, 72, 75

70. Doctoral graduates should have an extensive understanding of the philosophy of inquiry and epistemologies.

72. Doctoral graduates should possess a critical literacy concerning power structures and dominant ideologies.

75. Doctoral graduates should have a thorough understanding of various views as the sources and users of knowledge in contemporary society - ontology, epistemology.

APPENDIX G

COVER LETTER AND DELPHI

ROUND II QUESTIONNAIRE

DATE

NAME
INSTITUTIONAL AFFILIATION
DEPARTMENT
ADDRESS

Dear Dr. **NAME,**

Thank you for the time and attention you have given my research project, which is examining the potential for viable alternatives to the traditional doctoral dissertation and projecting future research competencies and/or experiences that will be needed by doctoral graduates in their professional roles. The response rate to round one of my Delphi questionnaire was overwhelming (100% of the participants responded). Round one took a great deal of time to complete due to the summer commitments of the panel members. I anticipate that this second survey will take no longer than 15 minutes to complete. Your continued participation is essential because of your expertise in your field.

The enclosed questionnaire is the second round of my Delphi study. It represents a condensed listing of the responses I received from you and your fellow participants. The responses were very interesting and I have tried to maintain as much of the uniqueness of the original responses as possible while at the same time producing a manageable questionnaire. Section one of Round II corresponds to the first Delphi probe which asked for possible viable alternatives to the traditional dissertation. Section two of Round II corresponds to the second Delphi probe which asked for future research competencies and/or experiences for doctoral graduates.

You are being asked to rate each response on a Likert scale according to the amount of agreement or disagreement you perceive at the time of your rating. Please be assured that your responses will be held in confidence.

In the interest of time, please complete the Round II questionnaire and return it in the self-addressed, stamped envelope by September 29, 1996. Please do not hesitate to contact me if you have any questions or comments. I look forward to your continuing support and hope to furnish the third and final Delphi round by early October. Once again, thank you for your time and willingness to participate.

Sincerely,

Kathy Sanders
Oklahoma State University Doctoral Student
(H) 918-455-3114; (O) 918-247-6333 or 247-3805
(E-Mail) ksanders@gorilla.net (FAX) 918-247-6120

DELPHI: ROUND II

Please rate the following statements suggested by the Delphi panel of experts in Round I by marking the appropriate column for each statement with a check (✓) or an "X": The statements will be rated on a Likert scale from 1(strongly disagree) to 5 (strongly agree) to determine the amount of agreement/disagreement among the panel members.

SD: **STRONGLY DISAGREE**
D: **DISAGREE**
N: **NEUTRAL**
A: **AGREE**
SA: **STRONGLY AGREE**

RESPONSES FROM DELPHI ROUND I, PROBE ONE: PANEL STATEMENTS CONCERNING ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION	1 SD	2 D	3 N	4 A	5 SA
1. Works that are publishable as sole authored articles in refereed education or social science research journals are viable alternatives to the traditional doctoral dissertation (e.g., AERA, AVERA, or APA journals). COMMENTS:					
2. A series of scholarly, refereed, published materials are viable alternatives to the traditional doctoral dissertation. COMMENTS:					
3. Accepted publication of a critical review of the literature in a recognized journal in the field is a viable alternative to the traditional dissertation. COMMENTS:					
4. Documents and oral presentations describing major educational intervention(s) that is formulated from relevant theories and formatively evaluated using the principles of disciplined inquiry are viable alternatives to the dissertation. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE ONE: PANEL STATEMENTS CONCERNING ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION	1 SD	2 D	3 N	4 A	5 SA
5. Interdisciplinary research - perhaps conducted as a team member - would be a viable alternative to the traditional dissertation, especially in terms of addressing "real world" problems. COMMENTS:					
6. A scholarly book published by a commercial publisher is a viable alternative to the traditional doctoral dissertation. COMMENTS:					
7. There should be no alternative to the doctoral dissertation. COMMENTS:					
8. A year of study and working abroad in the area of emphasis is a viable alternative to the traditional doctoral dissertation. COMMENTS:					
9. Generating a "work" which represents (A) theoretical and research background preparation, (B) application of conceptual ideas to the creation of a "work", and (C) presentation of the work with adequate theoretical/conceptual background and documentation of judgement by an expert panel is a viable alternative to the traditional dissertation . COMMENTS:					
10. A piece of well grounded and scholarly written legislation drafted for a state or federal legislature could be used as a viable alternative to the traditional dissertation. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE ONE: PANEL STATEMENTS CONCERNING ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION	1 SD	2 D	3 N	4 A	5 SA
11. Project dissertations in which a systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects) are viable alternatives to the traditional doctoral dissertation. COMMENTS:					
12. "Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation. COMMENTS:					
13. Doctoral dissertations are unnecessary. Research should focus on the development of usable materials that will help others work in more democratic and critical ways with students, as well as helping students explore the development of their own critical consciousness as educators. COMMENTS:					
14. A collaborative (group) research study, with one or multiple products, is a viable alternative to the traditional doctoral dissertation. COMMENTS:					
15. Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE ONE: PANEL STATEMENTS CONCERNING ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION	1 SD	2 D	3 N	4 A	5 SA
16. An "applied or action research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the caliber normally expected in advanced professional practice is a viable alternative to the traditional doctoral dissertation. COMMENTS:					
17. Participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the traditional doctoral dissertation. COMMENTS:					
18. Development of new theories of learning applicable to learning via computer generated communication (CMC), rather than reliance on theories developed by others, are viable alternatives to the traditional doctoral dissertation. COMMENTS:					
19. High quality research based projects which contribute to the knowledge base and link theory to practice are viable alternatives to the traditional doctoral dissertation (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development etc.). COMMENTS:					
20. Synthesis and analysis of previously related literature to formulate new ideas is a viable alternative to the traditional doctoral dissertation. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE ONE: PANEL STATEMENTS CONCERNING ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION	1 SD	2 D	3 N	4 A	5 SA
21. The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the internet). COMMENTS:					
22. A software program, a performance script. or other such product designed around certain pedagogical or artistic principles is a viable alternative to the traditional doctoral dissertation. COMMENTS:					

PLEASE CONTINUE - YOU WILL NOW BE RATING THE RESPONSES TO THE SECOND PROBE

DELPHI ROUND II - PROBE TWO

Please rate the following statements suggested by the Delphi panel of experts in Round I by marking the appropriate column for each statement with a check (✓) or an "X": The statements will be rated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree) to determine the amount of agreement/disagreement among the panel members.

SD: STRONGLY DISAGREE
D: DISAGREE
N: NEUTRAL
A: AGREE
SA: STRONGLY AGREE

RESPONSES FROM DELPHI ROUND I, PROBE TWO: PANEL STATEMENTS OF NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES	1 SD	2 D	3 N	4 A	5 SA
1. Doctoral graduates should demonstrate competence in the execution of multiple research designs and methodologies with the premise that one chooses a design and methodology that fits the problem or project to be studied. COMMENTS:					
2. Doctoral graduates should have a comprehensive understanding of, and ability to apply, research methodologies (both quantitative and qualitative), statistics, and data analysis, both as a user and a consumer. COMMENTS:					
3. Doctoral graduates should demonstrate efficiency with acceptable research methods (e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners). COMMENTS:					
4. Doctoral graduates should have the ability to locate and critically evaluate relevant research literature. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE TWO: PANEL STATEMENTS OF NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES	1 SD	2 D	3 N	4 A	5 SA
5. Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings. COMMENTS:					
6. Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC). COMMENTS:					
7. Doctoral graduates should have demonstrated competence in understanding and using technologically-based tools in research investigations (e.g., library facilities, electronic data searches, surfing the internet from home, software related to the field, e-mail, word processing). COMMENTS:					
8. Doctoral graduates should have demonstrated the ability to articulate and implement findings and to defend the viability of those findings before a panel of experts in the field. COMMENTS:					
9. Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known. COMMENTS:					
10. Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE TWO: PANEL STATEMENTS OF NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES	1 SD	2 D	3 N	4 A	5 SA
11. Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners. COMMENTS:					
12. Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research. COMMENTS:					
13. Doctoral graduates should have confidence in their ability to carry out original research of all types. COMMENTS:					
14. Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field. COMMENTS:					
15. Doctoral graduates should use skills of reflective practice within their own work. COMMENTS:					
16 Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment. COMMENTS:					
17. Doctoral graduates should work with area teams in addressing educational problems. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE TWO: PANEL STATEMENTS OF NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES	1 SD	2 D	3 N	4 A	5 SA
18. Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study. COMMENTS:					
19. Doctoral graduates should understand that research is a social process. COMMENTS:					
20. Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance. COMMENTS:					
21. Doctoral graduates should be able to compare and contrast existing learning theories. COMMENTS:					
22. Doctoral graduates should know the relationship between knowledge and ideology. COMMENTS:					
23. Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers. COMMENTS:					
24. Doctoral graduates should demonstrate competence as a consumer of research. COMMENTS:					
25. Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development. COMMENTS:					

RESPONSES FROM DELPHI ROUND I, PROBE TWO: PANEL STATEMENTS OF NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES	1 SD	2 D	3 N	4 A	5 SA
26. Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study. COMMENTS:					
27. Doctoral graduates should have the ability to critically analyze and synthesize past research. COMMENTS:					
28. Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field. COMMENTS:					
29. Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process. COMMENTS:					
30. Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry, epistemologies, ontologies, etc. COMMENTS:					

APPENDIX H

RESULTS OF ROUND II QUESTIONNAIRE

TABLE 16

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND
AVERA PANELISTS FOR VIABLE ALTERNATIVES TO
THE TRADITIONAL DOCTORAL DISSERTATION
ROUND II, PROBE ONE

Alternative Statement #	CPAE Mean	AVERA Mean	COMBINED Mean
1	3.636	3.000	3.333
2	3.545	3.500	3.523
3	2.273	2.000	2.142
4	2.545	2.600	2.571
5	3.700	2.700	3.200
6	3.818	3.800	3.809
7	1.545	2.800	2.142
8	1.273	1.300	1.285
9	3.500	3.600	3.550
10	2.273	2.500	2.380
11	3.636	3.200	3.428
12	4.727	3.800	4.285
13	2.364	1.500	1.952
14	4.091	2.600	3.380
15	4.182	3.100	3.666
16	3.727	3.200	3.476
17	4.273	2.500	3.428
18	3.091	3.000	3.047
19	3.636	3.600	3.619
20	3.818	3.200	3.523
21	4.091	4.500	4.285
22	3.273	3.100	3.190

TABLE 17

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND AVERA
PANELISTS FOR ROUND II, PROBE TWO STATEMENTS
OF FUTURE RESEARCH COMPETENCIES
AND/OR EXPERIENCES

Competency Statement #	CPAE Mean	AVERA Mean	COMBINED Mean
1	3.909	4.800	4.333
2	4.091	4.800	4.428
3	4.182	4.500	4.333
4	4.636	4.800	4.714
5	3.636	4.600	4.095
6	2.182	2.900	2.523
7	4.091	4.100	4.095
8	4.273	4.700	4.476
9	4.636	4.800	4.666
10	4.636	4.900	4.761
11	4.273	4.800	4.523
12	4.545	3.800	4.190
13	2.800	4.000	3.400
14	4.600	4.700	4.650
15	4.400	3.500	3.950
16	4.400	4.100	4.250
17	2.900	3.400	3.150
18	4.273	4.500	4.380
19	4.600	3.100	3.850
20	3.091	3.800	3.428
21	3.636	3.700	3.666
22	4.400	3.700	4.050
23	3.909	4.100	4.000
24	4.300	4.600	4.450
25	3.091	4.200	3.619
26	4.091	4.700	4.380
27	4.636	4.800	4.714
28	4.727	4.400	4.571
29	4.091	3.900	4.000
30	4.273	3.000	3.666

APPENDIX I

COVER LETTER AND

DELPHI ROUND III QUESTIONNAIRE

DELPHI ROUND III ANSWER SHEET

DATE

Dear Dr. NAME,

Thank you for returning the responses to Round II of my Delphi Study. I look forward to your continued support and participation. The end of the tunnel is finally near. This packet contains the third and **final** round of my Delphi questionnaires.

The original purpose of my Delphi study was two fold. First, to generate ideas concerning alternatives to the traditional doctoral dissertation and, second, to generate ideas concerning research competencies and/or experiences needed by future doctoral graduates in a competitive global society. Round I generated those ideas, Round II gave the panel of experts an opportunity to rate each statement on a Likert scale, and the third and final questionnaire permits the participants to review prior responses and express their individual judgements as to the viability and importance of each item. Round III will give each member a chance to re-evaluate each statement based on clarifications and comments from other panel members.

The packet contains the following items:

1.   A cover sheet
2.   A thank you letter
3.   A 16 page summary of both Delphi probes, the responses from Round II, the comments of the participants, and any necessary clarifications. It also gives the mean score for each item.
4.   A cover sheet for a return fax
5.   A 7 page answer sheet for you to fax back to me. The answer sheet is used in conjunction with the 16 page summary of Round II. The answer sheet gives the statement number for each probe (22 for probe 1 and 30 for probe 2), your original rating, the group mean score for each statement, and a space for implications for the future, reactions to previous comments, and any necessary clarifications.

I am asking each participant to please fax me (if possible) his/her responses as soon as possible (by 10/29/96 if at all possible). You will need to fax me a total of 8 pages (the cover sheet I am including and the 7 pages of responses from Round III).

Again, thank you for your encouragement and support. I certainly would not have a study were it not for my panel of experts.

Sincerely,

Kathy Sanders

Home Phone :   918-455-3114
Office Phone :   918-247-6333 or 918-247-3805
Fax Number :   918-258-4822
E-Mail   :   ksanders@gorilla.net

DELPHI: ROUND III

There will be two sections for each of the two Delphi probes. First, the original probe, comments received from participants, and clarifications of probe one statements. Second, an answer sheet showing the participants' initial rating, the group mean for each statement, an opportunity for each participant to modify his/her rating, and space for implications for the future and general reactions. The enclosed Delphi questionnaire contains:

1. participants' statements of viable alternatives to the traditional doctoral dissertation.
2. comments given by participants on each alternative to the traditional doctoral dissertation.

THE ANSWER SHEET CONTAINS:

3. a preliminary rating of these alternatives by the participants.
4. the mean for each statement.
5. a space to modify ones' rating.
6. a space to write implications for future action, reactions to previous comments, and clarification as needed.

YOUR ORIGINAL RATINGS WERE BASED ON THE FOLLOWING LIKERT SCALE:

SD: 1 = STRONGLY DISAGREE
D: 2 = DISAGREE
N: 3 = NEUTRAL
A: 4 = AGREE
SA: 5 = STRONGLY AGREE

RESPONSES FROM DELPHI ROUND II, PROBE ONE: PANEL STATEMENTS CONCERNING ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION	GROUP MEAN
1. Works that are publishable as sole authored articles in refereed education or social science research journals are viable alternatives to the traditional doctoral dissertation (e.g., AERA, AVERA, or APA journals). CLARIFICATION: "Works" indicates more than one article. PANEL COMMENTS FROM ROUND II RESPONSES: 1. A minimum number should be identified, maybe 5?? 2. Doesn't show the detailed evolution of the proposal, nor its conceptualization. Also, this option seems to preclude a public defense/discussion. 3. It would be the committee's prerogative to accept a dissertation which contains significant material that the candidate had earlier published in another form. 4. Does this mean are accepted for publication? If not, who decides if "publishable"? How man "works" are required? 5. I'm not sure it needs to be "sole" authored - perhaps, first or head author. 6. I believe a portfolio that contained several such works would be acceptable, but not one refereed, sole-authored article. 7. Although valuable, these articles often provide only limited information about procedures used. 8. As long as they are created anew.	3.33
2. A series of scholarly, refereed, published materials are viable alternatives to the traditional doctoral dissertation. CLARIFICATION: "Series" indicates more than one, suggestions ranged from 3 to 5 published items. Refereed journals evaluate the scholarly materials for publication. PANEL COMMENTS FROM ROUND II RESPONSES: 1. Statement somewhat vague. 2. The standards for acceptability for this are too vague. 3. It would be the committee's prerogative to accept a dissertation which contains significant material that the candidate had earlier published in another form. 4. As a sole author. 5. I assume this would be presented as a "portfolio" of sorts. 6. I believe a portfolio that contained several such works would be acceptable. 7. If full details of research procedures and outcomes are provided. 8. The point of a dissertation is to add significant knowledge through the demonstrated mastery of research methods. Refereed journals can judge this - but others probably can't. 9. As long as they are created anew.	3.52

3.	Accepted publication of a critical review of the literature in a recognized journal in the field is a viable alternative to the traditional dissertation. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. meta-analyses?? 2. If not too limited. Must break new ground. 3. I consider <u>original</u> research to be acceptable, not a review of other's research. 4. It would have to be a substantial document like those found in the review of traditional research. 5. I believe a portfolio that contained several such works would be acceptable, but not one refereed, sole-authored article. This type of publication should be required in a series of articles. 6. I think this could be one element, but it wouldn't be sufficient by itself. 7. An extensive meta analysis would be acceptable. 8. As long as they are created anew.	2.14
4.	Documents and oral presentations describing major educational intervention(s) that is formulated from relevant theories and formatively evaluated using the principles of disciplined inquiry are viable alternatives to the dissertation. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Demonstration of relevant theories is critical. 2. Should be theory building or theory critical, not theory applying. 3. As long as these are integrated into one overall piece. 4. With emphasis on the <u>and</u>. In my view an oral presentation only would not be adequate. 5. I do not believe the standards for these types of works are sufficiently rigorous in most cases to merit an equivalence to the dissertation. 6. It's unclear to me what's being described here. 7. These are the bases for research.	2.57

5. Interdisciplinary research - perhaps conducted as a team member - would be a viable alternative to the traditional dissertation, especially in terms of addressing "real world" problems. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Does not demonstrate ability to carry out individual research. A team member on a grant is not enough. 2. Dissertation should be an individual effort <u>not</u> a team effort. 3. The challenge would be assessing relative contribution of team members for purposes of awarding a degree. 4. Agree, if there is a report. 5. Product must be produced, defended, and disseminated. 6. This is very common in our grad courses already. I believe this activity could have merit; however, the individual still needs to clearly delineate his or her own research and related product(s). 7. As long as valid and reliable procedures and outcomes are addressed. 8. Panel member underlined "addressing 'real world' problems" and wrote (meaningless phrase. Unclear question). Adding, the question can't be answered since I don't know how to evaluate individual performance. PhD's are given to individuals, not groups.	3.2
6. A scholarly book published by a commercial publisher is a viable alternative to the traditional doctoral dissertation. **CLARIFICATION: add to the end of statement 6 the words: however, it should have required the same type of skills as that required by the dissertation.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. What is this (scholarly book)?? research based? opinion? 2. See conflict of interest problems here. 3. How does one define scholarly? 4. Assuming a scholarly review process is in place. 5. Yes - but I would suggest this activity is probably even more taxing than the dissertation itself. 6. If this described research. 7. Who would judge the quality? 8. If there were some way of evaluating "scholarly." Commercial publishers often force authors NOT to be scholarly. 9. Many books are not created in a way that tests the person's ability to do research.	3.81

7.	There should be no alternative to the **traditional** doctoral dissertation.	2.14

CLARIFICATION: the word "traditional" has been added to statement 7.

PANEL COMMENTS FROM ROUND II RESPONSES:
1. Alternatives are needed, particularly for practicing professionals.
2. This depends on the type of degree and the pressure put on program by the university.

8.	A year of study and working abroad in the area of emphasis is a viable alternative to the traditional doctoral dissertation.	1.29

PANEL COMMENTS FROM ROUND II RESPONSES:
1. Master's level or B.A. level. Educational, but does not require sustained analysis.
2. Experience, even if rich and deep, is not sufficient.
3. Again, not without a product. Surely, we don't plan to give doctorates for traveling life's rich pageant!
4. Yes - but there needs to be a product or document of the learning in the form of journal, self-assessment, research article, etc.
5. This doesn't necessarily involve research - that must be present.
6. It is not possible to judge what was learned, and whether the student has mastered research skills.

9.	Generating a "work" which represents (A) theoretical and research background preparation, (B) application of conceptual ideas to the creation of a "work", and (C) presentation of the work with adequate theoretical/conceptual background and documentation of judgement by an expert panel is a viable alternative to the traditional dissertation.	3.55

CLARIFICATION: the "work" is any project accepted by ones' committee which meets the stipulations suggested; this "work" is presented to an expert panel.

PANEL COMMENTS FROM ROUND II RESPONSES:
1. How is this different from the traditional dissertation?
2. Too much theory to practice - not at level of scholar.
3. I'm not really sure what this is.
4. Need to define "work".
5. Agree, however, this is already approved by some universities in lieu of a formal dissertation.
6. Sounds like a dissertation to me.
7. What do you mean by "work"?
8. Unclear question. If this means presented "to" an expert panel and there is a way to disseminate the "work", then "yes."

10. A piece of well grounded and scholarly written legislation drafted for a state or federal legislature could be used as a viable alternative to the traditional dissertation.	2.38

CLARIFICATION: Legislation must be well-grounded in past works and it can not be used to advance ones' personal agenda.

PANEL COMMENTS FROM ROUND II RESPONSES:
1. Legislation and policy is conflicted with considerable atheoretical, non-rational thinking. Who has ever seen a piece of "scholarly written legislation"? Initial bills may have some of these characteristics, but it is seldom true of the Acts that become law.
2. With defense.
3. Practice, not scholarship.
4. Legislation as a product and as a process may bear little resemblance to scholarly work; it certainly does not qualify the author as a qualified academic.
5. Only with a "background" component that demonstrated the basis for policy/law.
6. This idea has real merit. I had not thought of it before.
7. "Scholarly" and "legislation" is a strange pairing!
8. Depends on the type of degree and institution.

11. Project dissertations in which a systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects,) are viable alternatives to the traditional doctoral dissertation.	3.43

CLARIFICATION: These project dissertations would require the same rigor as the traditional dissertation; however, the product is often something other than a hard bound dissertation.

PANEL COMMENTS FROM ROUND II RESPONSES:
1. As long as it is written up in some way.
2. If for Ed.D., not Ph.D.
3. Unsure, what does project dissertations mean?
4. Real potential in this kind of activity.
5. If there is evidence that a full literature search is involved to show that this is a significant contribution.

12.	"Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation.	4.29
	PANEL COMMENTS FROM ROUND II RESPONSES: 1. Depends on the methodological rigor involved in each. 2. Done already in "traditional" framework. 3. We already do this extensively. 4. I regard these as "traditional" doctoral dissertations! 5. These are currently approved as dissertations by some faculties.	
13.	Doctoral dissertations are unnecessary. Research should focus on the development of usable materials that will help others work in more democratic and critical ways with students, as well as helping students explore the development of their own critical consciousness as educators.	1.95
	PANEL COMMENTS FROM ROUND II RESPONSES: 1. The post-structuralists have arrived in vocational technical education!! 2. This is too vague for me to rate. 3. Absolutely not. This raises the question of the meaning of a Ph.D. 4. I like this, though I never would have thought of it. 5. Statement reflects a very narrow view of what scholarship (research) is. 6. The rationale for #13 makes sense, but I don't see what the activity would be. 7. I resist the exclusive focus here one practical application - usability. (The words usable and work are double underlined by panel expert here) 8. Education involves much more than creation of materials. 9. See #2 (the point of a dissertation is to add significant knowledge through the demonstrated mastery of research methods. Refereed journals can judge this -- but others probably can't.) A dissertation is not a substitute for what teachers should do. 10. A useful purpose of further education, but not a good way to judge mastery.	

14. A collaborative (group) research study, with one or multiple products, is a viable alternative to the traditional doctoral dissertation. **CLARIFICATION: individual contributions would be evaluated.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Needs to be an individual effort. 2. Need more specificity of judgment of individual contributions. 3. Again, with some means of assessing relative contributions to the product(s). 4. Collaborative (group) dissertations have been completed at some universities. 5. This is very common in our grad courses already. I believe this activity could have merit; however, the individual still needs to clearly delineate his or her own research and related product(s). 6. See # 5 (The question is unclear since I don't know how to evaluate individual performance. Ph.D.'s are given to individuals, not groups). How to evaluate? If no individual evaluation, then, "NO."	3.38
15. Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation. **CLARIFICATION: a means to assess individual contributions to the product(s) would be a component of this alternative.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. How does the University attest to the competence acquired by "individuals" in this case? 2. Needs to be an individual effort. 3. Again, with some means of assessing relative contributions to the product(s). 4. # 14 and #15 are very similar. Could combine easily. 5. There must be a clear delineation of responsibility and mechanisms to ensure accountability among co-authors - at present, I'm not sure how to make this work well. 6. See # 5 (The question is unclear since I don't know how to evaluate individual performance. Ph.D.'s are given to individuals, not groups). How to evaluate? If no individual evaluation, then, "NO."	3.66

16.	An "applied or action research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the caliber normally expected in advanced professional practice is a viable alternative to the traditional doctoral dissertation.	3.48
	PANEL COMMENTS FROM ROUND II RESPONSES: 1. This is what is produced in most graduate courses. 2. Master's level. 3. When accompanied by a background document that justifies the approach taken. 4. This idea has a great deal of merit!	
17.	Participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the traditional doctoral dissertation.	3.43
	PANEL COMMENTS FROM ROUND II RESPONSES: 1. This is done in most high quality undergraduate student teaching courses and seminars for beginning teachers. 2. Need to demonstrate individual expertise in this process. 3. I have already done this. 4. As long as suitable criteria for assessing quality are present. 5. Good idea. 6. See # 5 (The question is unclear since I don't know how to evaluate individual performance. Ph.D.'s are given to individuals, not groups). I'm hoping there is a way to evaluate the individual leader's work/product. 7. Yes - and there needs to be some documentation of thinking and consideration of that.	
18.	Development of new theories of learning applicable to learning via computer generated communication (CMC), rather than reliance on theories developed by others, are viable alternatives to the traditional doctoral dissertation.	3.05
	PANEL COMMENTS FROM ROUND II RESPONSES: 1. Much too specific - really calls for a particular focus. 2. There should be some testing of this theory. 3. Developing new theories is too demanding for most students. 4. Any theory development effort is acceptable as long as it is well executed. 5. Need further explanation. Why wouldn't theory of others help too? 6. Theory development requires the use of related theory.	

19. High quality research based projects which contribute to the knowledge base and link theory to practice are viable alternatives to the traditional doctoral dissertation (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development etc.). **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. If you can test any of the above examples (e.g. testing various teaching methods) and write-up the analysis and findings, then you can have a traditional dissertation. 2. Highly dependent upon creative synthesis of conceptual/theory ideas and critique. 3. Good idea. 4. Panel member circled "high quality" and wrote meaningless. Adding, If there is a full literature search as a base to establish that this is significant and not the "spinning of wheels."	3.62
20. Synthesis and analysis of previously related literature to formulate new ideas is a viable alternative to the traditional doctoral dissertation. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. This is already done within "traditional" formats. 2. Some overlap with #12. 3. With the emphasis on formulating new ideas. 4. Would need to be published and defended. 5. This often a part of a doctoral dissertation. As a stand alone, it is not clear the contribution it would make unless published in a scholarly journal. Person circled related literature and wrote to what? 6. Meta-analysis - yes. 7. As long as it is critical and advances thinking.	3.52
21. The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the internet). **CLARIFICATION: The "package" is a component of the issue.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. I don't know what the emphasis is here - the "package" is not the real issue, I think, or is it? 2. The actual form or format of the dissertation is of minor concern as long as that method provides a permanent record of the candidate's work for future scholars benefit. 3. Good idea - I think this is happening now.	4.29

22.	A software program, a performance script, or other such product designed around certain pedagogical or artistic principles is a viable alternative to the traditional doctoral dissertation.	3.19
	PANEL COMMENTS FROM ROUND II RESPONSES:	
	1. Could be? But this is too vague for me to have an opinion.	
	2. This is acceptable in the fine arts where there is a tradition of excellence in performance. We have no such traditions in education.	
	3. Already happening as a part of the tenure process, so why not doctoral studies too?	
	4. Only in terms of mode of presentation - i.e., the "package."	
	5. The point of a dissertation is to add significant knowledge through the demonstrated mastery of research methods. Refereed journals can judge this - but others probably can't.	
	6. Depends on how the thinking about the design is then also presented.	

ADDITIONAL GENERAL COMMENTS FOR PROBE ONE OF ROUND II NOT RELATED TO A SPECIFIC ITEM:

I am concerned that many of the suggestions are appropriate for a master's degree - work specifically aimed at practice or experiential projects, for example. A doctorate should be aimed at the construction of knowledge. We should be concerned with practice, but with the meta-dialogue around practice and not practice itself. It's not that these projects - practice or experiential - are not worthwhile or educational, it's just that they do not require the level of critical analytical work that is the professional work a Ph.D. does.

PLEASE CONTINUE - YOU WILL NOW BE RE-EVALUATING YOUR RATING TO THE RESPONSES YOU GAVE TO THE SECOND PROBE IN ROUND II

DELPHI ROUND III - PROBE TWO

There will be two sections for probe two. First, the original probe, comments received from participants, and clarifications of probe two statements. Second, an answer sheet showing the participants' initial rating, the group mean for each statement, an opportunity for each participant to modify his/her rating, and space for implications for the future and general reactions. The enclosed Delphi questionnaire contains:

1.   participants' statements of needed research competencies and/or experiences for doctoral graduates.

2.   comments given by participants on each alternative to the traditional doctoral dissertation.

3.   a preliminary rating of these alternatives by the participants.
4.   the mean for each statement.
5.   a space to modify ones' rating.
6.   a space to write implications for future action, reactions to previous comments, and clarification as needed.

YOUR ORIGINAL RATINGS WERE BASED ON THE FOLLOWING LIKERT SCALE:

SD: 1 =   **STRONGLY DISAGREE**
D: 2 =   **DISAGREE**
N: 3 =   **NEUTRAL**
A: 4 =   **AGREE**
SA: 5 =   **STRONGLY AGREE**

RESPONSES FROM DELPHI ROUND II, PROBE TWO: PANEL STATEMENTS OF NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES	GROUP MEAN
1. Doctoral graduates should demonstrate competence in the execution of multiple research designs and methodologies with the premise that one chooses a design and methodology that fits the problem or project to be studied. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Don't agree with this premise. 2. May be asking too much. Mastering of one seems adequate. 3. It seems to me to be a lot (in the execution circled) to ask a doctoral student to be able to execute multiple designs when they haven't yet proven an ability to execute one or a few.	4.33
2. Doctoral graduates should have a comprehensive understanding of, and ability to apply, research methodologies (both quantitative and qualitative), statistics, and data analysis, both as a user **(producer)** and a consumer. **CLARIFICATION: add the word producer in place of user.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. I would prefer that the last phrase read, "both as a producer and consumer of knowledge." 2. The method used depends on the problem. Students need to be able to critique other methodologies but shouldn't be required to use them. 3. Similar to #25. 4. "Apply" is too strong. I would agree with "understanding". 5. Yes - this level of competence is more feasible than #1 above. 6. Either qualitative or quantitative in depth one ability to apply...But should be able to be informed consumer.	4.43

3. Doctoral graduates should demonstrate efficiency with acceptable research methods (e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners). **CLARIFICATION: Efficiency as used here means competence.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Seems pretty conventional/traditional. 2. What does demonstrate "efficiency" mean? 3. If this means being able to function in the traditional mode, yes, but why is that an issue here? 4. If can be evaluated by a refereed journal set of editors.	4.33
4. Doctoral graduates should have the ability to locate and critically evaluate relevant research literature. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Absolutely	4.71
5. Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. The notion of research ⇒ practice is unworkable. It is how the two are related - we need to examine. 2. Translate research - dependent upon student and his/her goals. 3. This assumes that transfer depends on practitioners who somehow don't have the skills. I don't agree with the premise. 4. Yes - this is important and I don't think current doctoral programs do a very good job of it. 5. Depends on area of study and practice.	4.10

6. Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC). **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. This is field specific, isn't it? 2. Too restrictive. 3. Via CMC is not necessary. 4. Too narrow. (2 participants) 5. This competency seems highly specialized. My area if <u>policy</u>. Should we expect every doctoral student to be able to critically analyze public policy and apply <u>political</u> theories? 6. Panel member added (for example) behind CMC. 7. Depends on area of specialization and program.	2.52
7. Doctoral graduates should have demonstrated competence in understanding and using technologically-based tools in research investigations (e.g., library facilities, electronic data searches, surfing the internet from home, software related to the field, e-mail, word processing). **CLARIFICATION: add collecting data via the internet to statement 7.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Competency in #4 must mean there is some competency in this area. 2. Depends on the problem. 3. (collecting data via the internet - addition to #7). Yes - this is becoming increasingly important. One of my current doctoral students is doing his criteria study, collecting Delphi data via the internet. 4. How will we justify this to third world doctoral students who have no such access?	4.10

8.	Doctoral graduates should have demonstrated the ability to articulate and implement findings and to defend the viability of those findings before a panel of experts in the field. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Research and practice should be integrated in the methodology, <u>not</u> adversarial in the presentation. 2. That's what a committee does. 3. Pretty traditional. 4. Circled implement studies and wrote; may be tough if not in a position to implement: Then what? The rest seems perfectly reasonable. 5. Panel member underlined "before a panel of experts" and added: May be a referred journal "panel."	4.48
9.	Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Absolutely.	4.67
10.	Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Absolutely.	4.76
11.	Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners. **CLARIFICATION: The last part of the statement indicates that ones' research enhances ones' educational practice.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Last part of statement is unclear (that can inform their work as educational practitioners). 2. Yes. 3. "Originality" depends on a lot of factors and whether program is an Ed.D. or Ph.D.	4.52

12. Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research. **CLARIFICATION: This statement implies that how one constructs knowledge is influenced by ones' formal (within higher education), cultural (through ones' cultural experiences), and indigenous(a part of ones' historical and/or ethnic heritage such as Native Americans) forms of knowledge construction. It involves how one comes to know and make meaning by how one constructs knowledge.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. ? 2. How wonderful it would be if? 3. Need further explanation of this one.	4.19
13. Doctoral graduates should have confidence in their ability to carry out original research of all **(several)** types. **CLARIFICATION: instead of "all types" use the words "several types"** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Not necessarily all types of research but at least three approaches. 2. Some types, not all. 3. All types is too broad. 4. I don't think it's necessary for Ph.D. grads to be able to do <u>all</u> types of research - few, if anyone, would have a Ph.D. if this was required! 5. All types is too broad a statement. 6. No one can do this!! Unrealistic. 7. SD with "all types". 8. Absolutely. 9. We can't all do <u>all</u> types of research. Let's be realistic! 10. Panel member underlined "have confidence" and added: How to measure? Unclear. 11. Cannot easily do this unless they want to study forever.	3.4

14.	Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Yes. 2. Panel member underlined "should understand" and "the impact" adding: Can't be implemented - vague question. Unclear. 3. Impact may be less relevant for practice and more for theory building.	4.65
15.	Doctoral graduates should use skills of reflective practice within their own work. **CLARIFICATION: Reflective practice means that the practitioner or educator steps out of his/her practice area in order to be able to look at his/her practice reflectively by asking questions about his/her own practice such as: "Is this the best way to do this particular process or could I be doing it more effectively?" It's a process of self-reflection on ones' own practice.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Do we know what this means in our own practice? 2. Explain reflective practice further. 3. Panel member underlined "should use" adding: Vague and unclear. 4. Depends on their program, focus, and work.	3.95
16	Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment. **CLARIFICATION: This statement takes a more global look at the doctoral graduates' understanding of their own field and is not limited to the relevance of the research question(s).** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. I think #16 might be another way to state #14. If not, I'm not sure what it means. 2. Panel member underlined "should" adding: Vague. "Doctoral students should be of high moral character" - How do we measure/implement? How do these (indicating items 14, 15, 16) relate to # 2? (probe is implied)	4.25

17. Doctoral graduates should work with area teams in addressing educational problems. **Clarification: Area teams offer a commonality of practice, but do not bring the same expertise to the table. Some examples: Area teams are often a collaborative effort in HRD involving educators, industry, and students each with a common practice or interest working together to address problems and resolve those problems. Area teams could be vocational educators teaming with extension centers, secondary vocational programs, etc. to implement programs, impact change etc.** **This is not a competency to complete a dissertation. It is a suggestion for research experience.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Depends on whether or not the design requires it. 2. Don't have to, but would be nice. 3. Don't understand area teams?? (2 participants) 4. As a general competency --Yes; As a competency for completing a dissertation -- No. 5. Not always appropriate. 6. Absolutely - but more precision about how this relates to research is needed. 7. What's the point here? 8. Depends on nature of problem and research.	3.15
18. Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Absolutely. 2. This can be observed and measured/evaluated (can't make out word)#2.	4.38

19. Doctoral graduates should understand that research is a social process. CLARIFICATION: Panelist recommended that the words "and a political process" be added to the statement to enhance understanding. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. ? 2. A social process - explain how so. 3. Panel member underlined <u>should understand</u> and added: Vague - can't be done - unclear. 4. Sometimes it is less social - depends on nature of problem and research.	3.85
20. Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance. CLARIFICATION: This statement was given in response to probe 2 concerning research competence and/or research experience; it is not a dissertation issue, but a research issue. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. What are 'acceptable' processes - too opaque a statement. 2. Too narrow and not always relevant. 3. Absolutely - For example, a doctoral graduate needs to be able to contribute to the peer review processes underway in a field. 4. They should know how to access resources in these areas as needed. 5. Is this on dissertation now? 6. Depends on area of focus and specialization.	3.43

21. Doctoral graduates should be able to compare and contrast existing learning theories. **CLARIFICATION: Any bias toward learning is a reflection of the participants' suggestions and the panel members' interpretations. The study has no such bias.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Learning theories - depends upon nature of student and his/her program. 2. Not appropriate for all doctoral graduates. The ability to compare and contrast relevant theories, yes. 3. Bias toward learning as core of doctoral studies seems apparent in this study. It is important, but why aren't other theoretical bases identified? 4. Is this on dissertation now? 5. Depends on area of focus and specialization.	3.67
22. Doctoral graduates should know the relationship between knowledge and ideology. **CLARIFICATION: This statement was given in response to probe 2 concerning research competence and/or research experience; it is not a dissertation issue, but a research issue.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Do professors know? 2. Circled knowledge and ideology - Explain. 3. Is this on dissertation now?	4.05
23. Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers. **CLARIFICATION: This statement was given in response to probe 2 concerning research competence and/or research experience; it is not a dissertation issue, but a research issue.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Problem - posing. 2. Depends upon student and program orientation. 3. What does this mean? Vague. 4. Absolutely. 5. They should be capable of this. 6. Is this on dissertation now? 7. Probably so, but again, it depends on context and focus.	4.0

24. Doctoral graduates should demonstrate competence as a consumer of research. **CLARIFICATION: Probe 2 asked participants to list statements of research competence and/or research experience that doctoral graduates must have to compete in their future professional roles in an information intensive society.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Should be a 'critical appraiser' of research. 2. Yes. 3. Panel member underlined should and added: I can't think how, unclear. Why am I answering questions which have no obvious relation to the project?	4.45
25. Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Should understand both and be expert in handling one form of data. Most professors can't do this. 2. The method used depends on the problem. Students need to be able to critique other methodologies but shouldn't be required to use them. 3. Similar to #2. 4. No. Too demanding. 5. Too broad. 6. Yes - is this the same as #2? 7. Circled qualitative instrument development and wrote: This isn't entirely accurate - the qualitative researcher is the instrument. 8. They should know how to access resources in these areas as needed. 9. In depth of quantitative OR qualitative - can't do BOTH - ? yrs! Should know both more generally.	3.62
26. Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study . **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. I don't think this is a "learning" competency! 2. A more reasonable position than # 25. 3. Absolutely. 4. As opposed to . . .? awarding a Ph.D. for an unfinished project?	4.38

27. Doctoral graduates should have the ability to critically analyze and synthesize past research. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Yes.	4.71
28. Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. This is a must. 2. Panel member underlined in order to make a useable contribution to their field and added: O.K.	4.57
29. Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process. **CLARIFICATION: Keep in mind that this is a suggested research competence and/or experience. This is not suggesting a collaborative dissertation. Participants who suggested this statement want the doctoral graduate to be able to co-author works which are capable of being published through a peer-review process.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Two statements in one. 2. Nice, but not too realistic. 3. Absolutely. 4. Panel member underlined collaborative researchers and added: No 5. Depends on nature of research and focus.	4.0
30. Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry, epistemologies, ontologies, etc. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Again - it depends upon the student and the orientation of the program. 2. Absolutely. 3. They should know how to access resources in these areas as needed. 4. I guess . . .	3.67

DELPHI: ROUND III - ANSWER SHEET FOR STATEMENTS TO PROBE ONE:

PROBE ONE ASKED PARTICIPANTS TO RATE THE PANEL MEMBERS' STATEMENTS FOR ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION.

The answer sheet contains the following information:

3. a preliminary rating of these alternatives by each participant.
4. the group mean for each statement.
5. a space to modify ones' original rating.
6. a space to write implications for future action, reactions to previous comments, and clarification as needed.

YOUR ORIGINAL RATINGS WERE BASED ON THE FOLLOWING LIKERT SCALE:

SD: 1 = STRONGLY DISAGREE
D: 2 = DISAGREE
N: 3 = NEUTRAL
A: 4 = AGREE
SA: 5 = STRONGLY AGREE

USE THE ABOVE SCALE IF YOU CHOOSE TO MODIFY YOUR ORIGINAL RATING

STATEMENT NUMBER FOR PROBE ONE	Your First Rating	Mean of Group	New Rating	Implications for the future, reactions to previous comments, and clarifications.
1.	5	3.33		
2.	5	3.52		
3.	2	2.14		
4.	3	2.57		
5.	4	3.20		
6.	4	3.81		

STATEMENT NUMBER FOR PROBE ONE	Your First Rating	Mean of Group	New Rating	Rating Implications for the future, reactions to previous comments, and clarifications.
7.	1	2.14		
8.	2	1.29		
9.	2	3.55		
10.	2	2.38		
11.	4	3.43		
12.	5	4.29		
13.	2	1.95		
14.	5	3.38		
15.	5	3.66		
16.	5	3.48		
17.	5	3.43		

STATEMENT NUMBER FOR PROBE ONE	Your First Rating	Mean of Group	New Rating	Implications for the future, reactions to previous comments, and clarifications.
18.	2	3.05		
19.	4	3.62		
20.	4	3.52		
21.	5	4.29		
22.	4	3.19		

PLEASE CONTINUE - YOU WILL NOW BE RE-EVALUATING YOUR RATING TO THE RESPONSES YOU GAVE TO THE SECOND PROBE IN ROUND II OF THE DELPHI STUDY

DELPHI: ROUND III - ANSWER SHEET FOR STATEMENTS TO PROBE TWO

PROBE TWO ASKED PARTICIPANTS TO RATE THE PANEL MEMBERS' STATEMENTS FOR NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES.

The answer sheet contains the following information:

3. a preliminary rating of these alternatives by the participants.
4. the mean for each statement.
5. a space to modify ones' rating.
6. a space to write implications for future action, reactions to previous comments, and clarification as needed.

YOUR ORIGINAL RATINGS WERE BASED ON THE FOLLOWING LIKERT SCALE:

SD: 1 = STRONGLY DISAGREE
D: 2 = DISAGREE
N: 3 = NEUTRAL
A: 4 = AGREE
SA: 5 = STRONGLY AGREE

PLEASE USE THE ABOVE SCALE IF YOU CHOOSE TO MODIFY YOUR ORIGINAL RATING.

STATEMENT NUMBER FOR PROBE TWO	Your First Rating	Mean of Group	New Rating	Implications for the future, reactions to previous comments, and clarification.
1.	5	4.33		
2.	5	4.43		
3.	3	4.33		
4.	5	4.71		
5.	4	4.10		
6.	4	2.52		

STATEMENT NUMBER FOR PROBE TWO	Your First Rating	Mean of Group	New Rating	Implications for the future, reactions to previous comments, and clarification.
7.	4	4.10		
8.	5	4.48		
9.	5	4.67		
10.	5	4.76		
11.	5	4.52		
12.	5	4.19		
13.	2	3.4		
14.	5	4.65		
15.	5	3.95		
16.	5	4.25		
17.	3	3.15		
18.	4	4.38		

STATEMENT NUMBER FOR PROBE TWO	Your First Rating	Mean of Group	New Rating	Implications for the future, reactions to previous comments, clarification.
19.	5	3.85		
20.	4	3.43		
21.	4	3.67		
22.	5	4.05		
23.	4	4.00		
24.	5	4.45		
25.	4	3.62		
26.	4	4.38		
27.	5	4.71		
28.	5	4.57		
29.	5	4.00		
30.	5	3.67		

APPENDIX J

RESULTS OF ROUND III QUESTIONNAIRE

TABLE 27

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND
AVERA GROUPS OF THE VIABLE ALTERNATIVES TO
THE TRADITIONAL DOCTORAL DISSERTATION
ROUND III, PROBE ONE

Alternative Statement #	CPAE Mean	AVERA Mean	COMBINED Mean
1	3.409	3.000	3.214
2	3.636	3.400	3.523
3	2.364	1.900	2.142
4	2.545	2.600	2.571
5	3.455	2.400	2.952
6	3.364	3.600	3.476
7	1.545	2.500	2.000
8	1.273	1.100	1.190
9	3.273	3.600	3.428
10	2.091	2.000	2.047
11	3.864	3.000	3.452
12	4.727	4.200	4.476
13	1.909	1.300	1.619
14	4.318	2.700	3.547
15	4.409	3.100	3.785
16	3.909	3.000	3.476
17	4.318	2.700	3.547
18	2.909	2.800	2.857
19	3.545	3.500	3.523
20	3.818	3.400	3.619
21	4.273	4.500	4.380
22	3.273	2.800	3.047

TABLE 37

COMPARATIVE LEVEL OF AGREEMENT BY CPAE AND AVERA
GROUPS FOR ROUND III, PROBE TWO STATEMENTS
OF FUTURE RESEARCH COMPETENCIES
AND/OR EXPERIENCES

Competency Statement #	CPAE Mean	AVERA Mean	COMBINED Mean
1	3.818	4.700	4.238
2	4.091	4.700	4.380
3	4.182	4.600	4.380
4	4.727	5.000	4.857
5	3.455	4.800	4.095
6	2.091	2.300	2.190
7	4.182	4.200	4.190
8	4.273	4.800	4.523
9	4.818	4.900	4.857
10	4.818	5.000	4.904
11	4.545	4.800	4.666
12	4.636	4.000	4.333
13	3.091	3.700	3.380
14	4.545	4.700	4.619
15	4.273	3.700	4.000
16	4.364	4.000	4.190
17	3.100	3.400	3.250
18	4.455	4.600	4.523
19	4.455	3.200	3.857
20	3.000	3.800	3.380
21	3.545	3.200	3.380
22	4.500	3.700	4.100
23	3.818	4.100	3.952
24	4.091	4.600	4.333
25	3.091	4.000	3.523
26	4.273	4.500	4.380
27	4.818	4.800	4.809
28	4.727	4.900	4.809
29	4.091	4.100	4.095
30	4.455	2.900	3.714

DELPHI RESULTS: ROUND III PROBE ONE

RESPONSES FROM DELPHI ROUND III, PROBE ONE: PANEL STATEMENTS CONCERNING ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION	GROUP MEAN
1. Works that are publishable as sole authored articles in refereed education or social science research journals are viable alternatives to the traditional doctoral dissertation (e.g., AERA, AVERA, or APA journals). CLARIFICATION: "Works" indicates more than one article. PANEL COMMENTS FROM ROUND III RESPONSES: 1. It would be the committee's prerogative to accept a dissertation which contains significant material that the candidate had earlier published in another form. 2. Too limited in scope, transfers some element of judgment on rigor, etc., to blind reviewers! 3. Comments are mixed. How many and process for each article are still great concerns. 4. I still think conceptually item is OK for some colleges and programs. Obviously, the devil is in the detail. 5. Publishable is too difficult to define. 6. Most well organized dissertations can be easily converted to 2-3 articles. 7. Several comments seem misplaced... of course, guidelines could be included to insure concerns expressed. 8. Acceptance of this alternative would need rigorous criteria to assure the value and quality of the doctoral dissertation. 9. These need not be sole authored articles - collaborative efforts should be encouraged. The number of articles should be determined by the study itself. 10. Publications should not be alternative solely, but may be part of a portfolio which does take place of dissertation. 11. Not sole authored only - perhaps portfolio of work - probably more difficult to do than traditional dissertation if only traditional research models are allowed. 12. I like the idea of a portfolio of several "works". 13. In fact some programs at Teachers College allow for this. If necessary supplementary information can be provided as needed. 14. I will only consider this alternative if reflective of research data collection or significant philosophical / historical analysis. 15. The concerns raised about this option could be addressed by developing clear procedural guides and criteria. 16. "Publishable" is an inadequate criterion and the number of works, e.g., 5 (?) must be satisfied.	3.214

2.	A series of scholarly, refereed, published materials are viable alternatives to the traditional doctoral dissertation.	3.571

CLARIFICATION: "Series" indicates more than one, suggestions ranged from 3 to 5 published items. Refereed journals evaluate the scholarly materials for publication.

PANEL COMMENTS FROM ROUND III RESPONSES:

1. It would be the committee's prerogative to accept a dissertation which contains significant material that the candidate had earlier published in another form.
2. So long as "series" is from an <u>ongoing</u> programmatic research effort.
3. The work to do 3-5 articles is not equal to a dissertation.
4. Same as thought #10 above.
5. Publish where? Only in referred journals for data based, conceptual/theoretic based.
6. In fact some programs at Teachers College allow for this. If necessary supplementary information can be provided as needed.
7. Again supportive if works reflected key elements of a research process & published in key research journals.
8. The concerns raised about this option could be addressed by developing clear procedural guides and criteria.
9. If refereed articles are "published" than I would say this is a serious alternative. Total number of articles must be specified and design description is assumed in this scenario.

3.	Accepted publication of a critical review of the literature in a recognized journal in the field is a viable alternative to the traditional dissertation.	2.142

PANEL COMMENTS FROM ROUND III RESPONSES:

1. Too limited in scope & theory construct.
2. I find this to be a totally unacceptable alternative.
3. Same as above, does not equal a dissertation.
4. Actually, this would be a good element of a <u>series</u> of publishable articles.
5. This would be unacceptable to me.
6. The key would be that the review is actually critical and extends the knowledge base in the conclusions.
7. A critical review, in my mind does break new ground.
8. Critical review is only part of a "research process".
9. One extensive meta-analysis which sheds new light in an original way could be a part (only) of a dissertation.

4.	Documents and oral presentations describing major educational intervention(s) that is formulated from relevant theories and formatively evaluated using the principles of disciplined inquiry are viable alternatives to the dissertation.	2.523

PANEL COMMENTS FROM ROUND III RESPONSES:

1. I do not believe the standards for these types of works are sufficiently rigorous in most cases to merit an equivalence to the dissertation.
2. Written oral are a must -
3. Level of effort does not equal that of a dissertation.
4. Not unless you were considering an intervention on a large scale, something like high schools that work.
5. This remains unclear.
6. Such documents may not be discussed well enough in relation to theory. Not represent scholarly.
7. Needs to have a reference point or judgement of worth in a scholarly group.
8. Panelists do not seem to be distinguish "applied" doctoral degrees (Ed.D.) from "research" degrees (PhD). I consider this quite legitimate for applied doctorals.
9. This is a practitioner's effort at generalizing - - this fails as original research. (?word).

5.	Interdisciplinary research - perhaps conducted as a team member - would be a viable alternative to the traditional dissertation, especially in terms of addressing "real world" problems.	2.952

PANEL COMMENTS FROM ROUND III RESPONSES:

1. Dissertations are individual efforts - not team efforts.
2. Team does not mean group - 5 individuals working on related research individually can be a team.
3. Seems to be the new area of emphasis in higher education.
4. Must be clarified to include a significant product.
5. Does not indicate individual's ability.
6. This statement is conflicted internally. Interdisciplinary research does not have to be completed by a team, nor would its focus have to be of applied problem.
7. Not independent.
8. I believe in a collaborative model. The problem here will be in assessing the skills of the student within the team.
9. This item raises issue of process vs. form or topic. This is more of a process issue.
10. Strongly disagree that individual skills as a researcher must be demonstrated - also their dissertations can not be team/collaborative efforts.
11. I assumed a "product" was involved.
12. Capability of individual vis a vis project can be identical in writing and examined for in the oral.
13. Not necessarily focused upon "real world" - rather ... of individual contributions.
14. I assume we are talented enough that we could figure out a means to access an individuals contribution to a "team" project. It's not easy, but it is possible.
15. The team approach is okay but I can't see how to evaluate any individual. Still don't know what "real world" problems are - This suggests a team effort is "better" if someone thinks its work is "practical" --excludes too much, including objectivity.

6. A scholarly book published by a commercial publisher is a viable alternative to the traditional doctoral dissertation. **CLARIFICATION: add to the end of statement 6 the words: however, it should have required the same type of skills as that required by the dissertation.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Scholarly would have to be defined. 2. New words greatly clarify. 3. OK 4. What are criteria for declaring a book "scholarly"? 5. This assumes a quality study & allows for wider dissemination of the findings than is possible with the traditional dissertation format. 6. I agree with the issues ... around defining "scholarships". 7. Few commercial publishers publish scholarly works, except for university presses. 8. Scholarly books are often "advocacy" and not clearly based on research. 9. Need clarification of the work - believe this is a more difficult alternative than the dissertation. 10. I agree with the comments re: the difficulty of defining "scholarly." Some publishers have a rigorous review process, while others do not. 11. Still, many books are far inferior to dissertations in this field approaches of research.	3.428
7. There should be no alternative to the **traditional** doctoral dissertation. **CLARIFICATION: the word "traditional" has been added to statement 7.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. I'm not sure why I put <u>5</u> in the first place?? 2. Based on your Round II data I remain neutral. There doesn't appear to be compelling evidence here that the standards of formats should be changed. 3. Depends on the type of degree. 4. Alternatives advancing original research through mastery of methods **are** needed.	1.904
8. A year of study and working abroad in the area of emphasis is a viable alternative to the traditional doctoral dissertation. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Comments of reviewers make sense to me - not necessarily research at all. 2. Definitely not an alternative I would support. 3. Would need learning focus & model to be viable alternative. 4. I don't think this demonstrates scholarly research. 5. No criteria, standards, documentation. 6. No way - the outcome of a doctoral program should be a research product for the field.	1.190

9. Generating a "work" which represents (A) theoretical and research background preparation, (B) application of conceptual ideas to the creation of a "work", and (C) presentation of the work with adequate theoretical/conceptual background and documentation of judgement by an expert panel is a viable alternative to the traditional dissertation. **CLARIFICATION: the "work" is any project accepted by ones' committee which meets the stipulations suggested; this "work" is presented to an expert panel.** **PANEL COMMENTS FROM ROUND III RESPONSES:** · 1. Sounds like a dissertation. 2. Balance between Theory and practice must be achieved. 3. Agree that "work" must be defined. 4. This does sound like a dissertation, only with the product defined more loosely. 5. This doesn't strike me as one alternative to the traditional process. 6. After re-reading this, this alternative is not clear to me. 7. I'm still not sure what this really means. 8. I think that some programs at Teachers College do allow for this - in arts and music for example. 9. Doesn't sound very different from the traditional dissertation.	3.523

10. A piece of well grounded and scholarly written legislation drafted for a state or federal legislature could be used as a viable alternative to the traditional dissertation. **CLARIFICATION: Legislation must be well-grounded in past works and it can not be used to advance ones' personal agenda.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Legislation and policy is conflicted with considerable atheoretical, non-rational thinking. Who has ever seen a piece of "scholarly written legislation"? Initial bills may have some of these characteristics, but it is seldom true of the Acts that become law. 2. Legislation as a product and as a process may bear little resemblance to scholarly work; it certainly does not qualify the author as a qualified academic. 3. Just because legislation is messy and not well grounded in the past doesn't mean the future couldn't produce something better (different). I've seen bad dissertations too. Do we <u>stop</u> all doctoral research because some studies are of poor quality? I don't think so. I still think this idea has merit. 4. This is not scholarship. 5. Scholarly legislation is an oxymoron. 6. Comments caused me to lower greatly my rating. I think the skill needed her is covered in other statements. 7. I am not familiar enough with legislation to judge it's appropriateness. 8. Connection must also be made to literature and theory - and should involve systematic research. 9. Legislation - could reflect all of the components of a traditional dissertation - However, the product often does not reflect those components and are often shaped by politics - Not disciplined thoughts. 10. Not withstanding the valid comments about the relation between scholarship and legislation, I see this as a legitimate option in "practice" focused doctorates. 11. "Scholarly legislation" is an oxymoron. I used to write this stuff - the background leading to legislation, perhaps, not legislation alone.	2.047

11.	Project dissertations in which a systematic approach is applied to a problem or to practice (e.g., development and testing of a video or written material for training and development, successful change in teaching methods in a field, community based education projects, educational partnership projects,) are viable alternatives to the traditional doctoral dissertation. **CLARIFICATION: These project dissertations would require the same rigor as the traditional dissertation; however, the product is often something other than a hard bound dissertation.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. As long as it is written up in some way. 2. if for Ed.D., not Ph.D. 3. If there is evidence that a full literature search is involved to show that this is a significant contribution. 4. Projects are fine as long they contribute to the body of knowledge. 5. Perhaps this will meet the standards for an Ed.D. given the plethora of projects to which this could be applied, the production of generalized knowledge is not likely. 6. Emphasis here has to be on scholarly and original. Work should represent a new or innovative approach not defined from a traditional format. 7. We already do this. 8. Could be for some institutions with Ed.D. 9. If a literature search is done and included and if "successful" is proven.	3.500
12.	"Nonempirical" studies, such as philosophical, historical, or conceptual analyses are viable alternatives to the traditional doctoral dissertation. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. All comments indicate this is already being done. 2. I concur with the view that these are already done - my earlier rating was an error. 3. The terminology seems to describe "qualitative" research. 4. This is standard now. I'm confused why this is here. 5. Not "new". 6. This is also done at Teachers College. 7. These analyses are currently unacceptable. 8. Phenomenology, history, epistemological analyses such as hermeneutics are standard in traditional dissertations now.	4.476

13.	Doctoral dissertations are unnecessary. Research should focus on the development of usable materials that will help others work in more democratic and critical ways with students, as well as helping students explore the development of their own critical consciousness as educators.	1.571
	PANEL COMMENTS FROM ROUND III RESPONSES:	
	1. The statement seems to present two different ideas. 1) Dissertations are unnecessary & 2) Research should... I'm rating the 1) statement with #2.	
	2. This is an excellent and important indictor of teaching in our field, but far from a standard for a dissertation.	
	3. I agree with intent of this item it would require lots of working through of questions such as those raised here.	
	4. I'm intrigued, but unsure how to (?word) this.	
	5. I do not object to post-structuralists or critical theory but this is not clear enough about the product.	
	6. There also needs to be some written evidence / documentation.	
	7. No literature search to show originality, no evaluation of success, no discovery of new knowledge. If this could be the outcome of such an experiment, then, "yes."	
14.	A collaborative (group) research study, with one or multiple products, is a viable alternative to the traditional doctoral dissertation.	3.547
	CLARIFICATION: individual contributions would be evaluated.	
	PANEL COMMENTS FROM ROUND III RESPONSES:	
	1. Needs to be an individual effort.	
	2. Individual contributions must be evaluated.	
	3. Interdisciplinary?	
	4. Too hard to judge individual's contribution.	
	5. The problems associated with measuring individual contributions make this statement unusable.	
	6. Independence.	
	7. Interesting to see the resistance to collaborative work. The focus on individual effort is an artifact of an earlier age - we need to get beyond this!	
	8. I disagree with need for individual effort but individuals should some how be accountable in the process.	
	9. This has been done in our program.	
	10. Should reflect conceptual thought research principles & scholarly judgement to create the new understandings.	
	11. If individual contribution was evaluated; then, fine.	

15.	Co-authored dissertations, representing collaborative projects with other doctoral students, are viable alternatives to the traditional doctoral dissertation.	3.785

CLARIFICATION: a means to assess individual contributions to the product(s) would be a component of this alternative.

PANEL COMMENTS FROM ROUND III RESPONSES:
1. How does the University attest to the competence acquired by "individuals" in this case?
2. Needs to be an individual effort.
3. Individual efforts need to be evaluated.
4. Clear definition of responsibility a <u>must.</u>
5. Too hard to judge individuals contribution.
6. The problems associated with measuring individual contributions make this statement unusable.
7. Same as response # 7 in the above question.
8. This has been done in our program.
9 Could be viable - with focus on individual contributions and leanings.
10. I disagree with need for individual effort but individuals should some how be accountable in the process.
11. Again, if an individual's effort could be evaluated; then, fine.

16.	An "applied or action research project" in which the student produces an exemplary product (policy document, plan, project proposal, solution strategy, problem analysis) of the caliber normally expected in advanced professional practice is a viable alternative to the traditional doctoral dissertation.	3.476

PANEL COMMENTS FROM ROUND III RESPONSES:
1. An intriguing alternative.
2. I really think is appropriate for MS or Ed.S. degrees.
3. Standards for an "exemplary product" are not sufficiently explicit.
4. I disagree with need for individual effort but individuals should some how be accountable in the process.
5. As long as it was carefully spelled out what the requirements are.
6. An "exemplary" action research project is just as sophisticated as traditional PhD research.
7. This is done, at time, at Teachers College.
8. Again needs to reflect scholarship & original creative contributions.
9. We as faculty supervisors and committee members, insure that projects are of the right "level." There is nothing inherently "masters level" or "doctoral level" about any of these alternatives.
10. If the method arises from the problem and is "exemplary," then I think adult education should encourage more of this type of study.

17.	Participatory action research projects which involve practitioners as researchers within a shared area of concern are viable alternatives to the traditional doctoral dissertation.	3.547

PANEL COMMENTS FROM ROUND III RESPONSES:

1. Need to demonstrate individual expertise in this process.
2. I think comments of some panelist underestimates the complexity of PAR. This is <u>not</u> undergraduate level work. Directing PAR projects can be extremely demanding of research expertise.
3. Interdisciplinary?
4. I would support this if the PAR project met the standards of disciplined inquiries.
5. I disagree with need for individual effort but individuals should some how be accountable in the process. You can see I like the idea of this cluster of items, but ....
6. We already do this.
7. Careful documentation is needed - and perhaps a scholarly supplement by candidate.
8. Based on a literature search, arising clearly from the problem and individual evaluation is possible, then "yes."

18.	Development of new theories of learning applicable to learning via computer generated communication (CMC), rather than reliance on theories developed by others, are viable alternatives to the traditional doctoral dissertation.	2.857

PANEL COMMENTS FROM ROUND III RESPONSES:
1. Too specific.
2. Focus seems to be more of an outcome rather than the process.
3. As added in comment some interpretation of meaning is warranted to give the statement a higher rating.
4. Statement without more knowledge of actual acceptance criteria is to nebulous.
5. I rated this as low as I did because I am really unclear what would be involved. - Not apposed to idea.
6. This sounds more like a topic for a dissertation.
7. We already do this.
8. I agree - too specific to a particular application.
9. Yes - Though again, the thinking & research on theory need documentation.
10. This doesn't make sense - because a theory of learning is generalizable across systems and persons.
11. Any development of new theory would indeed have to be done in relation to existing theory. Demanding, yes, but quite acceptable.
12. Unfortunate this is locked into "CMC." New theory is **very** appropriate for dissertations -- most professors can't generate it, however.

19.	High quality research based projects which contribute to the knowledge base and link theory to practice are viable alternatives to the traditional doctoral dissertation (e.g., curriculum designs, testing various teaching methods, videos, assessment instruments, computer programs, facility designs, change projects, curriculum development etc.).	3.523
	PANEL COMMENTS FROM ROUND III RESPONSES:	
	1. Probably OK, but need to be undergirded with good research processes! Validity checks, etc.	
	2. Examples are not suggestive of studies that would satisfy the criteria for contributing to the knowledge base.	
	3. This terminology seem to describe the very nature of many current dissertations.	
	4. Similar to #11 - don't see the difference on those two.	
	5. Yes - as long as there is written documentation of scholarly research presented with it..	
	6. Under usual circumstances - these alternatives could meet conditions & standards - However - often they do not.	
	7. No change in comment from Round II.	
20.	Synthesis and analysis of previously related literature to formulate new ideas is a viable alternative to the traditional doctoral dissertation.	3.619
	PANEL COMMENTS FROM ROUND III RESPONSES:	
	1. Some overlap with #12.	
	2. Emphasis must be on formulation new ideas.	
	3. Panelist 5 said it all for me.	
	4. This is done in many other fields of social science already, but the enduring expectation is "new paradigm" useful to the field, not the individual investigator.	
	5. I agree with one of the comments that this is already expected in traditional format as part of the process.	
	6. Definite overlap with #12	
	7. We already do this.	
	8. Yes - though need to show / demonstrate critical perspective & new thinking.	
	9. This could / should be pat of a broader project for a dissertation.	
	10. If this produces new knowledge then, "yes." We have a "rich history" of this in many of our adult education book articles (referred). Some regularly in Harvard Education Review.	

21.	The rigor of dissertations should remain the same; however, a different "package" for presenting the finished product is a viable alternative to the traditional dissertation format (e.g., CD-ROM or hypertext program, video, multi-media, submitted electronically, audio and/or visual descriptions of the study, making copies available to others via the internet). **CLARIFICATION: The "package" is a component of the issue.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. The actual form or format of the dissertation is of minor concern as long as that method provides a permanent record of the candidate's work for future scholars benefit. 2. Don't see how this focuses on the research. 3. Sure! 4. This is not an important issue relate to the other items here. 5. I agree the form is not a major issue. 6. I think this is OK - but I think other alternatives (beyond traditional) can be rigorous. 7. Problematic storage, retrieval & process as well as integration into current data bases. 8. Why not? Content is the issue.	4.380
22.	A software program, a performance script, or other such product designed around certain pedagogical or artistic principles is a viable alternative to the traditional doctoral dissertation. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. PhD is a research degree - not a product development degree. 2. As long as detailed formative and summative evaluation procedures are included. 3. Again this seems similar to #11 & #19. 4. What's the only deal with refereed journals? I've seen pretty poor research in such journals!! 5. Yes - as long as there is written documentation of scholarly research. 6. If the discipline were focused on "creative scholarly - i.e. art" this would make sense - However, in education this is not the case. 7. Can't really see how this would substitute for research, but we've had lots of "creative" dissertations, God knows.	3.047

DELPHI ROUND III RESULTS - PROBE TWO

RESPONSES FROM DELPHI ROUND III, PROBE TWO: PANEL STATEMENTS OF NEEDED RESEARCH COMPETENCE AND/OR EXPERIENCE FOR DOCTORAL GRADUATES	GROUP MEAN
1. Doctoral graduates should demonstrate competence in the execution of multiple research designs and methodologies with the premise that one chooses a design and methodology that fits the problem or project to be studied. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. "Demonstrate" <u>competence</u> in execution of multiple research designs and methods is a lot to ask of a novice. Can most experts researchers meet that requirement? I doubt it! 2. PhD's should be able to demonstrate multiple designs. Don't agree with comments. 3. I assume here an understanding of the major research paradigms but the development of expertise within one. 4. Agree, that execute multiple methods is too heavy an expectation; rather be exposed to multiple messages. 5. I still don't agree with the premise of this statement. If simply is not how research is done. 6. They need to understand multiple probes though they won't be able to execute all. 7. This is an Ideal - & hopefully 8. I'm surprised the mean is this high. I still believe that mastery of one and knowledge of others is sufficient.	4.238

2.	Doctoral graduates should have a comprehensive understanding of, and ability to apply, research methodologies (both quantitative and qualitative), statistics, and data analysis, both as a user **(producer)** and a consumer. CLARIFICATION: add the word producer in place of user. PANEL COMMENTS FROM ROUND III RESPONSES: 1. Agree with modification and agree with - Either qualitative or quantitative in depth one ability to apply...But should be able to be informed consumer. 2. I assume here an understanding of the major research paradigms but the development of expertise within one. 3. Would agree with observation #2 Able to critique, but not necessarily use. 4. Not clear what "comprehensive" involves - need strong foundation in methodologies but can not be expert in all. 5. Again, this is an ideal. 6. Too demanding - and not very realistic. How many doctoral graduates can actually apply multiple methodologies?	4.380
3.	Doctoral graduates should demonstrate efficiency with acceptable research methods (e.g., review of related literature; design a researchable problem; formulate acceptable alternatives to solve the problem; solve the problem; write up an analysis; and defend the work before a committee of scholars and practitioners). CLARIFICATION: efficiency as used here means competence PANEL COMMENTS FROM ROUND III RESPONSES: 1. Substitute the word "efficiency" with "competence" 2. "Demonstrate efficiency with acceptable research" -implicit here are a lot of unstated values of someone. This item remains ambiguous. 3. Pretty traditional -- I agree with comments. 4. This is the heart of the matter! 5. Too much focus on technical detail - need more on knowledge.	4.380
4.	Doctoral graduates should have the ability to locate and critically evaluate relevant research literature. PANEL COMMENTS FROM ROUND III RESPONSES: 1. This is the heart of the matter!	4.857

5. Doctoral graduates should be competent in helping practitioners transfer research findings to practice settings. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. This confirms use as a consumer of research. 2. Bull feathers to comments! This is the crux of doctoral programs and scholarship. 3. I am interpreting this basically to mean that research could (& would) connect to practice in multiple ways. 4. I agree with comment #1. 5. Research and practice work is critical! "Transfer" of research to practice is problematic. 6. Perhaps "use" research in practice versus transfer the research and vise versa. Know how to relate to the practitioner in terms of knowing what they are saying which could inform our research. 7. Depends on the degree to which their expertise relates to the field. 8. Different programs & different students into focus on practice - would not make this a requirement. 9. I still don't agree with the premise that it is practitioners who need the help!	3.952
6. Doctoral graduates should be able to compare and contrast learning theories and illustrate how these theories apply to learning via computer mediated communication (CMC). **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Agree with comments. 2. Too specific 3. Should be much more than learning theories. 4. I just don't get it. 5. Too vague. 6. This competency seems exceeding narrow. 7. Essential use of research in the years ahead. 8. This is too specific. 9. If the reference to CMC was dropped I would probably rate this higher. 10. Agree with the depends statement. 11. Too specific for all. 12. My 1st rating must have been an error - What in CMC is important? 13. Depends on field. 14. Too narrow to be connected with C of C	2.095

7. Doctoral graduates should have demonstrated competence in understanding and using technologically-based tools in research investigations (e.g., library facilities, electronic data searches, surfing the internet from home, software related to the field, e-mail, word processing). **CLARIFICATION: add collecting data via the internet to statement 7.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Not everyone has access to the new technologies. 2. I just went to a futures conference, so now I give it a "5"! 3. I think it is important but access as one of the comments identifies, is a critical and problematic issue. 4. This is a crucial skill going (?word)! 5. Technological base materials & skills will be increasingly important.	4.190
8. Doctoral graduates should have demonstrated the ability to articulate and implement findings and to defend the viability of those findings before a panel of experts in the field. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. I'd leave out implement & add conclusions to findings - conclusions and findings. 2. This is the heart of the defense. 3. Suggest elimination of "implementation". 4. Need to work on preparing standards to do this.	4.523
9. Doctoral graduates should to be able to propose and define a problem, indicate why that problem is important, and place their findings in perspective with what is known. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. This is the heart of the matter.	4.904
10. Doctoral graduates should have the ability to synthesize information, draw conclusions, and develop recommendations based on research findings in order to develop conceptual and theoretical frameworks for research studies. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Yes!	4.952

11. Doctoral graduates should have the ability to design, carry out, articulate, and disseminate original research that can inform their work as educational practitioners. **CLARIFICATION: The last part of the statement indicates that ones' research enhances ones' educational practice.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Originality may depend on PhD vs. Ed.D. 2. What does "original" mean - PhD original or Ed.D. original.	4.666
12. Doctoral graduates should have knowledge of differing forms of knowledge construction (formal, cultural, and indigenous) and its relationship to research. **CLARIFICATION: This statement implies that how one constructs knowledge is influenced by ones' formal (within higher education), cultural (through ones' cultural experiences), and indigenous(a part of ones' historical and/or ethnic heritage such as Native Americans) forms of knowledge construction. It involves how one comes to know and make meaning by how one constructs knowledge.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. All knowledge construction is shaped by culture. 2. This is critically important competency, although I wonder if group mean reflects lack of clarity on the item. 3. Do we need some of this skill!	4.333

13. Doctoral graduates should have confidence in their ability to carry out original research of all **(several)** types. **CLARIFICATION: instead of "all types" use the words "several types"** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Change "all" to"several" types. 2. Change is to "some" vs. "all" more reasonable. 3. I agree with most of the comments. 4. "Several" is a good addition. 5. I concur with this view that <u>all</u> type of research competence is unrealistic. 6. This implies working in more than one paradigm, which isn't realistic. 7. Statement is too broad 8. Several - not all or even one or two types 9. The would agree with "several" 10. "Several" is possible - "all" probably is not. 11. Idealistic. 12. Addition of "several" helps. 13. Still can't understand "confidence in ability" - either they can demonstrate ability or not.	3.333
14. Doctoral graduates should understand the relevance of the research questions they are exploring and articulate the impact the answers may have in the field. **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. Yes! 2. It seems obvious.	4.619

15. Doctoral graduates should use skills of reflective practice within their own work. **CLARIFICATION: Reflective practice means that the practitioner or educator steps out of his/her practice area in order to be able to look at his/her practice reflectively by asking questions about his/her own practice such as "Is this the best way to do this particular process or could I be doing it more effectively?" It's a process of self-reflection on ones' own practice.** **PANEL COMMENTS FROM ROUND III RESPONSES:** 1. I believe this competence is important but not necessarily tied to the research problem under investigation here. 2. The clarification statement is more confusing to me. 3. OK Clarification helped. 4. The clarification statement does not suggest the use of analytical or critical reflection schema. It has to be more than simple intuitive reviewing what occurs. 5. Group mean surprises me! It's really important as a competency. 6. Unclear what this means. 7. The clarification of reflective practice was terrible. I'd support an <u>other</u> definition of it. 8. This would be ideal but again depends on program, focus, work. 9.	4.000
16 Doctoral graduates should have a global understanding of their area of interest and be able to see how their micro research fits into the macro environment. **CLARIFICATION: This statement takes a more global look at the doctoral graduates' understanding of their own field and is not limited to the relevance of the research question(s).** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Assumes research takes a micro view; not necessarily true. 2. I assume this competency implies having and developing a comparative context for one's work. 3. I think there is a better, more clear way of wording this. Open to multiple interpretations. 4. Unclear as I re-read this. 5. Yes 6. An ideal status.	4.190

17. Doctoral graduates should work with area teams in addressing educational problems.	3.300

Clarification: Area teams offer a commonality of practice, but do not bring the same expertise to the table. Some examples: Area teams are often a collaborative effort in HRD involving educators, industry, and students each with a common practice or interest working together to address problems and resolve those problems. Area teams could be vocational educators teaming with extension centers, secondary vocational programs, etc to implement programs, impact change etc.

This is not a competency to complete a dissertation. It is a suggestion for research experience.

PANEL COMMENTS FROM ROUND II RESPONSES:
1. As I read this statement, I recognize its linkage to the research problem is unclear to me though I do believe the competence is important to a doctoral graduate.
2. Clarification helped - indeed an excellent research exercise.
3. How this work would build research competence is not clear to me.
4. Not needed for scholarship.
5. This sounds like a useful practicum experience.
6. Doctoral prepared persons should have (?word) to work with and on teams. too little of this exists in the professorate.
7. I think collaborative studies are important, but I'm not sure I'd specify "area" teams.
8. Not needed for everyone.
9. Very dependent on a variety of issues - would like to see it in a doctoral program - Not necessarily part of research competencies.
10. If meaning is that doctoral graduates **should be able** to work on teams - not necessarily for their doctoral dissertations.
11. Can't see why?

18. Doctoral graduates should be able to distinguish the differences among results, findings, conclusions, and recommendations for a study.	4.523

PANEL COMMENTS FROM ROUND II RESPONSES:
1. Why would this be <5?
2. Yes - this is basic literacy.
3. It is assumed for a traditional research effort.

19. Doctoral graduates should understand that research is a social process. **CLARIFICATION: Panelist recommended that the words "and a political process" be added to the statement to enhance understanding.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Adding "political" is still too narrow. It can also be "cultural", "sociological", etc. process. Recommend omission. 2. I'm just not sure that it <u>always</u> is by any description of social system 3. In virtually all fields of education, there exist a primary perspective that "knowledge is socially constructed" by individuals in the field. 4. Agree with comments - this is not clearly defined. 5. See comment re #6 in question #17. 6. Agree with adding word political 7. Yes! I like the definition of "political" 8. Most research is but maybe all of it is not highly social. 9. Unclear "how" to implement this recommendation. 10. Can't see why?	3.904
20. Doctoral graduates must have a comprehensive understanding of acceptable processes that are typically used to evaluate and assess effectively programs, products, productivity, and performance. **CLARIFICATION: This statement was given in response to probe 2 concerning research competence and/or research experience; it is not a dissertation issue but a research issue.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Doc grads must understand these evaluation processes with relation to their own research field. 2. I think it is an important competency in ones' work. 3. Yes 4. I think this statement is far to broad - and does not take into account diverse student & program goals. 5. I still object to "must have comprehensive" language.	3.380

21. Doctoral graduates should be able to compare and contrast existing learning theories. **CLARIFICATION: Any bias toward learning is a reflection of the participants suggestions and the panel members interpretations. The study has no such bias.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Too narrow 2. Agree with comment #2. 3. I don't believe this statement "fits" with others in this study. 4. Since education is about learning, this competence has to be central to educational research. 5. As commented - not all educational research is based in learning theories. 6. Sounds like items needs to be broadened beyond "..." Perhaps "educational theories" would be better therm here. 7. If specialty area is adult education or adult learning. 8. Why are these items about learning and not other areas? 9. To me "learning" is central to adult education. 10. Depends on program focus & area of expertise. 11. Although true - I think the focus on the one area seems to narrow & specialized.	3.380
22. Doctoral graduates should know the relationship between knowledge and ideology. **CLARIFICATION: This statement was given in response to probe 2 concerning research competence and/or research experience; it is not a dissertation issue but a research issue.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. True, but not clearly tied to this study. 2. Agree 100% with comments. 3. Will require in services for the professorate. 4. Maybe professors should learn? Is there a difference? 5. Yes 6. Again - a narrow issue for doctoral work - would like to have all students understand differences.	4.100

23.	Doctoral graduates should engage in the critical process of problem-solving with other practitioners and researchers.	3.952
	CLARIFICATION: This statement was given in response to probe 2 concerning research competence and/or research experience; it is not a dissertation issue but a research issue.	
	PANEL COMMENTS FROM ROUND II RESPONSES:	
	1. Is this related to dissertation research in some way?	
	2. An important element in knowledge construction and disciplined inquiry at all levels of education - especially the doctoral level.	
	3. I don't know what this means.	
	4. Ideal - but depends some what on purpose and area of expertise.	
	5. Again - depends upon program & student goals.	
24.	Doctoral graduates should demonstrate competence as a consumer of research.	4.333
	CLARIFICATION: Probe 2 asked participants to list statements of research competence and/or research experience that doctoral graduates must have to compete in their future professional roles in an information intensive society.	
	PANEL COMMENTS FROM ROUND II RESPONSES:	
	1. If can't consume, can't generate.	
	2. Seems essential to me if we are to "build" a knowledge base, and avoid the extensive "replication" of knowledge reflected in many dissertations.	
	3. Don't like the work "consumer" in this item. Be able to use research effectively in one's work.	
	4. Absolutely.	
	5. Still vague.	

25.	Doctoral graduates must have a comprehensive knowledge of research methodology, design, analysis, and quantitative and qualitative instrument development. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Agree with comment 9. 2. It's a <u>research</u> degree. 3. "Comprehensive" may be too much to ask, but probably too aggressive for <u>all</u> students. 4. Comments are very mixed - as indicated by the mean score. 5. "and quantitative and qualitative development" may be too strong, but certainly knowledge of processes to develop these instruments is critical. 6. This seems to assume expertise in more than one paradigm, which is unrealistic. 7. Key here is what is meant by "comprehensive." Knowledge of both approaches is clearly needed. 8. Seems redundant of earlier statements. 9. Comprehensive? Can not do it in all areas. 10. Too demanding & unreasonable for knowledge in quantitative and qualitative instrument design as well as methodology & design.	3.380
26.	Doctoral graduates should have the perseverance and capability of conducting disciplined inquiry from start to finish in a field of study . **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Agree with #4 comment. 2. Kind of a funny item. This is not really competency more character or will. 3. This is not the dissertation. 4. Can't teach this one.	4.380
27.	Doctoral graduates should have the ability to critically analyze and synthesize past research. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Is this not also crucial in dissertations?	4.809

28. Doctoral graduates need to know how to write clearly and concisely using commonly accepted technical writing skills in order to make a useable contribution to their field. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. After re-reading statement I drastically changed my score. 2. This is ideal.	4.809
29. Doctoral graduates should have the ability and skills to work as collaborative researchers (with one other person and on teams) and to publish through a peer-review process. **CLARIFICATION: Keep in mind that this is a suggested research competence and/or experience. This is not suggesting a collaborative dissertation. Participants who suggested this statement want the doctoral graduate to be able to co-author works which are capable of being published through a peer-review process.** **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Especially if the push for interdisciplinary research continues. 2. OK. Good clarification. 3. Your question is double barrelled 4. Essential capability. 5. This is an absolutely necessary skill today; we must prepare students to work collaboratively. 6. Seems like tow separate items. 7. Seems unnecessary.	4.095
30. Doctoral graduates should possess a critical literacy concerning power structures, dominant ideologies, philosophy of inquiry, epistemologies, ontologies, etc. **PANEL COMMENTS FROM ROUND II RESPONSES:** 1. Yes - they need to understand how critical literacy relates to research. 2 ? 3. Too analogous for me to interpret, especially with the "etc." added. 4. Again - know how to access needed resources in these areas. 5. I don't think this depends on the orientation of one's program. It is embedded in the day to dayness of our work. 6. Yes! 7. Depends upon student & program goals.	3.714

General Comments:

Good work. Your interpretations and clarifications were especially helpful. Best wishes.

Kathy - Have you considered the extent to which your ideas can be implemented in terms of University/College of Education tenuous relationships? It is one thing to suggest changes in the dissertation but quite another to get them implemented and accepted. Some education scholars see the dissertation as a lifeline to colleges of education surviving in the pro science, engineering or business environment of the modern university. Changing the nature of the dissertation may be seen as lowering standards and jeopardizing the livelihood of colleges of education - which are already marginal within many universities.

A comment about the final comment on page 8: Again, we are not distinguishing between "research" oriented doctorates (Ph.D.s) and "practice-oriented" doctorates (Ed.D.s). I believe there is a need to distinguish between the two. "Traditional dissertations" are based on research-oriented doctorates. We do not yet have good models of **professional** doctorates that focus more on practice.

Good luck on your analysis. I look forward to seeing the final product.

Kathy - Hope this is helpful.

Kathy - It would have been interesting is you had used a non-traditional format for the Delphi itself, like setting up a listserve and facilitating a truly interactive discussion. It's something you might consider if you continue with this line of research. Good luck with your study!

I agree the doctoral work involves construction of knowledge, but this type of analytical work is as appropriate to practice as it is to more conceptual arenas. Actually, I reject the dichotomization of theory and practice that this statement assumes.

APPENDIX K

COMPARISON OF ROUND II AND ROUND III

DELPHI RESPONSES

TABLE 19

COMPARATIVE LEVEL OF AGREEMENT BY PANEL OF EXPERTS
FOR VIABLE ALTERNATIVES TO THE TRADITIONAL
DOCTORAL DISSERTATION FOR
ROUNDS II AND III, PROBE ONE
(N=21)

Alternative Statement #	ROUND II Mean	ROUND III Mean
1	3.333	3.214
2	3.523	3.523
3	2.142	2.142
4	2.571	2.571
5	3.200	2.952
6	3.809	3.476
7	2.142	2.000
8	1.285	1.190
9	3.550	3.428
10	2.380	2.047
11	3.428	3.452
12	4.285	4.476
13	1.952	1.619
14	3.380	3.547
15	3.666	3.785
16	3.476	3.476
17	3.428	3.547
18	3.047	2.857
19	3.619	3.523
20	3.523	3.619
21	4.285	4.380
22	3.190	3.047

TABLE 20

COMPARATIVE MEAN ORDER BY PANEL OF EXPERTS
FOR ROUNDS II AND III OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
(N=21)

Alternative Statement #	Round II Mean	Alternative Statement #	Round III Mean
8	1.285	8	1.190
13	1.952	13	1.619
3	2.142	7	2.000
7	2.142	10	2.047
10	2.380	3	2.142
4	2.571	4	2.571
18	3.047	18	2.857
22	3.190	5	2.952
5	3.200	22	3.047
1	3.333	1	3.214
14	3.380	9	3.428
11	3.428	11	3.452
17	3.428	16	3.476
16	3.476	6	3.476
2	3.523	19	3.523
20	3.523	2	3.523
9	3.550	17	3.547
19	3.619	14	3.547
15	3.666	20	3.619
6	3.809	15	3.785
12	4.285	21	4.380
21	4.285	12	4.476

TABLE 23

COMPARATIVE MEAN ORDER BY CPAE PANELISTS
FOR ROUNDS II AND III OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
(N=11)

Alternative Statement #	CPAE Round II Mean	Alternative Statement #	CPAE Round III Mean
8	1.273	8	1.273
7	1.545	7	1.545
3	2.273	13	1.909
10	2.273	10	2.091
13	2.364	3	2.364
4	2.545	4	2.545
18	3.091	18	2.909
22	3.273	9	3.273
9	3.500	22	3.273
2	3.545	6	3.364
1	3.636	1	3.409
11	3.636	5	3.455
19	3.636	19	3.545
5	3.700	2	3.636
16	3.727	20	3.818
6	3.818	11	3.864
20	3.818	16	3.909
14	4.091	21	4.273
21	4.091	14	4.318
15	4.182	17	4.318
17	4.273	15	4.409
12	4.727	12	4.727

TABLE 26

COMPARATIVE MEAN ORDER BY AVERA PANELISTS
FOR ROUNDS II AND III OF VIABLE ALTERNATIVES
TO THE TRADITIONAL DOCTORAL DISSERTATION
(N=10)

Alternative Statement #	AVERA Round II Mean	Alternative Statement #	AVERA Round III Mean
8	1.300	8	1.100
13	1.500	13	1.300
3	2.000	3	1.900
10	2.500	10	2.000
17	2.500	5	2.400
4	2.600	7	2.500
14	2.600	4	2.600
5	2.700	14	2.700
7	2.800	17	2.700
1	3.000	18	2.800
18	3.000	22	2.800
15	3.100	1	3.000
22	3.100	11	3.000
11	3.200	16	3.000
16	3.200	15	3.100
20	3.200	2	3.400
2	3.500	20	3.400
9	3.600	19	3.500
19	3.600	6	3.600
6	3.800	9	3.600
12	3.800	12	4.200
21	4.500	21	4.500

TABLE 29

COMPARATIVE LEVEL OF AGREEMENT BY PANEL OF EXPERTS
FOR RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES FOR
ROUNDS II AND III, PROBE TWO
(N=21)

Competency Statement #	Round II Mean	Round III Mean
1	4.333	4.238
2	4.428	4.380
3	4.333	4.380
4	4.714	4.857
5	4.095	4.095
6	2.523	2.190
7	4.095	4.190
8	4.476	4.523
9	4.666	4.857
10	4.761	4.904
11	4.523	4.666
12	4.190	4.333
13	3.400	3.380
14	4.650	4.619
15	3.950	4.000
16	4.250	4.190
17	3.150	3.250
18	4.380	4.523
19	3.850	3.857
20	3.428	3.380
21	3.666	3.380
22	4.050	4.100
23	4.000	3.952
24	4.450	4.333
25	3.619	3.523
26	4.380	4.380
27	4.714	4.809
28	4.571	4.809
29	4.000	4.095
30	3.666	3.714

TABLE 30

COMPARATIVE MEAN ORDER BY PANEL OF EXPERTS FOR
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES FOR
ROUNDS II AND III, PROBE TWO
(N=21)

Competency Statement #	Round II Combined Mean	Competency Statement #	Round III Combined Mean
6	2.523	6	2.190
17	3.150	17	3.250
13	3.400	13	3.380
20	3.428	20	3.380
25	3.619	21	3.380
30	3.666	25	3.523
21	3.666	30	3.714
19	3.850	19	3.857
15	3.950	23	3.952
29	4.000	15	4.000
23	4.000	5	4.095
22	4.050	29	4.095
7	4.095	22	4.100
5	4.095	7	4.190
12	4.190	16	4.190
16	4.250	1	4.238
3	4.333	12	4.333
1	4.333	24	4.333
18	4.380	2	4.380
26	4.380	3	4.380
2	4.428	26	4.380
24	4.450	8	4.523
8	4.476	18	4.523
11	4.523	14	4.619
28	4.571	11	4.666
14	4.650	27	4.809
9	4.666	28	4.809
4	4.714	4	4.857
27	4.714	9	4.857
10	4.761	10	4.904

TABLE 33

COMPARATIVE MEAN ORDER BY CPAE PANELISTS FOR ROUND II
AND III OF STATEMENTS OF FUTURE RESEARCH
COMPETENCIES AND/OR EXPERIENCES NEEDED
BY DOCTORAL GRADUATES
(N=11)

Competency Statement #	CPAE Round II Mean	Competency Statement #	CPAE Round III Mean
6	2.182	6	2.091
13	2.800	20	3.000
17	2.900	25	3.091
20	3.091	13	3.091
25	3.091	17	3.100
5	3.636	5	3.455
21	3.636	21	3.545
1	3.909	23	3.818
23	3.909	1	3.818
2	4.091	24	4.091
7	4.091	29	4.091
26	4.091	2	4.091
29	4.091	7	4.182
3	4.182	3	4.182
8	4.273	26	4.273
11	4.273	15	4.273
18	4.273	8	4.273
30	4.273	16	4.364
24	4.300	30	4.455
15	4.400	19	4.455
16	4.400	18	4.455
22	4.400	22	4.500
12	4.545	14	4.545
14	4.600	11	4.545
19	4.600	12	4.636
4	4.636	4	4.727
9	4.636	28	4.727
10	4.636	10	4.818
27	4.636	27	4.818
28	4.727	9	4.818

TABLE 36

COMPARATIVE LEVEL OF AGREEMENT BETWEEN AVERA AND
COMBINED GROUP MEAN RATINGS FOR STATEMENTS OF
RESEARCH COMPETENCIES AND/OR EXPERIENCES
NEEDED BY DOCTORAL GRADUATES
(N=10)

Competency Statement #	AVERA Round II Mean	Competency Statement #	AVERA Round III Mean
6	2.900	6	2.300
30	3.000	30	2.900
19	3.100	19	3.200
17	3.400	21	3.200
15	3.500	17	3.400
21	3.700	13	3.700
22	3.700	15	3.700
12	3.800	22	3.700
20	3.800	20	3.800
29	3.900	12	4.000
13	4.000	16	4.000
7	4.100	25	4.000
16	4.100	23	4.100
23	4.100	29	4.100
25	4.200	7	4.200
28	4.400	26	4.500
3	4.500	3	4.600
18	4.500	18	4.600
5	4.600	24	4.600
24	4.600	1	4.700
8	4.700	2	4.700
14	4.700	14	4.700
26	4.700	5	4.800
1	4.800	8	4.800
2	4.800	11	4.800
4	4.800	27	4.800
9	4.800	29	4.100
11	4.800	9	4.900
27	4.800	4	5.000
10	4.900	10	5.000

APPENDIX L

THANK YOU LETTER TO

PANEL OF EXPERTS

DATE

NAME
INSTITUTIONAL AFFILIATION
DEPARTMENT
ADDRESS
CITY, STATE ZIP

Dear Dr. **NAME**,

Thank you for your support and involvement during this lengthy Delphi Project. Participation remained high throughout the project, for which I am very grateful. Your commitment to my project has strengthened my belief in the capacity of educators to give of their time and considerable talent. Without you, my dissertation would not have been completed.

I have thoroughly enjoyed the conversations that I have had with you whether it be over the telephone, via the fax machine, or through e-mail correspondence. My determination to have an intact panel of experts from start to finish caused many delays, as all of my panel members are very busy conducting their own research, teaching, attending meetings, and traveling. However, the delays were well worth the outcomes.

With your help, a list of viable alternatives to the traditional doctoral dissertation and a list research competencies and/or research experiences needed by future doctoral graduates has been determined and the level or agreement and disagreement established.

I am unable to fully express my gratitude, since there are no words for how a doctoral candidate feels when the dissertation process has been completed. Your background in education and your professional involvement have benefited me and allowed me to gain insights from you and your expertise. Again, I am so grateful for your help and commitment to my study.

Sincerely,

Kathy Sanders
O.S.U. Doctoral Candidate

APPENDIX M

MAVERICKS WHO WERE INTERVIEWED

Dr. Phyllis M. Cunningham
Northern Illinois University
LEPS Department
Gable Hall, Room 101D
DeKalb, Illinois 60115

Dr. Thomas Heaney
National-Louis University
18 South Michigan
Chicago, Illinois 60603

Dr. Paul Ilsley
Northern Illinois University
LEPS Department
Gable Hall, Room 204
DeKalb, Illinois 60115

Dr. Elizabeth Kasl
School for Transformative Learning
California Institute of Integral Studies
San Francisco, California 94110

Dr. Linda L. Smith
Smith Consulting
1220 Hemlock
Washington D.C. 20012

APPENDIX N

INTERVIEW CONSENT AND

AGREEMENT FORM

CONSENT AND AGREEMENT FORM TO CONDUCT RESEARCH

You have been asked by a graduate student of Oklahoma State University working on a dissertation to participate in a semi-structured interview in order to elicit your views concerning alternatives to the traditional doctoral dissertation. I will be unable to use the information from you unless this consent form has been signed by all parties. The form will be filed and retained for at least two years in my records.

The following statements need to be agreed to and your signature acknowledges agreement and consent:

*   I understand that participation in this study is voluntary and that there is no penalty for refusal to participate and that I am free to withdraw my consent and participation in this project at any time without penalty after notifying the dissertation advisor.

*   I understand that the semi-structured interview technique will be conducted according to commonly accepted research procedures and that information gathered from the study will be used by the researcher.

*   To assure the integrity of the research and to validate the responses made by the participants, I understand that the recorded audio tapes will be preserved for a period of at least two years before being destroyed.

*   I understand that I have been selected to participate as an interviewee in this study because I am considered an expert in the field as indicated by the nomination process of my peers, and as a recognized expert, my name and institutional affiliation will be identified as an interviewee, however, my individual responses will not be linked directly to my name.

*   I understand that the semi-structured interview will take anywhere from 45 to 90 minutes to complete and that I may receive a follow-up telephone call to confirm statements or expound on statements made during the interview.

*   I understand that the project will not cover topics that could reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability or deal with sensitive aspects of the subject's own behavior such as illegal conduct, drug use, sexual behavior, or use of alcohol.

You may contact the dissertation adviser, Dr. Robert E. Nolan, Occupational and Adult Education, 211 Willard Hall, Oklahoma State University, Stillwater, Oklahoma 74078; (405) 744-6275, should I wish further information about the research. I also may contact Jennifer Moore, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, Oklahoma 74078; (405) 744-5700.

I have read and fully understand this consent form. I understand that my responses will not be identified with my name in this project. I sign this form freely and voluntarily. A copy has been given to me.

DATE:_____ TIME:_____ (A.M./P.M.)

SIGNED:_____
(Signature of Participant)

I certify that I have explained, in writing, all elements of this form to the subject before requesting the subject to sign it and provided the subject with a copy of this form.

DATE:_____ TIME:_____ (A.M./P.M.)

SIGNED:_____
(Signature of Doctoral Student)

I agree to abide by the language and the intent of this consent form.

DATE:_____

SIGNED:_____
(Signature of Dissertation Adviser)

APPENDIX O

SEMI-STRUCTURED INTERVIEW

GUIDED QUESTIONS

ORIGINAL STRUCTURED INTERVIEW QUESTIONS

1.   What is the function of a dissertation?

2.   Describe the alternatives to the traditional dissertation that you have been involved with at your university or place of employment.

3.   Does the alternative meet the functions of a dissertation? How?

4.   Why do you want to participate in alternatives to the dissertation?

5.   Identify the problems and/or barriers associated with choosing alternatives in a traditional world.

6.   How did you overcome those problems and/or barriers?

7.   What are the advantages of utilizing alternatives to the dissertation?

8.   What are the disadvantages of utilizing alternatives to the dissertation?

9.   How many students have you chaired who utilized alternatives to the traditional dissertation? For how many have you been a committee member?

10.   Are the graduates who participate in alternatives to the dissertation perceived to be competent researchers? Explain.

11.   How do you determine the value of the alternative?

12.   What is the purpose of this final outcome from the alternative approach?

13.   What do you see as the future of the alternative approach(s) you have utilized?

14.   Are you aware of other universities/colleges utilizing alternatives to the traditional dissertation? Who, what, and where?

15.   Are there some relevant questions that I failed to ask? Do you have any additional comments you would like to make?

SEMI-STRUCTURED INTERVIEW QUESTIONS

1. In your own words, give me a definition of a dissertation and tell me what function it serves.

   Follow-up: By its definition, does the dissertation have to be a written record?

2. Describe the alternatives to the traditional dissertation that you have been involved with during your university or college career.

   Follow-up: Does the alternative meet the functions of a dissertation? How?

   Follow-up: Why do you want to participate in alternatives to the dissertation?

   Follow-up: How many students have you chaired who utilized alternatives to the traditional dissertation? For how many have you been a committee member?

3. Identify the problems and/or barriers associated with choosing alternatives in a traditional world.

   Follow-up: How did you overcome those problems and/or barriers?

   Follow-up: What are the advantages of utilizing alternatives to the dissertation?

   Follow-up: What are the disadvantages of utilizing alternatives to the dissertation?

4. In using alternatives to the traditional doctoral dissertation, how did you define the outcomes and how did you evaluate the final product?

Follow-up: Are the graduates who participate in alternatives to the dissertation perceived to be competent researchers? Explain.

Follow-up: How do you determine the value of the alternative?

Follow-up: What is the purpose of this final outcome from the alternative approach?

Follow-up: What do you see as the future of the alternative approach(s) you have utilized?

5.   Discuss what research competencies will be needed by future doctoral graduates who live in an information intensive society.

Follow-up: How do the alternatives you have discussed meet those competencies?

6.   Are you aware of other universities/colleges utilizing alternatives to the traditional dissertation? Who, what, and where?

Follow-up: Could you provide me with the necessary information so that I could review those non-traditional works?

7.   Are there some relevant questions that I failed to ask? Do you have any additional comments you would like to make?

APPENDIX P

INTERVIEW THANK YOU LETTER

DATE

NAME
INSTITUTIONAL AFFILIATION
ADDRESS
CITY, STATE ZIP

Dear Dr. **NAME**,

I want to thank you for allowing me to interview you on _____
_____at_____. The insights that I gained from your
seemingly endless amounts of knowledge have served as an impetus to the
completion of my doctoral dissertation.

Being identified as a maverick by your peers has afforded me the
opportunity to delve into the thoughts of a highly respected educator. Having
spent a great deal of time with you in one on one conversation, I felt a renewed
sense of purpose in my desire to research my research questions thoroughly.
Perhaps, the only drawback to interviewing mavericks is that the green-eyed
monster called jealousy crept up and tended to start the 'why wasn't I in the
right place at the right time to be a part of this?' thought processes.

I have benefited from the interview with you and gained invaluable
insights from your wealth of experiences. The synthesis of information from all
of my interviews was most interesting. There are definitely some common
threads that bind the creativity and critical thinking skills of all mavericks.
Again, thank you for giving me the gift or your time and your incredible talent. I
hope to see you at Oklahoma State University in May!!!

Sincerely,

Kathy Sanders
Oklahoma State University Doctoral Candidate

APPENDIX Q

IRB APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 09-02-95   IRB#: ED-96-018

Proposal Title: DEVELOPING RESEARCH COMPETENCIES FOR DOCTORAL
PROGRAMS: ALTERNATIVE STRATEGIES

Principal Investigator(s): Robert E. Nolan, Kathryn A. Sanders

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD
AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A
CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD
APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR
APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval
are as follows:

Signature: _____   Date: September 11, 1995
Chair of Institutional Review Board

2

VITA

Kathryn A. Sanders

Candidate for the Degree of

Doctor of Education

Thesis: IDENTIFYING RESEARCH STRATEGIES FOR THE FUTURE: ALTERNATIVES TO THE TRADITIONAL DOCTORAL DISSERTATION

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born 1950, Antigo, Wisconsin, daughter of Thomas and Althea McNamara. Husband, Mark, one daughter, Tiffany, two sons, Billy and Joey.

Education: Received a Bachelor of Science degree in Secondary Education from the University of Wisconsin - Stevens Point, May 1972; completed Master of Education degree in Counseling at Northeastern State University, Tahlequah, Oklahoma, August 1990; completed requirements for Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, December 1996.

Professional Experience: Industrial Engineer trainee, computer programmer, expeditor, 1972-1978; Director of Inventory Control, 1981-1985; Psychology and leadership teacher, 1985-1991; Adjunct teacher, Oklahoma Junior College, 1990-1992; Director of Student Services, Oklahoma Junior College, 1991-1992; IndEx instructor, Tulsa Junior College, 1992-1993; Graduate Assistant, Oklahoma State University, 1993; Adjunct psychology instructor, Langston University, 1993 to present; Counselor, Kellyville Public Schools, 1993 to present.

Professional Memberships: Phi Kappa Phi Honor Society, Phi Chapter of Omicron Tau Theta, Oklahoma Association for Counseling and Development, American Association of Adult and Continuing Education (AAACE), National Association for Secondary School Principals, Oklahoma Association of Student Councils, National Association of Student Councils.