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A study of the congruence between theory purported to be known in-depth and one's implicit theory-in-use

Piper, Terry Daniel, Ph.D.
The Ohio State University, 1990

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A STUDY OF THE CONGRUENCE BETWEEN THEORY
PURPORTED TO BE KNOWN IN-DEPTH AND
ONE'S IMPLICIT THEORY-IN-USE

DISSERTATION

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

By

Terry Daniel Piper, B.S., M.A.

***

The Ohio State University
1990

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To Carolyn, Dana and Matthew
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CHAPTER I
INTRODUCTION

Nature of the Problem

Robert Brown, in his highly acclaimed monograph Student Development in Tomorrow's Higher Education: A Return to the Academy, expressed optimism that student personnel work was entering a new era. He wrote:

There are signs that theory and research are beginning to converge and that in the future those involved in student development will not only understand student development, but also will be able to promote positive student development (Brown, 1972, p. 46).

The turning point that Brown thought to have been approaching had long been in coming. Willey (1949), twenty-three years earlier, criticized student personnel work for a "lack of scientific knowledge" and characterized personnel workers as guided by "general insight", "good intentions", and "sympathy" (p. 7-12). Twenty-five years after Brown's hopeful prediction Bloland (1986a) questioned whether theory was being used to shape practice, even in light of available models and approaches. He wrote, "...in the real world, student affairs staff are carrying out
their traditional functions and many new ones but in traditional ways and with staff who still are not well schooled in student development or even in higher education." and "Many entry-level and not a few seasoned professionals know little of student development theory or practice..." (Bloland, 1986b, p. 1). Bloland expressed a not uncommon concern that the gap between theory and practice remained large.

Kuh (1977), utilizing "human development" and "student development" presentations at the 1976 APGA Convention as an indication of the use of theory in practice, found that extremely few presentations successfully integrated theory with practice. Of twenty presentations using human or student development in the title only 4 (2%) were rated as explicitly relating theory to program design on the Student Development Theory-Practice Checklist. This result lead Kuh to conclude that "student development programming does not appear to reflect the theory component suggested by various college student personnel professional organizations" (p. 51).

Kuh's study occurred shortly after the publication of several major student development theories and may have reflected an insufficient period of time for the theories to have been integrated into practice. Brown (1984) expressed a perspective that efforts to integrate theory with practice were occurring, particularly by new
professionals. If Brown's perspective was accurate, one would expect the number of presentations utilizing student development theory at student personnel professional conventions to have increased.

A review of the 1987 NASPA/ACPA Convention program guide (NASPA/ACPA Convention Program Committee, 1987) revealed that 72 program abstracts made reference to theory or to the theoretical foundations of the program. This represented 16.7% of the programs offered excluding major speakers, invited sessions and research presentations. Only 33 program abstracts, 7.6%, referenced specific developmental theories. Kuh's conclusion that theory did not appear to be utilized in practice may have been as appropriate in 1987 as it was in 1977. Minimally, the extent to which theory was used, as reflected in convention presentations, was not as great as one might have expected if professional practice and research are based upon theory.

Kuh (1977) suggested that the practice of student development requires the student personnel professional to have a thorough understanding of developmental theory. Rodgers (1983) concurred with this perspective and described a continuum of internalized theoretical knowledge noting that an extensive knowledge of the theoretical constructs as well as an understanding of the relationship
among those constructs is necessary for the application of theory.

Although theory, and the facts associated with theory, should provide understandings that are valuable in day-to-day practice (Delworth & Hanson, 1980), King and Fields (1980) pointed out that advancements in theory do not automatically equate to advancements in practice. Roethlisberger (1962) acknowledged this dilemma when stating:

Knowledge is not practice and practice is not knowledge. The improvement of one does not lead automatically to an improvement of the other. Each can work fruitfully for the advancement of the other, but also, unfortunately, each can develop separately from the other and hence stuntedly in relation to the other (p. 4).

Parker (1977) and Widick, Knefelkamp, and Parker (1980) explained this gap between theory and practice by pointing out that theories are abstractions based upon collective experience. Rodgers (1984) described formal theory as nomothetic, seeking of universality, whereas practice is ideographic, seeking specificity. Therefore, the application of theory in a practice context is contingent upon a translation of global constructs into concepts that can be integrated into daily practice.
Rodgers (1977) and Rodgers and Widick (1980) stressed that the translation process is a highly individualistic one. The practitioner's attitudes, skills and assumptions influence his/her interpretations of the theory's relevance. One's commonly held knowledge, gained through experience, guides one's daily actions (Parker, 1977). Kelly (1955) reflected this process in his personal constructs theory. Kelly suggested that each individual creates ways of construing the world that guide one's behavior. These constructs are dichotomous and allow for categorizations as "being like yet different from others" (Kelly, 1955, p. 105). Constructs are modified through experience although a particular construct's range of use may be fairly narrow. A tendency exists for the range of use to expand as the construct proves useful. The usefulness of the construct is found in its predictive ability. Hunt (1976a) referenced these constructs as implicit psychological theories, a concept similar to Argyris and Schön's (1974) theories-in-use.

King and Fields (1980) supported this individual differences perspective by noting that one's experiences become incorporated into a notion of "what works". These intuitive, experiential understandings become the basis and guides for one's actions. Rodgers (1977) suggested that a necessary condition for the utilization of theory is a compatibility between the formal theory and the implicit
theories-in-use of the practitioner. Without this compatibility the practitioner is likely to reject the theoretical concepts and continue to rely on experiential knowledge. Theory that is recognized as consistent with one's repertoire of expectations, images, and techniques may be incorporated into one's knowing-in-action (Schön, 1983) and thereby influence one's actions such that practice becomes reflective of theory. One is unable to consider the compatibility of a theory without extensive knowledge of that theory.

Statement of the Problem

The purpose of this study was to determine if student personnel professionals who purported to know Perry's (1970) theory of intellectual development in-depth demonstrate use of Perry theory intervention criteria in their theory-in-use. The following research questions were addressed in this study:

1. Do student personnel professionals who purport to know William Perry's theory of intellectual development in-depth demonstrate use of this theory in their implicit theory-in-use?

2. Will difference in the length of time that these student personnel professionals have practiced in the field of student personnel work relate to differences in
the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

3. Will differences in these student personnel professional's preferred style of Perceiving and Judging (Jung, 1923; Myers, 1980) the practice context relate to differences among these professionals in the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

4. Will differences in these student personnel professionals' ability to use a relativistic or contextual way of making meaning of questions of knowledge and valuation (Perry, 1970) relate to differences among these professionals in the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

Research Hypotheses

The main topic of this study, the congruence between theory known in-depth and implicit theory-in-use, may be influenced by the length of time one has worked in the field, how one perceives and judges the practice context, and the cognitive complexity one brings to one's work. Schön (1987) suggested that the artistry of professional practice extended beyond the application of theory and technique to well-formed instrumental problems. Instead, professional artistry lies in the art of problem framing,
the art of implementation, and the art of improvisation. Schon suggested that these arts are taught by senior practitioners to students in the context of learning-by-doing in settings relatively low in risk.

Student personnel preparation programs and entry-level positions may provide these conditions. Evidence for the perspective was offered by Piper and Fullerton (1985) who found that the most significant aspects of graduate assistantships and entry-level positions to professionals entering post entry-level positions were the development of decision-making and problem-solving skills, specific task knowledge, and forming an individual professional philosophy. Complementing professional experience and training was a relationship with another professional person who provided formal or informal guidance.

Professional practice beyond the entry-level experience is likely to entail the application of "what one has found to work" through the administration of student personnel services and the supervision of graduate and new professional staff. Graduate preparation and entry-level practice may represent a time for the acquisition of knowledge and the consideration of the utility of that knowledge through a process of reflecting upon one's efforts to use that knowledge. The post-entry level time may represent a consolidation and integration of
perspectives into a construction of practice
characteristics of professional artistry.

Implicit in the process of acquiring knowledge,
experimenting with it in practice and constructing a theory
of what works is a recognition of the context in which
practice occurs. Perceiving and judging the elements of
the context may influence that which is ultimately
constructed.

Jung (1923) hypothesized that perceiving occurs in two
contrasting ways. Some individuals prefer to perceive
through the use of the five senses (Sensing type), others
through intuition, the indirect and unconscious process of
association. Jung conceived of the process of coming to
conclusions about what is perceived, the Judging process,
also as two contrasting processes, Thinking, the use of
logical, impersonal process, and Feeling, a process guided
by personal, subjective values. Each personality type
expresses a unique perspective on the use of theory due to
its interests, values, needs, habits of the mind and
surface traits (Myers, 1980). King and Fields (1980)
suggested that the application of theory in practice is an
intuitive process. Schön (1987) emphasized the cognitive
aspects of practicing and revising one's own theories.
Both author's perspectives point out the possible
importance of personality type in understanding the use of
theory.
The importance of perceiving and judging is reflected in Hunt's concept of reading and flexing to students (Hunt, 1976b). Hunt noted that effective teaching requires the instructor to adapt to a great variety of students and ever changing environments. He also noted that adaptation effectiveness varies greatly among teachers. Schön (1983) explained this variability by suggesting that a practitioner's ability to act in situations of uncertainty, instability and uniqueness lie in his/her ability to reflect-in-action, i.e., thinking about doing while doing and learning to adjust while doing. Reflection, however, is dependent upon the manner in which the context is framed. The more complex the frame, the constructed reality, the greater the likelihood of differentiated adaptation. Practitioners approaching a context as a single given reality may be less likely to make differentiated adaptations. This may suggest that the complexity with which one perceives and judges the practice context may be related to one's sense of "what works" or one's implicit theory-in-use.

Perry's theory of intellectual development (Perry, 1970) can be used to understand the complexity notion addressed by Schön. Perry suggested that cognitive complexity can be viewed on a continuum from a perspective in which knowledge is viewed as absolute, a Dualistic orientation, to a perspective in which knowledge is viewed as relativistic
and contextual, a Relativistic orientation. The abstraction necessary to translate theory to practice (Parker, 1977) or practice to theory (Hunt, 1976a, 1976b, 1977) may suggest that individuals bringing a Relativistic orientation may be more successful.

Based upon the scholarly literature on theory-in-use and factors contributing to the construction of one's theory-in-use, and the research questions under study, the following research hypotheses are posed for this study:

1. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, there will be a low to moderate correlation between the theory known in-depth and the person's implicit use of this theory in their theory-in-use.

2. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those with three years or less experience in a practice context will demonstrate less degree of congruence than those with more than three years experience.

3. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those preferring to perceive the practice context through the use of intuition will demonstrate a greater degree of congruence than those preferring to perceiving through sensing.
4. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those preferring to judge the practice context through the use of thinking will demonstrate a greater degree of congruence than those preferring to judge through feeling.

5. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those approaching the practice context in a relativistic or contextual way of making meaning of questions of knowledge and valuation will demonstrate a greater degree of congruence than those bringing a fixed, absolute framework for making meaning of questions of knowledge and valuation.

Significance of the Study

The study of the relationship between theory known and implicit theory used as well as factors which may influence this relationship is important to any field including student personnel. Argyris and Schön (1974) stated:

Human behavior is directly influenced by our actions and therefore by our theories of action. The behavioral world is an artifact of our theories-in-use. Theory building is reality-building, not only because our theories-in-use help to determine what we perceive of the behavioral world but because our theories-in-use
determine our actions, which in turn help to determine the characteristics of the behavioral world, which in turn feed into our theories-in-use (p. 17-18).

Evidence strongly suggested that new student personnel professionals value theory (Strange & Contomanolis, 1983) and use it to understand individual student's behavior (Heineman & Strange, 1984). Yet, knowing theory and believing that one is using theory does not provide evidence that the theory is indeed actualized in one's work (Argyris & Schön, 1974). Incongruence or lack of integration of theory known and theory used is common and may result in less effective practice. Hence, understanding the factors that enhance the integration of theory known into theory-in-use may be useful in improving the practice of student development. The extent to which implicit theory-in-use is incongruent with or does not use theory known in-depth may suggest a need for modification in graduate preparation programs and/or the supervision of professional practice.

Definition of Terms

The following terms were used in this study (see chapter 3 for operational definitions):

1. Theory-in-Use: The beliefs, assumptions, attitudes that one holds based upon prior experience that actually guide one's actions.
2. Formal theory/Theory-in-use Congruence: The degree to which formal theory constructs are found in the theory-in-use statements of the practitioner.

3. Perry Theory Intervention Criteria: The two sets of general environmental design variables derived from Perry's theory which are used to design environments that purportedly facilitate intellectual development on the Perry scheme for Dualists and Relativists (Widick, Knefelkamp, & Parker, 1975).

4. Congruence Rating: The mean number of Perry theory intervention criteria found in the subject's theory-in-use intervention designs.

5. Intuition: The preference for perceiving through the use of indirect and unconscious processes of association.

6. Sensing: The preference for perceiving through the use of the five basic senses.

7. Thinking: The preference for making judgments about what is perceived based upon impersonal, logical analysis.

8. Feeling: The preference for making judgments about what is perceived based upon personal, subjective values.

9. Judging: The preference for coming to conclusions and making choices about one's world and living an organized and decisive life-style.
10. Perceiving: The preference for experiencing one's world as a means for gathering perceptions and information and living an open and adaptive life-style.

11. Dualism: The view of knowledge and values as absolute and fixed.

12. Relativism: The view of knowledge and values as relative or contextually defined.

Organization of the Study

A brief description of the study follows. Chapter 1 included the introduction, a statement of the problem, an indication of the significance of the study, and a definition of special terms. Chapter 2 consists of a comprehensive review of the available literature on the theory-practice relationship. Chapter 3 contains a description of the research procedures to be followed, including data gathering and data analysis. Chapter 4 presents the results of the data analysis. Finally, chapter 5 contains a brief summary of prior chapters, discussion of findings, conclusions, speculations on the findings and conclusions, limits of the study, and recommendations concerning further areas for study.
CHAPTER II
REVIEW OF THE LITERATURE

Historical Perspectives on the Relationship of Theory to Practice

The impetus for the rise of student personnel work can be traced to the introduction of the German system of education into the United States during the latter part of the 19th century (Robinson, 1978). The Germanic emphasis on impersonalism and extreme intellectualism resulted in the creation of an extensive extracurriculum by faculty and administrators concerned with the welfare of the student (Peterson, Eddy & Pitts, 1978). Personnel officers were appointed initially to address problems of discipline; however, educational counseling, vocational counseling, financial aid, employment, graduate placement, student health, extracurricular activities, social programs, among others soon became their responsibilities (American Council on Education, 1937).

The early student personnel concern for the individual student was reflected in an address by W. R. Harper, President of the University of Chicago, in 1899:
In order that the student may receive the assistance so essential to his highest success, another step in the onward evolution will take place. This step will be the scientific study of the student himself... In the time that is coming provision must be made, either by the regular instructors or by those appointed especially for the purpose, to study in detail the man or woman to whom instruction is offered.

The study will be made (1) with special reference to his character...; (2) with special reference likewise to his intellectual capacity; (3) with reference to his special intellectual characteristics to learn whether he is independent or original; (4) with reference to his special capacity and tastes; (5) with reference to the social side of his nature.

This feature of twentieth century education will come to be regarded as of greatest importance, and fifty years hence, will prevail as widely as it is now lacking.

(Cited in Parker, 1978).

President Harper was calling for the creation of a knowledge base from which personnel services could operate; perhaps the first pronouncement that practice needed to be grounded in theory.

The practice of student personnel work grew rapidly during the early twentieth century. Three major movements, psychological testing, vocational guidance, and mental
hygiene, strongly influenced the formation of personnel services (Lloyd-Jones, 1954). By the 1930's personnel services, on most campuses, had been organized in "bureaus" such as the Office of the Dean of Men and Dean of Women, the Student Counseling Bureau, the Student Activities Bureau, and the Student Housing Bureau (Parker, 1977). The growing emphasis on psychology had begun to shift the personnel emphasis from guidance to counseling with a strong concern for the individual (Lloyd-Jones, 1954). Unfortunately, scientific knowledge upon which to base the practice of guidance or counseling was missing (Willey, 1949).

The institutionalization of personnel services was recognized by the American Council on Education as an important, regular and on-going part of American higher education. The issuing of the Student Personnel Point of View (American Council on Education, 1937) provided an integrative and coordinative philosophy under which personnel services could evolve. Four basic assumptions provided the foundation for the Point of View and provided direction for the practice of personnel work:

1. The individual student must be considered as a whole.
2. Each student is a unique person and must be treated as such.
3. The total environment of the student is educational and must be used to achieve his or her full development.
4. The major responsibility for a student's personal and social development rests with the student and his or her personal resources. (Miller & Prince, 1978, p. 4).

In addition, the Point of View identified the programs and services necessary for an effective educational program, the coordinative responsibilities necessary for the organization and implementation of the services, and a research agenda sufficiently comprehensive to develop the knowledge needed to structure the services. In the absence of this knowledge personnel services were guided by philosophy not theory resulting in confusion over function, purpose and method (Cowley, 1936).

Efforts to clarify the function, purpose and methods of personnel work took several directions. Cowley (1937) attempted to provide direction through the definition of counseling. He suggested three fundamental characteristics, counseling as the personalization of education, counseling as the integration of education, counseling as the coordination of student personnel services, that could be used to classify and guide personnel work. Lloyd-Jones and Smith (1938) suggested an organizational perspective with student personnel programs combining an administrative aspect, a service aspect and a student personnel point of view aspect. A third perspective, the application of psychological testing and measurement as a means to understand individual differences
emerged (Darley, 1949; Stuit, 1949) and unlike Cowley and Lloyd-Jones was concerned with the development of psychological theory applicable to personnel work.

The themes of counseling, organization and measurement coalesced into basic specialized knowledge and skills unique to the personnel worker (Wrenn, 1949). Wrenn asserted eight knowledge bases related to the psychology of the individual: 1) the dynamics of personality; 2) appraisal of aptitudes and personality characteristics; 3) clinical skill in relating data and making diagnoses; 4) skill in therapy, using varied approaches; 5) statistical evaluation of the significance of personal and group data; 6) mental hygiene procedures; 7) diagnosis of educational and social maladjustment; 8) knowledge of predictive criteria and skill in prognosis (Wrenn, 1949, p. 276). Wrenn's perspective certainly provided evidence for Cowley's claim that personnel work drew heavily on psychology during the early to mid-twentieth century (Cowley, 1949).

Psychology and counseling provided the theoretical foundation for student personnel practice and increasingly became the focus of personnel services (Wrenn, 1951). However, by the early 1960's a gap between theory and practice was being identified (Katz and Sanford, 1962). Reminiscent of Willey's call for scientific knowledge as a basis for practice (Willey, 1949), Williamson (1961),
referencing the Student Personnel Point of View, stressed that technical knowledge must replace common sense approaches in regard to adolescent development; a theme echoed by Berdie (1966) in his pronouncement that personnel work had to few principles and to little systematic knowledge. The notion of student personnel practice as an art was being replaced with a belief that practice needed to be grounded in science (Lloyd-Jones, 1967). The rapidly emerging social sciences were identified as a locus for this grounding (Sanford, 1962).

The 1960's witnessed not only an increased emphasis on theory but also a redefinition of practice. The societal and campus unrest of the mid and late 1960's brought an end to the philosophy of in loco parentis. With the demise of an increasingly control oriented and disciplinary function of personnel services, personnel workers were able to reorient themselves to the tenets of the Student Personnel Point of View (Parker, 1978). Emphasis on the development of the individual and the role played by the college environment in this development emerged as the new direction for personnel services (Sanford, 1962, 1967).

The student development movement necessitated the creation of new theories and new practices (Parker, 1970). Initial guidance for the movement was sought in the literature focusing upon student characteristics (Feldman & Newcomb, 1969; Katz, 1968; Trent & Medsker, 1967) and
environmental assessment (Pace & Stern, 1958). By the late 1960's new theories of college student development had begun to emerge (Chickering, 1969; Kohlberg, 1969; Perry, 1970) further providing direction for the student development movement.

The development of theories of student development did not automatically equate to the practice of student development. Descriptive theory, e.g., Perry's theory of intellectual development, needed to be conceptualized as prescriptive theories of practice and as designs of programs, e.g., Knefelkamp and Slepitza's (1978) conceptualization of dimensions of qualitative change based upon Perry's theory, in order for theory to be applied in practice (Rodgers, 1977). The decade of the 1970's saw a rapid development of procedural and process models through which student development theory could be practiced. Unfortunately, the rapid development of knowledge created new problems: 1) how to keep up with the knowledge explosion; 2) how to make sense of the many models; 3) how to translate them into useful and helpful tools (Knefelkamp, Widick & Parker, 1978). The 1980's became a time to understand the nature of practice as a means to understanding the theory-practice relationship (Schön, 1987).
The Theory-Practice Relationship

Argyris (1985) defined practice as "the implementation of a set of ideas in order to achieve intended consequences in the world of practical affairs" (p. 79-80). Implied in this definition was a formula for action which included recognition of a situation, an outcome desired and a belief in a means to achieve that outcome. This formula, or theory of action, could be stated as follows: "in situation S, if you want to achieve consequence C, do A" (Argyris & Schön, 1974). The apparent simplicity of this prescription masked the complexity of the practice situation. Practitioners rarely found themselves relating to situations and contexts as knowns and constants. They were more likely to find themselves in unique, complex, uncertain and unstable situations (Schön, 1983). Such contexts necessitated a "professional artistry" (Schön, 1987, p. 22) grounded in "the art of problem framing, the art of implementation, and the art of improvisation" (p. 13).

Schön's notion of professional artistry can be thought of as a set of interrelated theories of action for a specific practice situation. A set of theories of action can be considered a theory of practice (Argyris & Schön, 1974). Theories of practice can be manifested in two ways. The actions to which a practitioner verbalizes commitment are considered one's espoused theory of action; the beliefs one
holds that actually guide one's actions are considered one's theory-in-use. Espoused theory and theory-in-use may be compatible or incompatible without the practitioner's awareness of either condition (Scott, 1969).

The assumptions that underlie one's theories-in-use were considered by Argyris and Schön (1974) to "constitute a psychology of everyday life" (p. 78). This perspective found support in Kelly's Construct Theory (Kelly, 1955). Kelly asserted that individuals form psychological theories which guide their actions based upon the way in which they anticipated events. Past experiences shaped the individual's anticipation and his/her prediction of current events. Theory-in-use was, therefore, a construction based upon one's experiential knowledge.

Schön (1983), using the concept of experiential knowledge, suggested that one's knowing is "ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing" (p. 49), a concept borrowed from Polanyi (1967). Schön described the manifestation of this knowledge as knowing-in-action and suggested the following characteristics:

1. There are actions, recognitions and judgments which we know how to carry out spontaneously; we do not have to think about them prior to or during their performance.
2. We are often unaware of having learned to do these things; we simply find ourselves doing them.
3. In some cases, we were once aware of the understanding which were subsequently internalized in our feeling for the stuff of action. In other cases, however, we are usually unable to describe the knowing which our action reveal. (Schön, 1983, p. 43).

One's ability to practice is dependent upon reflecting upon one's actions thereby developing a repertoire of expectations, images, and techniques. The reflective process lead to the formation of constructs, or theories, which modify and extend one's knowing-in-action and, therefore, the range of applicable situations of practice.

The relation of one's knowing-in-action to formal theory of action lies not in the rules that can be applied but in the language, descriptions and themes of the formal theory (Schön, 1983). Formal theory provides one's knowing-in-action with a means of interpretation applicable to situations of practice. Practice without accounting for the phenomena of the context is best described as "pure act" (Rodgers, 1980a).

Factors Influencing the Theory-Practice Relationship

Knowledge of Theory. The nature of student personnel practice was described as ad hoc (Rodgers, 1977) and as "pure act" (Rodgers, 1980a). Both descriptions acknowledged the failure of student personnel professionals to base their practice upon foundational theories. The
lack of theory in practice lead Kuh (1977) to call for increased emphasis on the learning of developmental theory. Rodgers (1983) concurred with Kuh and stated:

...no substitute exists for having an in-depth understanding of specific student development theories and intervention methodologies. To proceed on the basis of common sense or superficial knowledge of theory or interventions is not adequate (p. 112).

Rodgers (1983) noted that theory can be known at varying degrees of depth. The depth of knowledge needed for practice requires "(1) intimate familiarity with the construct covered by a theory and the interrelationship among the constructs and subconstructs of the theory; (2) knowledge of how developmental change takes place in terms of the constructs of the theory; and (3) an intimate familiarity with the means of measuring the construct and the advantages and limitations of each" (p. 115). Kuh and Rodgers saw the relationship of theory to practice as an issue of knowledge acquisition. Knowledge of theory may be a necessary but perhaps not sufficient condition for the use of that theory. Rotenstreich (1977) distinguished practice from knowledge by noting:

Practicing involves knowledge but is not knowledge. Practice is not required to give an account of the state of things which it seeks to change. Practice arise from a definite attitude of the doer toward the
world. This attitude, the attitude that seeks to give us the common ground on which theory and practice meet, is distinguished by a peculiar characteristic, namely the position of the understanding. (p. 105).

Parker (1977), Rodgers (1977), Widick, Knefelkamp, and Parker (1980), and Rodgers and Widick (1980) expressed a similar perspective in recognizing the necessity of the individual to translate theoretical constructs into pragmatic action. The individual nature of this act results in the person's attitudes, skills and assumptions being highly influential in the interpretation and integration of the theory.

This perspective suggested that knowledge of theory can function on two levels. It can supply the concepts of the espoused theory and/or it can guide the actions of the theory-in-use. At the level of espoused theory it may provide the language and images of practice (Schön, 1983). An integration of this aspect of knowing may be necessary before formal theory is reflected in theory-in-use.

Perception of the Practice Context. Astley (1985) asserted that, "our knowledge of objective reality is subjectively constructed" (p. 509). His claim was based in the belief that individuals develop knowledge through biased, selected observations guided by one's prior
knowledge. Truth is a construction negotiated within a particular context.

Theories-in-use represent Astley's constructivist perspective. Argyris and Schön (1974) noted that, "Theory-building is reality-building, not only because our theories-in-use help to determine what we perceive of the behavioral world but because our theories-in-use determine our actions, which in turn help to determine the characteristics of the behavioral world, which in turn feed into our theories-in-use" (p. 18). Theories-in-use define for the practitioner that to which he/she will attend as well as provide the meaning associated with these variables. Schön (1983) labelled the process of identifying the variable and framing the context as "problem setting" (p. 40) and considered it the art of professional practice.

Making sense of the problematic situation requires the application of prior experience, one's repertoire of examples, images, understandings, and actions, to the new and unique situation (Schön, 1983, p. 138). In order to act in the new context, the context must be at least partially categorized as familiar. Jung's Theory of Personality (1923) may suggest that this familiarity may be perceived based upon the content of the situation or may be perceived based upon association and symbolic interpretation.
Jung (1923), in his theory of personality, theorized that behavior was not random but was representative of patterns he called psychological type. These patterns reflect two basic mental processes: perception and judgment. Perception is the process by which we take in, gather, or become aware of things, people, occurrences, and ideas. Judgment is the process by which we come to conclusions about what has been perceived.

Jung points out that the mental process of perception occurs in two distinct and contrasting ways: the Function of Sensation or the Function of Intuition. Individuals have a preference for perceiving in one of these ways. The preference for the use of one perceptive function does not mean the absence of the other; however, the two functions cannot be used simultaneously.

Jung refers to individuals whose preference for perceiving is based upon the content recognizable by the five senses as Sensing types. These individuals prefer to deal primarily with actualities. They are most trusting of their own perception and cautious in accepting as accurate descriptions and symbols provided by others (Myers, 1980). Individuals preferring to perceive in abstract ways through the unconscious process of association are referred to as Intuitive types by Jung. Intuitive types prefer to rely on inspiration and the creative process. They tend to focus on relationships among ideas rather than the concrete ideas...
themselves (Lawrence, 1979). As noted by Schön (1987) the ability to see the relationship between the new context and one's prior experience is a critical dimension in the ability to engage in professional practice.

Perceiving the problem situation, either by sensing or intuition, is only one part of problem setting. In addition to perceiving the situation one must identify the ends to be achieved and the means to achieve those ends (Schön, 1983). Implicit in this process is the act of choosing.

Jung (1923) refers to this process of choosing as judgment. As with the mental process of perception, the mental process of judgment occurs through two distinct and contrasting ways: the Function of Thinking or the Function of Feeling. Thinking is the preference for making judgments in an impersonal, analytical and logical manner. The focus of the process is on objective truth (Myers, 1980). Individuals preferring this function are referred to as Thinking types. Others (Feeling types) prefer the use of the Function of Feeling and base their judgments on analyzes based upon prioritized personal values. Feeling types are concerned with understanding people, a desire for harmony and a wish for association (Lawrence, 1979). Schön (1987) suggests that the analytical abilities of the practitioner applied to the process of reflecting-in-action may enhance one's practice by extending the theory-in-use
to new contexts and by modifying the theory-in-use with new experiences.

Perceiving and judging the practice context are tightly coupled with one's view of reality. The complexity with which one defines his/her reality may also define the complexity of one's theory-in-use.

**Complexity of Perception and Understanding.** Schön (1987) suggested that one might view the outcome of a practitioner's learning by means of a series of continua. Four continua were suggested:

1. Closed-system vocabulary/substantive understanding
2. Unitary procedures/holistic grasp
3. Narrow and superficial/broad and deep

Each continuum represented a range of increasingly complex knowledge or action.

Closed-system vocabulary/substantive understanding represented the degree to which the practitioner is able to use the words and symbols of the profession. In the least complex position the practitioner can repeat the words but does not understand their interrelationship nor has he/she an experience base upon which to connect them. In the most complex sense, the practitioner has "achieved a substantive
understanding of the processes to which the words refer" (p. 169).

The extent to which the practitioner has formulated a conception of the whole of his/her practice was the focus of unitary procedures/holistic grasp. In the least complex position the practitioner functions through a series of disconnected and unitary acts. At the most complex level he/she has "integrated (the acts) into a whole" (p. 169). The practitioner has the ability to "combine many different, partial procedures in a coherent web of moves, consequences, and implications" (p. 169).

Narrow and superficial/broad and deep referred to the practitioners ability to transfer and generalize his/her learning. In the least complex position, the practitioner sees a solution only pertaining to a specific context. The most complex practitioner sees solutions as potentially applicable to any situation. The translation process is emphasized by this orientation instead of a focus on specific contents.

Relying on expert perspectives as the correct view to the exclusion of others' views is representative of overlearning. The more complex practitioner is more likely to utilize multiple perspectives. The critical analysis of multiple view points in relationship to each other is characteristic of the most complex practitioner.
Schön's notion of the increasing complexity of the practitioner's knowledge and action is highly comparable to Knefelkamp and Sleipitz's model of cognitive development (1978) which was based upon Perry's (1970) theory of intellectual development. Perry's scheme traces the development of the students' thinking about knowledge, truth and values. The progression of development occurs through a series of stages or positions which represent qualitatively different cognitive structures or assumptions for perceiving knowledge and values. In general, development moves from a simplistic, absolute orientation to a complex and relativistic orientation. The first five positions represent intellectual development, the last four focus on ethical and identity development. The following description of the positions was offered by Perry (1970, p. 9-10):

Position 1: The student sees the world in polar terms of we - right - good vs. other - wrong - bad. Right answers for everything exists in the Absolute, known to Authority whose role is to mediate (teach) them. Knowledge and goodness are perceived as quantitative accretion of discrete rightness to be collected by hard work and obedience.

Position 2: The student perceives diversity of opinion, and uncertainty, and accounts for them as unwarranted confusion in poorly qualified Authorities
or as mere exercises set by Authority "so we can learn to find the Answer for ourselves."

Position 3: The student accepts diversity and uncertainty as legitimate but still temporary in areas where Authority "hasn't found The Answer yet." He supposes Authority grades him in these areas on "good expression" but remains puzzled as to standards.

Position 4: (a) The student perceives legitimate uncertainty (and therefore diversity of opinion) to be extensive and raises it to the status of an unstructured epistemological realm of its own in which "anyone has a right to his own opinion," a realm which he sets over against Authority's realm where right-wrong still prevails or (b) the student discovers qualitative contextual relativistic reasoning as a special case of "what They want" within the Authority's realm.

Position 5: The student perceives all knowledge and values (including Authority's) as contextual and relativistic and subordinates dualistic right-wrong functions to the status of special cases, in context.

Position 6: The student apprehends the necessity of orienting himself in a relativistic world through some form of personal Commitment (as distinct from unquestioned or unconsidered commitment to simple belief in certainty).
Position 7: The student makes an initial Commitment in some area.

Position 8: The student experiences the implications of Commitment, and explores the subjective and stylistic issues of responsibility.

Position 9: The student experiences the affirmation of identity among multiple responsibilities and realizes Commitment as an ongoing, unfolding activity through which he expresses his lifestyle.

Perry referred to positions 1 and 2 as Dualism, positions 3 and 4 as Multiplicity, positions 5 and 6 as Relativism, and positions 7 - 9 as Commitment in Relativism. Perry developed this schema as a means to describe the development of a student's reasoning about knowledge and values. Knefelkamp and Slepitza saw a broader utility in the scheme however. They suggested that the scheme can be viewed as a general process model that provides "a descriptive framework for viewing the development of an individual's reasoning about many aspects of the world" (Knefelkamp & Slepitza, 1978, p. 136).

Knefelkamp and Slepitza chose to apply their perspective on Perry's scheme to the creation of a career model. Their result lead them to propose nine areas of qualitative change:

1. Locus of control - the source to which the students turn to define themselves and their environment.
2. Analysis - the ability of the individual to see a subject in its diverse perspectives, to break down the subject into its component parts.

3. Synthesis - the ability of the individual to integrate the diverse components of the subject into a complex whole.

4. Semantic structure - specifically, the nature of the verbs and qualifiers used by students in their written and spoken expression.

5. Self-processing - the ability to examine oneself and be cognizant of one's defining factors.

6. Openness to alternative perspectives - the extent to which the individual is aware of and recognizes the legitimacy of other points of view and possible explanations, even if the student differs with those perspectives.

7. Ability to assume responsibility - the willingness of the student to accept the consequences of his/her actions or decisions regardless of unknown and unforeseen interfering factors.

8. Ability to take on new roles - the ability of students to expand their repertoires of abilities and behaviors within the context of new roles or activity demands.

9. Ability to take risks with self - closely related to role-taking ability, this area refers to the
individual's increasing ability to risk self-esteem when new and appropriate demands are made. Knefelkamp and Slepitza found that the greater the complexity of the task, skill or ability, the greater the correlation with Perry's Relativism.

A comparison of Schon's continua of practitioner's learning with Knefelkamp and Slepitza's qualitative changes found remarkable similarity. This similarity suggested that individuals who reason more complexly, as defined by Perry, may view the practice context more complexly. Schon suggested that a more complex view of the practice context was necessary for theory-in-use to be broader, deeper and more substantive.

Length of Time in a Practice Context. Schön (1987) described two types of professional practice. The first required "The routine application of existing rules and procedures to the fact of particular problematic situations" (p. 25). The second was a context in which "familiar rules, theories, and techniques are put to work in concrete instances through the intermediary of an art that consists in a limited form of reflection-in-action" (p. 35). Reflection-in-action is a process of rethinking of one's knowing-in-action while in the act of doing thus leading to on-the-spot modification and learning. Schön described the second type of practice as professional
artistry and claimed that such practice cannot be taught but it can be coached.

The conditions necessary for the development of professional artistry included "the freedom to learn by doing in a setting relatively low in risk, with access to coaches who initiate students into the 'traditions of the calling' and help them, by 'the right kind of telling', to see on their own behalf and in their way what they need most to see" (Schön, 1987, p. 17). These conditions seemed best to describe graduate preparation and entry-level professional positions in student personnel work. Given this perspective, one would expect the time frame from entry into graduate school through one's first professional position to be a formative period for one's theory-in-use. Likewise, one would anticipate that the longer one practices the greater one's opportunity to reflect-in-action and, therefore, to broaden and deepen one's theory-in-use.

As noted previously, theory-in-use is a construction of reality based upon one's experiences. Graduate preparation and entry-level practice can broaden one's repertoire of images, knowledge and techniques that are the building blocks of theory-in-use. Post entry-level positions may provide the practitioner the opportunity to enrich one's theories-in-use and to provide guidance to the novice professional. Post entry-level work may be the period of
intentional application of one's theories rather than a primary focus on creating one's theories.

Identifying Implicit Theory-in-Use

Most individuals find identifying their implicit theories-in-use to be a difficult task. This difficulty arises from the complex nature of theories-in-use and the lack of skill and ability of some individuals to think about their thinking (Argyris & Schön, 1974). A variety of methods have been developed, all of which rely to some extent on inference from observed or reported behaviors.

Argyris and Schön (1974) believed that directly observable behavior was required in order to infer theories-in-use. They noted that the identification of theories-in-use "must be pursued in an atmosphere that allows the individual to reveal his behavior to himself and others with minimal conscious distortion, which would occur if the individual felt defensive; the model-constructing process should be free of questions that could be answered with generalizations drawn from espoused theory and should focus instead on directly observable behavior" (p. 39). The process they suggested involved the use of participant written case studies supplemented by group discussion and role-playing.
The case study format necessitated that the participants write a description of an actual incident "focusing on what was actually said, how the participants actually behaved, and how others responded" (p. 39). The following directions were provided:

Please describe a challenging intervention or interaction with one or more individuals that (1) you have already experienced or (2) you expect to experience in the near future. Begin the description with a paragraph about the purpose of your intervention, the setting, the people involved, and any other important characteristics. Next write a few paragraphs regarding your strategy. What were your objectives, how did you intend to achieve them, and why did you select those goals and strategies? Next, write a few pages of the dialogue that actually occurred or that you expect to occur. Finally, after you reread your case, describe the underlying assumptions that you think you held about effective action (Argyris & Schön, 1974, p. 41).

Group discussion of each case occurred as a means to the identification and clarification of the implicit theories-in-use.

Participant observation was used by Janesick (1978) in a study designed to identify and describe the role perspectives held by a sixth grade teacher. The seven
month-long ethnographic field study resulted in a conclusion that commitment to creating and maintaining a stable and cohesive classroom group was the central theme which guided the teacher's actions.

Observation techniques were also used by Duffy (1977) in conjunction with the repertory grid technique and by Elbaz (1981) in conjunction with clinical interview. Duffy's investigation focused on teacher's conceptions of teaching reading in contrast to approaches found in the literature. Utilizing five categories of propositional statements, "most like me" to "least like me", about reading processes, he found that only 37 of 350 teachers of beginning reading were considered pure types, i.e., conception of self-processes fit consistently with a research-based topology. The 37 pure types completed a modified version of the Role Repertory Test to refine and specify their beliefs about reading. Eight teachers continued to fit closely to a research-based topology and were included in the observation phase of the study. Analysis of field notes from the observation and post observation interviews were used to identify the teachers' theories-in-use.

Elbaz (1981) investigated the practical knowledge of one high school English teacher. Utilizing clinical interview and observation techniques, Elbaz identified content areas and orientations which combined to form the teacher's practical knowledge or theory-in-use.
Stimulated recall was used by Marland (1977) and Connors (1978) as a means to uncover principles of practice. Both studies relied upon analysis of stimulated recall interview transcripts to derive principles that guided teacher practice. Marland studied six, Conners nine, elementary school teachers.

As noted previously, Kelly's Role Repertory Test has been modified as a means to identify constructs or theories that underlie individual's actions. In addition to Duffy (1977), Olson (1981) and Munby (1983) have used this technique. Olson used the repertory grid technique to identify labels for constructs that science teachers used in thinking about, evaluating, and classifying teacher and student behavior. The constructs were analyzed in relationship to the teaching-learning statements originally used to formulate the constructs. The degree of relationship was rated between each construct and each statement. Factor analysis was used to identify the underlying construct in the implicit theories of learning. Munby (1983) conceptualized teacher's implicit theory as the explanations and rationalizations offered by 14 teachers as they grouped statements about what one might see during a visit to one of the teacher's classes. A factor analysis of the statements produced construct groups. The teachers were asked to provide labels for the
factors and explanations for the relationships between factors as a means to make explicit the implicit theories.

One additional methodology that had elements of stimulated recall, group discussion, and role repertory test was reported in the literature however it has not been used as the basis of empirical research (Hunt, 1976a, 1976b, 1978, 1980, 1987). Hunt believed that the teaching-learning process can be conceptualized from Lewin's (1951) formula, B=f(P,E), by translating it as "learning outcomes (Behavior) resulting from the interaction of student characteristics (Person) and teaching approaches (Environments)" (Hunt, 1987).

Identification of individual concepts of B, P, E can be accomplished through the Role Repertory Test. The resulting relationships between one's concepts of persons and the environments necessary for behavioral change represent implicit theories-in-use. Hunt has used his methodology through workshops and academic classes to assist teachers, counselors, consultants, therapists, among others, to increase their self-knowledge, improve their performance and communication.

Summary

The theory to practice relationship has been a focus of professional concern and discussion since the early twentieth century. Accompanying the development of student
personnel services has been the development of a theoretical foundation upon which those services could be based. Unfortunately the gap between theory and practice continued to be perceived as large.

The utilization of theory in a practice context requires the translation of global and abstract constructs into specific and pragmatic concepts. The translation process rarely results in a simple application of rules or formulas due to the unique, complex, uncertain, and unstable nature of most practice situations. Knowledge of theory may guide the practitioner's interpretation of and action in the context.

The personal constructs formed by the practitioner from his/her experience, and which may include formal theory, provides the foundation for his/her practice. Thought of as theories-in-use, these constructs represent that which one knows and implements in his/her work.

Theory-in-use may or may not be compatible with the knowledge one espoused as the basis of one's practice. The congruence of espoused knowledge and theories-in-use may be influenced by the attitudes, assumptions and preferences of the individual. Factors which may specifically influence this relationship are preferred way of perceiving and judging the practice context, the cognitive complexity with which the practice context is approached, and the length of time one has practiced in the field.
The tacit nature of one's theory-in-use makes it difficult for the individual to consider the degree of his/her congruence with formal theory. The identification of one's theory-in-use is heavily dependent upon inference from reported and/or observed behavior. Once achieved, knowledge of one's theory-in-use can lead to improved self-knowledge, communication in the practice context, and improved professional practice.
CHAPTER III
RESEARCH DESIGN AND METHODOLOGY

The purpose of Chapter 3 is to describe the research design used in the study, including data gathering and analysis. The chapter is divided into four sections: 1) description of the research design and presentation of the research hypotheses; 2) description of the instrumentation; 3) description of data gathering procedures; and 4) description of the statistical procedures used to analyze the data.

Research Design and Hypotheses

As indicated in chapter 1, the questions under study are as follows:

1. Do student personnel professionals who purport to know William Perry's theory of intellectual development in-depth demonstrate use of this theory in their implicit theory in use?

2. Will differences in the length of time that these student personnel professionals have practiced in the field of student personnel work relate to differences
in the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

3. Will differences in these student personnel professionals' preferred style of Perceiving and Judging (Jung, 1923; Myers, 1980) the practice context relate to differences among these professionals in the degree to which Perry theory criteria are used in their implicit theory-in-use?

4. Will differences in these student personnel professionals' ability to use a relativistic or contextual way of making meaning of questions of knowledge and valuation (Perry, 1970) relate to differences among these professionals in the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

A correlational study was conducted. Gay (1981) states, "correlational research attempts to determine whether, and to what degree, a relationship exists between two or more quantifiable variables" (p. 13). Variables of association in this study were congruence rating for the relationship between theory purported to be known in-depth and implicit theory-in-use, length of time having practiced in a student service/student affairs context, Myers-Briggs personality type, and level of cognitive complexity on the Perry scheme.
Based upon the scholarly literature on theory-in-use and factors contributing to the construction of one's theory-in-use and the research questions under study, the following hypotheses were posed:

1. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, there will be a low to moderate correlation between the theory known in-depth and the subject's implicit theory-in-use.

Scott (1969) found little relationship between espoused theory and theory-in-use. Formal theory purported to be known in-depth represents and overarching theory (Schön, 1983) that is available as content for the espoused theory. Implicit theory-in-use is structured by experience and may be informed by formal theory but is typically not the formal theory. Hence, a low-to-moderate correlation is expected.

2. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those with three years or less experience in a practice context will demonstrate less degree of congruence than those with more than three years experience.

Schön (1987) noted that the artistry of professional practice evolves as a result of reflecting-in-action, i.e., processing one's experiences. The reflective process is best guided by
expert practitioners who assist the novice practitioner in expanding his/her repertoire of expectations, images and techniques. Graduate education and entry-level positions in student personnel work provide the context for this reflective process, but may or may not provide the expert guide or the opportunity for reflection. Post-entry level positions are more likely to have completed such a reflective process and perhaps serve as a reflective guide for entry-level student personnel professionals.

3. Student personnel professionals who prefer to perceive the practice context through the use of Intuition will demonstrate a greater degree of congruence than those professionals preferring to perceive through Sensing.

King and Fields (1980) described the process of bridging theory and practice as one based in intuition. They emphasized the importance of experience, direct and vicarious, in the creation of a concept of "what works". Implicit in these concepts was a recognition of the possibilities and potentials which the concrete experience symbolized. This type of "seeing" (Schön, 1987, p. 17) cannot be taught in a concrete sense but can be coached as the individual learns to see in his/her own way. Myers-Briggs Intuitives tend to see abstract, symbolic, theoretical relationships
(Lawrence, 1979) that may facilitate their receptivity to formal theory, i.e., they may be able to see the applicability of theoretical abstractions in the practice context more easily than Sensing types. This vision of possibility can become incorporated into their theory-in-use through the process of reflecting-in-action (Schön, 1987), testing possibilities against reality to form new understandings.

4. Student personnel professionals who prefer to judge the practice context through the use of Thinking will demonstrate a greater degree of congruence than those professionals preferring to judge through Feelings.

Schön (1987) emphasized a cognitive and analytical dimension to the development of one's theory-in-use. Through the ability to reflect on one's knowing and actions, one is able to expand one's repertoire of images, expectations and techniques. This is a logical rethinking based upon experience allows for one to respond more adequately to the uncertain, unique and unstable situations which comprise the majority of practice contexts. Myers-Briggs Thinking types prefer logical analysis as well as personal detachment (Lawrence, 1979) these may facilitate the reflecting-in-action process (Schön, 1987, p. 134-135). The Thinker's propensity for logical analysis may result in better judgments about actual attempts to use theory in
one's theory-in-use, thus allowing one's theory-in-use to be influenced by those notions.

5. Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those approaching the practice context in a relativistic or contextual way of making meaning of questions of knowledge and valuation will demonstrate a greater degree of congruence than those who bring a fixed, absolute framework for making meaning of questions of knowledge and valuation.

The ability to incorporate theory into one's practice may be facilitated by the ability to consider multiple perspectives on the practice context. Schön (1987) noted that students who "hold their ideas loosely gives them freedom to perceive, compare, and coordinate many different meanings and sets the stage for an eventual commitment based on richer understandings" (p. 123). This is in contrast to students "who come to the studio already armed with a strongly held view of architecture" (p. 126) and who "construe their disagreements with their teachers as ideological ones; the teachers are simply on the wrong side of the fence" (p. 126). The type of student described first possessed the characteristics of a Perry Relativist, whereas the second more aptly reflected the view of a Perry Dualist. The
Relativist's openness to new ideas, possibilities and the guidance of experts may facilitate a professional's ability to translate general theoretical criteria into various context specific forms. The Dualist may be more apt to reject theory as unproven or wrong in relation to what he/she believes to be correct or true, and the Dualist may have a more difficult time translating general criteria with various situationally specific forms. The Relativist therefore may be more amenable to the inclusion of formal theory in their theory-in-use than the Dualist.

Instrumentation

A modified version of Rodgers' (1985) A Personal Assessment for Theories, Models, Instruments and Personal Skills for the 1980's was used to determine whether the subjects purported to know Perry's theory of intellectual development (Perry, 1970) in-depth. The self-report instrument allowed the subject to place himself/herself along a continuum of theoretical knowledge. Five levels of knowledge were possible:

Level 1: The name of the author and the content of the theory is unknown.
Level 2: The name of the author may be known and/or the concept recognized but the content of the constructs is unknown.
Level 3: The author and constructs are recognized and a brief description of definition of the major elements of the theory can be accurately given. While this level of knowledge may allow the individual to use the basic terminology, it is not sufficient for use of the theory in practice.

Level 4: The author and major constructs of a theory are known and understood in-depth. The concepts can be defined in detail reflecting an understanding of the structure, process and the interrelationship among constructs of the theory. This level of knowledge is considered to be sufficient for application in specific, well-defined context.

Level 5: Knowledge of the author and theoretical constructs of a theory are expanded to include an understanding of all other constructs of more general theory of which it is part and the interrelationship among the constructs. Knowledge of how developmental change occurs as well as familiarity with the means of measuring the constructs are evident at this level. Using theory in practice is possible in unique and changing contexts.

Subjects identifying Perry's theory of intellectual development as known at level 4 or 5 were considered to be know the theory in-depth. These individuals were included in the study for determining the degree of congruence
between Perry's theory and their implicit theory-in-use. In order to validate their knowledge of the Perry scheme, a short objective test over Perry theory was administered at the conclusion of the study.

Identifying subject's implicit theory-in-use was accomplished through techniques developed by Hunt (1980, 1987) and Hunt and Gow (1984). Hunt cited Kelly's Construct Theory (1955) as the foundation for his belief that each individual defines his/her functional reality based upon one's life experiences. This reality takes the form of "theories" which the individual uses in his/her associations with others. The "theories" are implicit in that little conscious attention is given to their origination or maintenance.

Kelly proposed and Hunt validated (1951) that individual's personal constructs can be identified. The Role Concept Repertory Test was developed as a means to illuminate the implicit "theories" held in relationship to interpersonal interactions.

Hunt also cited Lewin's concept the B=f(P,E), behavior is a function of the person and the environment (Lewin, 1951), as a critical component in the process of identifying one's theory-in-use. Applying Lewin's formula to professional practice, Hunt defined the practitioner's perceptions of the client as the P variable, the outcomes desired as the B variable, and the conditions created to accomplish B as the
E variable. The relationship of P to E reflects the practitioner's theory-in-use.

The application of the Role Repertory Test procedures to the identification of Lewin's B, P, E variables was the structure Hunt used to assist practitioners in the identification of their implicit theories-in-use. The outcome of this process was a collection of P-E relationship statements that were referred to as Matching Models. The Matching Models reflect relationships between one's perceptions of the person and one's belief as to the condition or environments that must be created to achieve a particular outcome.

The Matching Model is expressed as an If... Then... statement. The rationale for the If... Then... statement was included as a means to identify the construct upon which the process statement was made. The If... Then... Because... statement makes tangible the implicit theory that can become the focus of analysis of congruence between it and the theory purported to be known in-depth by the practitioner.

The measurement of congruence between a theoretical ideal and actual practice had been the focus of investigation by Truax (1961, 1963) and Truax and Carkhuff (1967). In an effort to measure the level of accomplishment of psychotherapeutic skills, Truax developed a continuum of behaviors which in the lowest level reflected an absence of
the skill and in the highest level reflected the theoretically defined ideal. The continuum, once transferred into a scale, was useable by experts in that skill to rate a therapist's practice. Truax and Carkhuff had established the reliability of this approach by demonstrating high levels of interrater reliability in the use of the scales (Truax & Carkhuff, 1967).

The Truax and Carkhuff system of measurement was directly applicable to the measurement of congruence between formal theory and theory-in-use. Developmental theories suggest necessary conditions, contexts, contents, and/or processes for the developmental progression to occur. Theory-in-use, as defined in Hunt's terms, implies an interventionist orientation, i.e., an attempt to encourage development through structuring conditions, contexts, contents and/or processes as suggested by a given theory. A continuum of theoretically specified conditions, contexts, contents and/or processes can be developed reflecting a range of levels of integration of the constructs. As with the Truax and Carkhuff instruments, this continuum of levels can function as a scale. Applying the scale to the implicit theory-in-use statements allowed those statements to be rated for congruence with the necessary conditions, contexts, contents, and/or processes of formal theory.

Widick, Knefelkamp, and Parker (1975) and Knefelkamp and Slepitza (1978) were instrumental in conceptualizing
environmental design variables and the dimensions of qualitative change suggested by Perry. Rodgers (1980b) utilized these early efforts to define developmental intervention strategies to identify the Perry theory intervention criteria. He used Widick, Knefelkamp, and Parker's seven criteria, with the specification of several content dimensions that behaviorally defined the criterion. The criteria included degree of diversity, degree of structure, degree of abstractness/concreteness, degree of differentiation-integration, cognitive skills emphasized, cognitive challenges emphasized, and personalism.

Congruence between Perry's theory and the subject's implicit theory-in-use was determined by applying the Perry intervention criteria (Appendix I) to the intervention designs reported by the subjects. Two experts in Perry's theory of intellectual development evaluated each intervention design resulting from Hunt's process for evidence of Perry intervention criteria. Evidence of Perry intervention criteria was established by the use of one or more content dimensions associated with a particular criterion. Congruence rating represented the consensus number of criteria used in an intervention design. In addition, the raters determined whether the use of the intervention criteria was an intentional use of Perry's theory. A subject was rated as intentionally applying Perry intervention criteria if, and only if, Perry's name
was used in conjunction with the presence of the criteria or Perry specific jargon (e.g., Dualist, Relativist) was used with the criteria. Otherwise, the criteria(ion) may be present but not because of an intentional use of Perry's theory. For example, other theories and common sense may lead one to some of the criteria that are recommended by Widick, Knefelkamp and Parker.

The Measure of Epistemological Reflection (Taylor, 1983) was used to assess cognitive complexity on the Perry Scheme. The Measure of Epistemological Reflection (MER) was developed to improve the accuracy in measurement of intellectual development on the Perry scheme by reducing the degree of inference necessary to rate a Perry level (Baxter Magolda & Porterfield, 1985). The MER provided specific stimuli and a standard scoring procedure thus avoiding rater inference from complex response language and allowing more defined matching of response with developmental level based upon reasoning structure.

Baxter Magolda and Porterfield (1985) reported moderately high internal consistency (Cronbach's alpha = .76) for the MER. The MER revealed increasing Perry level score with increasing level of education. Analysis of variance post hoc multiple comparisons indicated significant differences (p<.05) on Total Protocol Ratings and between all levels of education (freshmen, seniors, graduates). This finding was consistent with that predicted by the Perry scheme.
Concurrent validity of the MER was based upon the MER's comparison with the Measure of Intellectual Development (MID) (Moore, 1982). The Pearson product-moment correlation of the MER and the MID were extremely low (.11 and .04). Baxter Magolda and Porterfield (1985) pointed out that the MID failed to differentiate across levels of education. Two possible sources of difference between the MID and the MER were offered to explain this discrepancy.

The first source may have been the difference in stimuli and subsequent response. The MER's structure elicited greater amounts of data and the specific reasoning structure of the participant. The MID's structure was more open allowing the participant to choose the extent of response. Baxter Magolda concluded that differences in response might have resulted in differences in rating.

The second source involved the MER's emphasis on reasoning structure. The availability of data reflecting participant's reasoning structure reduced the need for inference and thus may have resulted in rating more congruent with those theoretically predicted.

Follow-up studies revealed that the MER's internal consistency remained high (r=.80) (Baxter Magolda & Porterfield, 1985). Modifications to the rating manual have clarified distinctions between Positions 2 and 3 and Positions 3 and 4 resulting in increased interrater reliability. Validity of the MER continues to be supported
by findings of significant differences between educational levels.

Assignment of Perry rating to the participant was based upon modal domain score. Domain score ranged from 1 to 5. Modal domain score was converted to a continuous score for statistical analysis.

Classification of preferred means of perception and judgment was based upon C. G. Jung's theory of psychological type as interpreted and measured by Isabel Briggs Myers (1962; 1980). The Myers-Briggs Type Indicator, Form G, (MBTI) was used as the assessment instrument (Myers & McCaulley, 1985).

Jung suggested that individuals differ in the way they prefer to use their mind. He focused on how individuals become aware of things, people, ideas and how they come to conclusions about these Awarenesses. Perception, or becoming aware, occurs through our senses (Sensing) or through Intuition, an unconscious integration of ideas and associations. Judgments, or coming to conclusions, occurs through the use of logical processes (Thinking) or by the application of personal, subjective values (Feelings). The perceptive and judging processes occur in the context of one's orientation to life, i.e., interest in inner worlds of concepts and ideas (Introversion) or interest in the outer world of actions, objects and persons (Extroversion). The interaction of these processes results in particular
patterns of behavior. The Myers-Briggs Type Indicator identifies an individual's preference for Introversion (I) or Extroversion (E), Sensing (S) or Intuition (N), Thinking (T) or Feeling (F), and Judging (J) or Perceiving (P). Sixteen combinations are possible resulting in sixteen personality types.

Myers and McCaulley (1985) summarized the reliability data from 5 sources [MBTI Manual (Myers, 1975, p. 20); Carlyn, 1977; McCaulley, 1978; Carskadon, 1977, 1979] and reported that split-half coefficients, based on the "logical split halves" formed by Myers ranged from .76 to .88 for EI, from .75 to .90 for SN, from .68 to .86 for TF, and from .80 to .85 for JP. Reliabilities were influenced by age and intelligence. Older samples and samples with higher levels of intelligence showed higher reliabilities.

Test-retest correlations with intervals of 5 weeks to 21 months showed moderately high reliability coefficients (.56 to .87) by scale. Change in MBTI score was more likely with low preference scores than moderate or high preference scores.

Studies involving predictions about specific types have strongly supported the construct validity of the MBTI. Research results that involved medical students (Myers & Davis, 1964; McCaulley, 1977), memory tasks (Carlson & Levy, 1973), ideational fluency (Caldwell, 1965), prediction of college performance (Stricker, Schiffman, &
Ross, 1965) and self-awareness (Carlson, 1980) among others have supported theoretical expectations.

Carlyn's (1977) report of MBTI correlations of continuous scores with other measures further supported the claim of validity. EI typically showed correlations from the .50's to the .70's with other measures of this construct. SN had been positively correlated with career choice and academic aptitude measures. TF continuous scores had been correlated with similar measures of theoretical orientation and tender-mindedness. JP were similarly found to be correlated with like constructs.

The reliability and validity data strongly supported the use of the MBTI as a means of personality assessment. Of particular interest in this study were the individuals perceiving (S, N) and judging (T, F) preferences.

**Procedures**

The Pilot. Twelve individuals who were known to have studied Perry's theory and were considered likely to know that theory in-depth were asked to participate in the pilot study. All twelve consented to participate and completed the *Personal Assessment of Theories, Models, Instruments and Personal Skills for the 1980's* (Rodgers, 1985) survey to determine their eligibility. Eleven individuals claimed to know Perry's theory of intellectual development in-depth and were included in the pilot study. The
participants represented a range of years of experience; 5 subjects had 3 or less years experience, 6 had 4 or more. Perry intellectual development level ranged from 2.8 to 5.0. Myers-Briggs types included 8 intuitive, 3 sensing, 6 thinking, and 5 feeling individuals. Myers-Briggs Intuition-Sensing continuous score ranged from 53-151, Thinking-Feeling continuous score ranged from 55-141.

The subjects participated in 7 workshops patterned after Hunt's "A Workshop to Identify Your Implicit Theories" (Hunt, 1987) (see Appendix A). The workshops were designed to lead the subjects through a series of activities culminating in the identification of implicit theories-in-use.

In order to determine if the methodology produced the desired results, the participants' theory-in-use statements were assessed to determine if they could be rated for Perry theory intervention criteria. The statements that resulted from the pilot project were found to be generalizations or superficial statements implying action but not describing an intervention or specific action. The quantity and depth of the statements were insufficient to apply the rating criteria.

The theory-in-use statements did not appear to provide the information necessary to rate congruence; however, the P-B-E analysis from which the theory-in-use statements were generated did provide a glimpse of the participant's
intentional actions. A review of the materials revealed that participants appeared to limit their statements to the space provided. The relatively small space may have negatively affected the thoroughness of their theory-in-use statement.

Further review of the P-B-E statements revealed that the vast majority of the approaches used would be classified as psycho-social theory based; reference to the use of cognitive developmental theories was very limited. An analysis of the stimulus used to identify the Persons upon which the P-B-E analysis was based determined predominantly social factors, e.g., issues of liking and relationship development, were used. The social focus of the stimulus may have channeled participants' thoughts toward students with psycho-social problems and thus generating theory-in-use from that theoretical domain.

Feedback from participants also indicated that the instruction to generate their list of Persons from among freshmen students with whom they had worked was overly restrictive. The participants indicated that the restrictiveness lead to difficulty in generating their list and may have resulted in inaccurate recollections or the projection of espoused theory not theory-in-use.

Validation of purported knowledge of Perry's theory occurred at the conclusion of the workshop to avoid a biasing affect on the participant's implicit
theory-in-use. Participant's scoring 75% on the validation test (see Appendix B) were considered to know Perry's theory in-depth. Of the 11 participants, 6 scored 75% or greater on the validation test. Items differentiating among those scoring above and below 75% were retained. Items not differentiating were revised.

All of these analyses and the evaluation of feedback was used to revise the process of discovering one's theory-in-use. The following revisions were made:

1. The prompts used to identify the Persons upon which the P-B-E analysis was based referenced contexts in which there was a focus on meaning making.

2. The prompts used to identify the actual Persons upon which the P-B-E analysis was based was expanded to include any classification of student.

3. The format and space allowed for recording responses was expanded to encourage greater breadth and depth of expression.

4. The theory-in-use statements generated from the P-B-E analysis was expanded to allow for a description of the intervention which was implied by the theory-in-use statement. This notion was tested with two participants whose pilot study materials suggested a cognitive developmental approach. Each was asked to provide a detailed account of their intervention with the individuals from the P-B-E analysis. The specific
individuals to be used for the intervention account were selected by the researcher based upon the implied cognitive developmental focus of that P-B-E analysis. Each participant was asked to describe the intervention, the method of the intervention, and the personal rationale or justification for the method chosen. Review of the intervention account determined that the description of the interventions were very specific, concrete and ratable using the Perry intervention criteria.

The Study. Participants in the study were recruited through an announcement of a professional development seminar/credit course on "Identifying One's Theory-In-Use" (see Appendix C). Announcements were sent to all MA and PhD students enrolled in Educational Policy and Leadership at The Ohio State University. Announcements were also sent to full-time employees in the Division of Student Affairs at colleges and universities in the Columbus, Ohio vicinity. Recruitment of subjects failed to identify a sufficient number of participants for the study. Follow-up with a small sample of recruited individuals determined that the time commitment for the seminar was unappealing. Feedback indicated that a more flexible arrangement such as self-paced workshop materials would be acceptable. The methodology was revised to transform the group workshop
seminar into self-guided materials completed by the subjects at his/her own location and pace. (See Appendix E for details).

Revised Methodology

Sample Population. Participants were recruited from the graduates of a large mid-western university student personnel program. Introductory materials including a letter of invitation to participate, a description of the study, a demographics questionnaire, (see Appendix D) and A Personal Assessment of Theories for the 1980's survey were sent to the graduates identified by the faculty as having studied developmental theory in-depth. Subjects were asked to return the assessment and demographic materials in order to determine eligibility for participation. Eligibility was determined as in the original design.

Instrumentation. Rodger's (1985) A Personal Assessment of Theories, Models, Instruments, and Personal Skills for the 1980's was modified to eliminate reference to models, instruments and personal skills. Subjects reported only the sections of the instrument that covered theories known and their respective level of knowledge. The scale from the original design was used.

Subject's theory-in-use statements were identified as in the original design. The P-B-E analyses were reviewed by the researcher for evidence of a cognitive developmental
focus. Subjects were asked to expanded upon two of the P-B-E analyses identified by the researcher as potentially focused on cognitive development. The subjects were also asked to expand upon a third P-B-E analyses of his/her choosing. The subject's were asked to explain what was done to encourage learning and development, what procedures were used, and why it was done that way. The resulting intervention design description became the theory-in-use material rated for congruence with formal theory. Congruence rating was accomplished as described in the original design.

The validation of theoretical knowledge test (see Appendix F) was modified to test specific knowledge of stage concepts. The original knowledge validation test assessed recognition of stage categories.

Myers-Briggs Type Indicator and the Measure of Epistemological Reflection continued to be used.

Procedures. The data gathering process was divided into six modules (Appendix E). Modules were sent to the participants at 10-14 day intervals. Self-addressed, stamped envelopes were included with each module to facilitate the return of materials. Participants not returning materials within the requested time frames were called to determine if they were having difficulty with the materials and to encourage their continued participation. The first module contained an acknowledgement of
eligibility, consent form, introduction to "Identifying Your Theories-In-Use", Myers-Briggs Type Indicator, and the Measure of Epistemological Reflection. Modules 2 - 6 contained the modified version of Hunt's workshops (see Appendix E). The Validation of Theoretical Knowledge test (Appendix F) was included with module 6. The test was sent in a sealed envelop with instructions not to open until the session was completed. Upon return of module 6 materials, a letter of thanks and explanation of the study was sent.

Revised Methodology - Sample 2

The number of subjects completing the study was insufficient for thorough statistical analysis. Subjects who dropped out of the study frequently cited the extensive time demands placed on them by the theory-in-use materials. Modification were made to reduce the time demands as a means to increase the rate of return for a second sample. The modifications included:

1. The number of triads used for the P-B-E analysis was reduced from 10 to 6. This was accomplished by retaining the triads that generated Matching Model statements focused on cognitive development in sample 1.
2. The number of modules was reduced from 5 to 3. This was accomplished by combining sessions 2 and 3 and eliminating session 4. Session 4 dealt with writing Matching Model statements. The statements were not used
in the analysis of formal theory/theory-in-use congruence rating. The process of generating the Matching Model statements may have been of interest to the participants; therefore, session 4 materials were sent to the subjects who completed the study with encouragement to use the materials to deepen their understanding of their theory-in-use.

Revised materials can be found in Appendix H.

**Sample Population.** Participants were recruited from the 1982 - 1988 graduates of another mid-west university student personnel program. A letter of invitation and information sheet was sent with a return postcard requesting eligibility screening materials. Upon return of the postcard, a demographics questionnaire, and *A Personal Assessment of Theories for the 1980's* survey was sent (see Appendix G). Subjects meeting eligibility criteria were included in the study.

**Procedures.** No change in procedures were made beyond those noted above.

**Data Analysis**

Inferential statistics were used for all data analyses. The use of inferential statistics with the non-random, self-selected sample was justified under the assumption that the subjects who volunteered and completed the study at this time represented the population of subjects who
would volunteer and complete the study at other points in time. All data was analyzed using the Statistical Package for the Social Sciences (SPSS) (1986). SPSS provided for a wide variety of parametric and non-parametric statistical tests.

Subject's intervention designs were categorized based upon the evidence of intentional use of Perry intervention criteria. Subjects intentionally utilizing Perry's theory were categorized as Perry Motivated.

Subject's congruence rating was calculated as the average number of Perry intervention criteria used in his/her intervention designs. The rating range per intervention was 0 - 7; the rating representing the number of criteria used in the design. The subject's congruence rating across intervention designs was represented as a continuous score. Total sample congruence rating represented the average congruence rating among all subjects. Perry Motivated subject's congruence rating was calculated as the average number of intervention criteria used in interventions rated as Perry Motivated for that subject. Perry Motivated sample congruence rating represented the average congruence rating among Perry Motivated subjects.

Myers-Briggs type was represented as categorical data, i.e., subjects were classified as Intuitive or Sensing, Thinking or Feeling, Judging or Perceiving based upon their preference score. Preference scores were translated into
continuous score which represented the relative strength of a preference by dimension, i.e., Intuition-Sensing, Thinking-Feeling, and Judging-Perceiving.

Subject's level of cognitive development was determined by the Measure of Epistemological Reflection (Taylor, 1983). Baxter Magolda and Porterfield (1988) noted that Total Protocol Rating (TPR) can be represented as a modal score comprised of Perry positions representing at least one-third of the respondent's thinking. This representation of the TPR accounted for the modal position and transition in reasoning if the respondent did not fall into one position. TPR can also be represented as the average of the six domain position ratings. This representation of the TPR provided a continuous score summarizing the average position rating not the modal thinking of the subject. In order to perform categorical analysis the TPR was translate into Perry level (Dualist, Multiplist, Relativist). M. B. Baxter Magolda (personal correspondence, November 1989) indicated that the translation of TPR to discrete Perry level must account of transition. Subject's whose average rating represented 50% or more transition to the next position were categorized as being in that position. Therefore, TPR ranges of 2.00 - 3.49 were considered Dualists, ranges of 3.50 - 4.49 were considered Multiplists, and ranges of 4.50 - 5.00 were considered Relativists for statistical analysis.
Categorical analysis (Chi square) was used to determine if differences in frequency of occurrence of independent variables within the samples was greater than would have been expected by chance. A probability of occurrence equal to or less than .05 was taken to represent a statistically significant rather than chance event. Chi square analysis was completed for Perry Motivated/Remaining Subjects by years of experience, Perry Motivated/Remaining subjects by Myers-Briggs dimensions, Perry Motivated/Remaining subjects by Perry level. Fisher's Exact Test was used to determine if differences existed between subjects who passed and subjects who failed the Perry knowledge validation test on each of the independent variables.

The necessity to use two samples and two versions of the methodology required statistical comparisons of the results in order to determine if the samples were selected from the same population. T-test analysis of group congruence rating means was used to make this determination.

Congruence rating represented the dependent variable for the tests of hypotheses. T-test or analysis of variance was used to determine whether differences in group congruence rating means were statistically significant. A probability of .05 was set as the criterion for a statistically significant occurrence.

Relationship between dependent and independent variables was determined through the use of the product moment
correlation coefficient, Pearson's $r$. This analysis was accomplished by utilizing congruence ratings and the continuous score form of each independent variable.

Interrater agreement, the degree to which raters assigned the same rating for a particular respondent, and interrater reliability, the degree to which raters' sets of ratings were similar were computed for Measure of Epistemological Reflection ratings and congruence ratings. A Chi square (Lawlis & Lu, 1972) was used to determine if differences in level of agreement was beyond that expected by chance. Tinsley and Weiss (1975) noted that the Lawlis and Lu measure of interrater agreement was particularly useful because it allowed for flexibility in determining the criterion for agreement. Exact agreement and agreement within-one position was calculated for the MER ratings. Exact agreement, agreement within-one and within-two intervention criteria was computed for congruence rating. A $T$ value was calculated to determine the strength of rater agreement. Intraclass $R$ was calculated to determine the interrater reliability. Tinsley and Weiss (1975) suggested the intraclass $R$ as the most appropriate correlation coefficient for estimating reliability for interval scales or ordinals scales that assume interval properties.
Summary

Chapter 3 was divided into four sections: 1) research design and hypotheses, 2) instrumentation, 3) procedures, and 4) data analysis. The study used a correlational design to test hypotheses regarding the expect relationships between the intentional use of Perry theory intervention criteria and variables suggested in the literature to be related to the development of theory-in-use. Subjects were solicited from among the graduates of two student personnel programs. All participants claimed in-depth knowledge of Perry's theory of intellectual development. Instruments used included *A Personal Assessment of Theories for the 1980's* (Rodgers, 1985) to solicit subjects perceptions of their theoretical knowledge, the Myers-Briggs Type Indicator (Myers, 1962) to determine Jungian personality and the Measure of Epistemological Reflection (Taylor, 1983) to determine Perry intellectual development level. Congruence rating was determined by the application of Perry theory intervention criteria to the subjects intervention designs. Knowledge of Perry's theory was validated with the use of a test of knowledge of Perry position characteristics, attitudes, and criteria. The procedures section provided detailed information on data gathering. The pilot study and revisions to procedures for Sample one and Sample two were provided. Chapter 3 concluded with a description of
the statistical procedures used in data analysis.
CHAPTER IV
ANALYSIS OF DATA

Chapter 4 presents the findings of the study, which were designed to answer the following questions:

1. Do student personnel professionals who purport to know William Perry's theory of intellectual development in-depth demonstrate use of this theory in their implicit theory-in-use?

2. Will difference in the length of time that these student personnel professionals have practiced in the field of student personnel work relate to differences in the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

3. Will differences in these student personnel professionals' preferred style of perceiving and judging (Jung, 1923; Myers, 1980) the practice context relate to differences among these professionals in the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

4. Will differences in these student personnel professionals' ability to bring a relativistic or contextual perspective (Perry, 1970) to the practice
context relate to differences among these professionals in the degree to which Perry theory intervention criteria are used in their implicit theory-in-use?

The findings are presented in four sections. The first section provides findings related to the comparability of Sample 1 and Sample 2. The second section reports the findings of the test of independence for the variables relative to intentional use of Perry theory intervention criteria. The third section reports findings on the research questions. The fourth section reports findings relative to interrater agreement and reliability for the Measure of Epistemological Reflection and congruence rating.

Sample Comparability

Sample 1. Letters of solicitation were sent to 166 individuals who had been identified by the student personnel program faculty at a large mid-western university as most likely to have studied developmental theory in-depth, including Perry's theory. Of the 80 individuals who expressed interest in participating, 69 met the criterion for participation, i.e., claimed in-depth knowledge of Perry's theory of intellectual development. There were 64 respondents who began the study, 33 of whom completed the study (51.6%). The 31 subjects who did not complete the study most frequently cited time required in the theory-
in-use process as the reason for withdrawing. Other reasons included inability to recollect sufficient information about one's interventions, perception that Hunt's P-B-E analysis methodology was not applicable to one's professional practice, and frustration with the intensity and reflective nature of the P-B-E analysis.

Sample 2. Letters of solicitation were sent to the 1982-1988 graduates of another mid-western university student personnel program (N=342). Of the 97 individuals who responded to the solicitation, 79 returned materials to determine their eligibility for participation. There were 74 individuals who met the criterion for participation, 38 of whom began the study. There were 23 (60.5%) subject complete the study. The 15 subjects who withdrew cited the same reasons as the Sample 1 subjects who withdrew.

Comparison between Sample 1 and Sample 2 was based upon congruence ratings. Subject's congruence rating was calculated as the mean number of Perry theory intervention criteria used in the theory-in-use cognitive developmental intervention designs reported by the subject. Perry theory intervention criteria (see Appendix I for a copy of the instrument) included degree of diversity (DIV), degree of structure (STR), abstractness/concreteness (A/C), differentiation/integration (D/I), cognitive skills emphasized (CS), cognitive challenges (CC), and personalism (PER). Raters, expert in Perry's theory of intellectual
development, independently determined whether each Perry theory intervention criteria was present in the intervention design and whether the use of the criteria was motivated by a deliberate use of Perry's theory. Consensus was reached on ratings that were different between the raters. Only those criteria rated as present by both raters, either through independently or compromise agreement, were included in the rating. Sample's congruence rating was calculated as the mean of subjects' ratings. The Samples' congruence rating ranges, modes, means and standard deviations are reported in Table 1.

Table 1
Congruence Rating Ranges, Modes, Means and Standard Deviations for Sample 1 and Sample 2

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Range</th>
<th>Mode</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>33</td>
<td>2.33-7.00</td>
<td>4.00</td>
<td>4.57</td>
<td>1.01</td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td>1.00-7.00</td>
<td>4.33</td>
<td>4.47</td>
<td>1.36</td>
</tr>
</tbody>
</table>

Presented in Figure 1 are the percentage use of each Perry theory intervention criteria by sample. Sample 1 contained 96 intervention designs, Sample 2 contained 68. A similar pattern of criteria use was found between the samples. The most frequently used criteria for Sample 1
and Sample 2 were differentiation/integration (84% and 85% respectively), cognitive skills (82% and 87% respectively), and degree of diversity (69% and 72% respectively). The criteria of structure, abstractness/concreteness, and cognitive challenge were observed less frequently (66%, 57%, 55% and 62%, 65%, 44% respectively). The criterion of personalism was the least used by the samples (43% and 32% respectively). Little difference in percentage use of each criteria was found between the samples.

![Diagram showing percentage use of Perry Intervention Criteria by Sample 1 and Sample 2.](image)

**Figure 1.** Percentage Use of Perry Intervention Criteria by Sample 1 and Sample 2.
T-test analysis of Sample 1 and Sample 2 congruence ratings was performed to determine if the sampling distributions varied beyond chance. The results demonstrated that Sample 1 and Sample 2 did not vary significantly ($t(54)=.31, p>.05$).

A second level of comparison between Sample 1 and Sample 2 was performed utilizing the sub-sample of Perry Motivated subjects. Perry Motivated subjects were those subjects who demonstrated intentional use of Perry theory intervention criteria in their intervention designs. Perry theory intervention criteria were judged to be consciously and deliberately used if, and only if, Perry's name was used in conjunction with the presence of the criteria or Perry specific jargon (e.g., Dualist, Relativist) was used with the criteria. The raters judged Perry Motivation independently. Differences in judgment were discussed until a compromised rating was achieved.

Comparison of Sample 1 and Sample 2 Perry Motivated subjects was based upon congruence ratings. Perry Motivated subjects' congruence rating ranges, modes, means and standard deviations are reported in Table 2. T-test analysis was performed to determine if the sampling distributions varied beyond chance. The comparison of Perry Motivated subjects from each sample found no statistical difference ($t(7.78)=-.11, p>.05$). The Perry
Motivated sample was found to violate homogeneity of variance; therefore, the $t$ statistics was computed using separate variance estimates and adjusted degrees of freedom.

Table 2  
Congruence Rating Ranges, Modes, Means and Standard Deviations for Sample 1 and Sample 2 Perry Motivated Subjects

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Range</th>
<th>Mode</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11</td>
<td>3.00-7.00</td>
<td>6.00</td>
<td>5.25</td>
<td>1.08</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>1.00-7.00</td>
<td>7.00</td>
<td>5.36</td>
<td>2.25</td>
</tr>
</tbody>
</table>

The comparison of Sample 1 and Sample 2 congruence ratings as well as the comparison of the Perry Motivated sub-sample congruence ratings found no statistical difference. This finding suggested that the independent samples were self-selected from statistically similar populations. The similarity of the population parameters allowed for Sample 1 and Sample 2 to be considered distributions of the same population and therefore combined for further analysis.
Test of Independence

Table 3 described the total sample and the sub-sample identified as intentionally using Perry criteria (Perry Motivated) in their theory-in-use. Chi square analysis was used to determine whether independent variable differences between Perry Motivated and remaining subjects were greater than expected by chance. Table 4 presented independent variable frequencies and Chi Square analysis by motivation classification. Statistical differences based upon motivation classification were not found for experience ($X^2=0.000, p>.05$), Extroversion/Introversion ($X^2=0.000, p>.05$). Intuition/Sensing approached significance ($X^2=3.24, p<.08$). Significant differences were observed on the remaining variables. Feeling types were observed in greater proportion than expected and Thinking types were observed in lesser proportion than expected among Perry motivated subjects ($X^2=4.37, p<.05$). Perceiving types were observed in greater proportion than expected and Judging types in less proportion than expected among Perry Motivated subjects ($X^2=7.97, p<.01$). Relativistic subjects were observed in greater proportion than expected among Perry Motivated subjects ($X^2=6.21, p<.05$).

Further analysis was conducted to determine if significant difference on Perry level were independent of Myers-Briggs perceiving (Intuition/Sensing) and judging
Table 3

Frequencies and Percentages for Total Sample and the Perry Motivated Sub-Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Sample</th>
<th></th>
<th>Perry Motivated</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
<td>28</td>
<td>50.0</td>
<td>9</td>
<td>50.0</td>
</tr>
<tr>
<td>4-more</td>
<td>28</td>
<td>50.0</td>
<td>9</td>
<td>50.0</td>
</tr>
<tr>
<td>Myers-Briggs Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>25</td>
<td>44.6</td>
<td>8</td>
<td>44.4</td>
</tr>
<tr>
<td>Introversion</td>
<td>31</td>
<td>55.4</td>
<td>10</td>
<td>55.6</td>
</tr>
<tr>
<td>Intuition</td>
<td>34</td>
<td>60.7</td>
<td>14</td>
<td>77.8</td>
</tr>
<tr>
<td>Sensing</td>
<td>22</td>
<td>39.3</td>
<td>4</td>
<td>22.2</td>
</tr>
<tr>
<td>Thinking</td>
<td>30</td>
<td>53.6</td>
<td>6</td>
<td>33.3</td>
</tr>
<tr>
<td>Feeling</td>
<td>26</td>
<td>46.4</td>
<td>12</td>
<td>66.7</td>
</tr>
<tr>
<td>Judging</td>
<td>39</td>
<td>69.6</td>
<td>8</td>
<td>44.4</td>
</tr>
<tr>
<td>Perceiving</td>
<td>17</td>
<td>30.4</td>
<td>10</td>
<td>55.6</td>
</tr>
<tr>
<td>Perry Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dualist</td>
<td>18</td>
<td>32.1</td>
<td>6</td>
<td>33.3</td>
</tr>
<tr>
<td>Multiplist</td>
<td>33</td>
<td>58.9</td>
<td>8</td>
<td>44.4</td>
</tr>
<tr>
<td>Relativist</td>
<td>5</td>
<td>8.9</td>
<td>4</td>
<td>22.2</td>
</tr>
</tbody>
</table>
(Thinking/Feeling) functions. These functions have been found to correlate with instruments assessing intellectual functioning (Myers & McCaulley, 1985, p. 175-209). Table 5 reported that for both the total sample and the Perry Motivated sample Sensing types were found in a proportion greater than expected and Intuitives types were found in a proportion less than expected in the Perry Dualist level \((\chi^2[56]=17.55, \ p<.001; \ \chi^2[18]=10.29, \ p<.01\) respectively). Statistical differences were not found for the Thinking/Feeling function for either sample. Correlational analysis was utilized to determine whether Measure of Epistemological Reflection Total Protocol Rating was correlated with continuous score for Myers-Briggs Type Indicator Perceiving and Judging functions. Pearson correlation analysis on the total sample \((N=56)\) found a low correlation \((r=.46)\); as MER score increased the subject had a greater likelihood of being an Intuitive Myers-Briggs type.

**Tests of Hypotheses**

**Hypothesis 1:** Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, there will be a low to moderate correlation between the theory known in-depth and the subject's implicit use of this theory in their theory-in-use.
Table 4

Frequencies and Chi Square Analysis by Perry Motivation Classification

<table>
<thead>
<tr>
<th>Variable</th>
<th>Perry Motivated</th>
<th>Remaining</th>
<th>( X^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experience</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
<td>9</td>
<td>19</td>
<td>0.000</td>
</tr>
<tr>
<td>4-more years</td>
<td>9</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td><strong>Myers-Briggs Type</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>8</td>
<td>17</td>
<td>0.000</td>
</tr>
<tr>
<td>Introversion</td>
<td>10</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Intuition</td>
<td>14</td>
<td>20</td>
<td>3.24</td>
</tr>
<tr>
<td>Sensing</td>
<td>4</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>6</td>
<td>24</td>
<td>4.37*</td>
</tr>
<tr>
<td>Feeling</td>
<td>12</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Judging</td>
<td>8</td>
<td>31</td>
<td>7.97**</td>
</tr>
<tr>
<td>Perceiving</td>
<td>10</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td><strong>Perry Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dualist</td>
<td>6</td>
<td>12</td>
<td>6.21*</td>
</tr>
<tr>
<td>Multiplist</td>
<td>8</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Relativist</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

* \( p < .05 \)

** \( p < .01 \)
Table 5

Comparison of Myers-Briggs Perceiving and Judging Function with Perry Level for Total and Perry Motivated Sample

<table>
<thead>
<tr>
<th>Level</th>
<th>Intuition</th>
<th>Sensing</th>
<th>$X^2$</th>
<th>Thinking</th>
<th>Feeling</th>
<th>$X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dualist</td>
<td>4</td>
<td>14</td>
<td></td>
<td>12</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Multiplist</td>
<td>25</td>
<td>8</td>
<td></td>
<td>15</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Relativist</td>
<td>5</td>
<td>0</td>
<td>17.55**</td>
<td>3</td>
<td>2</td>
<td>2.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Intuition</th>
<th>Sensing</th>
<th>$X^2$</th>
<th>Thinking</th>
<th>Feeling</th>
<th>$X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dualist</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiplist</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relativist</td>
<td>4</td>
<td>0</td>
<td>10.29*</td>
<td>2</td>
<td>2</td>
<td>2.81</td>
</tr>
</tbody>
</table>

* $p<.01$

** $p<.001$
All subjects claimed in-depth knowledge of Perry's theory of intellectual development. Validation of subject's knowledge through a test of their ability to identify intellectual development stages based upon stage criteria, characteristics and reasoning structures found that 50% (9) of the Perry Motivated sample did not pass the test. Table 6 reported the validation data by independent variable. The results indicated that years of experience and Perry intellectual development level were unrelated to the validation of subjects' knowledge of Perry's theory of intellectual development. Only Myers-Briggs Judging-Perceiving function was found to be significantly associated with validation. Perceiving subjects were significantly more likely to pass the validation test (Fisher's Exact test $p=.02$).

Table 7 presented the congruence rating means and standard deviations for those who passed and those who failed the knowledge validation test. Those who passed had a slightly higher mean ($M=5.37$) than those who failed ($M=5.22$). T-test analysis determined the difference to be non-significant ($t(16)=-.19, p>.05$).
Table 6

Fisher's Exact Test Analysis of Knowledge Validation for the Perry Motivated Sample by Experience and Myers-Briggs Type and Chi Square Analysis for Perry Level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Passed</th>
<th>Failed</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
<td>5</td>
<td>4</td>
<td>1.00</td>
</tr>
<tr>
<td>4-more years</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Myers-Briggs Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extroversion</td>
<td>2</td>
<td>6</td>
<td>0.15</td>
</tr>
<tr>
<td>Introversion</td>
<td>7</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Intuitive</td>
<td>9</td>
<td>5</td>
<td>0.08</td>
</tr>
<tr>
<td>Sensing</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>1</td>
<td>5</td>
<td>0.13</td>
</tr>
<tr>
<td>Feeling</td>
<td>8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Judging</td>
<td>1</td>
<td>7</td>
<td>0.02</td>
</tr>
<tr>
<td>Perceiving</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Perry Level</td>
<td></td>
<td></td>
<td>X²</td>
</tr>
<tr>
<td>Dualist</td>
<td>1</td>
<td>5</td>
<td>4.67</td>
</tr>
<tr>
<td>Multiplist</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Relativist</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
Table 7

**Congruence Rating Means and Standard Deviations for Knowledge Validation Categories**

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passed</td>
<td>9</td>
<td>50.0</td>
<td>5.37</td>
<td>1.32</td>
</tr>
<tr>
<td>Failed</td>
<td>9</td>
<td>50.0</td>
<td>5.22</td>
<td>1.87</td>
</tr>
</tbody>
</table>

Pearson correlation coefficient was calculated to determine whether level of knowledge was related to implicit theory-in-use as defined by congruence rating. A slight correlation was found ($r = .23$). Two items on the validation test specifically tested knowledge of change criteria. Of the 18 Perry Motivated subjects, only 5 (27.8%) correctly answered these questions; 9 (50.0%) answered one correctly, 4 (22.2%) were unable to answer either question correctly. Implicit theory-in-use did not appear to be related to knowledge of Perry's theory of intellectual development as measured by the validation test. These results required that hypothesis 1 be rejected.

Hypothesis 2: Among student personnel professionals intentional utilizing Perry's theory of intellectual development, those with three years or less experience in a
practice context will demonstrate less degree of congruence than those with more than three years experience.

Table 8 presented the congruence rating means and standard deviations for experience categories. The mean for professionals with 1-3 years experience (M=5.11) was found to be less than the mean for professionals with 4 or more years experience (M=5.48). T-test analysis showed that the means did not differ significantly (t(16)=-.48, p>.05). Pearson correlation coefficient was calculated to determine whether years of experience was related to congruence rating. The correlation coefficient indicated that there was no relationship between years of experience and congruence rating (r=-.02). Based upon the comparison of congruence rating means and the correlational analysis hypothesis 2 was rejected.

Table 8

<table>
<thead>
<tr>
<th>Congruence Rating Means and Standard Deviations for Experience Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>--------------------</td>
</tr>
<tr>
<td>1-3 years</td>
</tr>
<tr>
<td>4-more years</td>
</tr>
</tbody>
</table>
Hypothesis 3: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those preferring to perceive the practice context through the use of Intuition will demonstrate a greater degree of congruence than those preferring to perceive through Sensing.

Table 9 reported the congruence rating means and standard deviations for Intuitive and Sensing types. While Intuitives' mean was larger than Sensing types' mean, the difference was not significant ($t(3.34)=.39$, $p>.05$). A review of Table 9 revealed that standard deviations were highly discrepant. Homogeneity of variance was assessed using the $F$ value. Variances were found to be unequal ($F=5.08$, $p<.05$). $T$ statistic was computed utilizing separate variance estimates and adjusted degrees of freedom.

Table 9

<table>
<thead>
<tr>
<th>Preference</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intuitive</td>
<td>14</td>
<td>77.8</td>
<td>5.41</td>
<td>1.21</td>
</tr>
<tr>
<td>Sensing</td>
<td>4</td>
<td>22.2</td>
<td>4.88</td>
<td>2.72</td>
</tr>
</tbody>
</table>
Myers-Briggs Type Indicator functions do not represent a continuum of preference; however, they can be scored as continuous variables for analysis purposes. Continuous scoring uses the strength score as if they represented the relative strength of the preference. In order to determine whether the strength of preference was correlated with degree of congruence the Pearson correlation coefficient was calculated utilizing Myers-Briggs continuous scores. The results found no correlation between continuous Myers-Briggs score for Intuition-Sensing and congruence rating \((r=.03)\). This finding coupled with the result of the t-test required that hypothesis 3 be rejected.

Hypothesis 4: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those preferring to judge the practice context through the use of Thinking will demonstrate a greater degree of congruence than those preferring to judge through Feeling.

Table 10 presented the congruence rating means and standard deviations for Thinking and Feeling Myers-Briggs types. The Thinking type group mean exceeded the Feeling type group mean; however, the difference was not significant \((t(16)=1.13, p>.05)\).
Table 10

Congruence Rating Means and Standard Deviations for Thinking and Feeling Types

<table>
<thead>
<tr>
<th>Preference</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking</td>
<td>6</td>
<td>33.3</td>
<td>5.88</td>
<td>1.18</td>
</tr>
<tr>
<td>Feeling</td>
<td>12</td>
<td>66.7</td>
<td>5.00</td>
<td>1.71</td>
</tr>
</tbody>
</table>

The Myers-Briggs judging function can be treated in the same manner as the perceiving function, as a continuous variable with scores representing the relative strength of the preference. Correlating Thinking-Feeling continuous scores with the congruence rating was performed with the Pearson correlation coefficient. The Pearson correlation coefficient identified a low, negative correlation ($r=-.30$). The $t$-test and Pearson correlation results required that hypothesis 4 be rejected.

Hypothesis 5: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those approaching the practice context in a relativistic or contextual way of making meaning of questions of knowledge and valuation will demonstrate a greater degree of congruence than those bringing a fixed,
absolute framework for making meaning of questions of knowledge and valuation.

Participants in the study were classified as Dualistic, Multiplistic or Relativistic on the Perry scheme of intellectual development through the use of the Measure of Epistemological Reflection (Baxter Magolda & Porterfield, 1985). The Measure of Epistemological Reflection rating is a continuous score that can be translated to Perry level for analysis of group differences (M. B. Baxter Magolda, personal correspondence, November 1989). The Dualistic category represented MER scores between 1.00 and 3.49, Multiplistic category represented MER scores between 3.50 and 4.49, and Relativistic category represented MER scores between 4.50 and 5.00. MER scores for the Perry Motivated sample ranged from 2.67 to 4.83 with \( M=3.73 \) and \( SD=.65 \). Presented in Table 11 are the frequencies, percentages, congruence rating means and standard deviations for Perry levels in the Perry Motivated sample. Analysis of variance was used to determine if significant difference existed between the congruence rating means by Perry level. Table 12 presented the finding of the analysis of variance. No difference in congruence rating means among Perry intellectual development level was found (\( F[2,15]=.71, p>.05 \)).

MER rating while translatable to a Perry level can also be scored as continuous variable allowing for correlational
analysis. Pearson correlation analysis was used to determine if continuous MER scores were correlated with congruence ratings. Pearson correlation determined that congruence rating was not correlated with MER score ($r = .16$). The results of analysis of variance and Pearson correlation required that hypothesis 5 be rejected.

Table 11

**Congruence Rating Means and Standard Deviations for Perry Intellectual Development Levels**

<table>
<thead>
<tr>
<th>Level</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dualist</td>
<td>6</td>
<td>33.3</td>
<td>4.67</td>
<td>2.27</td>
</tr>
<tr>
<td>Multiplist</td>
<td>8</td>
<td>44.4</td>
<td>5.66</td>
<td>1.04</td>
</tr>
<tr>
<td>Relativist</td>
<td>4</td>
<td>22.2</td>
<td>5.50</td>
<td>1.29</td>
</tr>
</tbody>
</table>

Table 12

**Analysis of Variance for Perry Level and Congruence Rating**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Sign. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>2</td>
<td>3.6174</td>
<td>1.8087</td>
<td>.7063</td>
<td>.5092</td>
</tr>
<tr>
<td>Within</td>
<td>15</td>
<td>38.4121</td>
<td>2.5608</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>42.0295</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Non-Hypothesized Findings

Subjects with a preference for Perceiving were found to be more likely to have internalized Perry's theory into their theory-in-use and, within the Perry Motivated sample, to have passed the knowledge validation test. This finding raised interest in determining whether Perceiving types would demonstrate greater congruence than Judging types within the Perry Motivated sample. Table 13 presented the congruence rating means and standard deviations for the Judging-Perceiving preference.

Table 13
Congruence Rating Means and Standard Deviations for Judging and Perceiving Preferences

<table>
<thead>
<tr>
<th>Preference</th>
<th>N</th>
<th>%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judging</td>
<td>8</td>
<td>44.4</td>
<td>5.25</td>
<td>.707</td>
</tr>
<tr>
<td>Perceiving</td>
<td>10</td>
<td>55.6</td>
<td>5.33</td>
<td>.394</td>
</tr>
</tbody>
</table>

Perceiving types had a slightly but not significantly higher mean than Judging types ($t_{(16)}=-.10$, $p>.05$).

Pearson correlation coefficient found a low, negative correlation ($r=-.11$). Hence, although Perceptive types are more likely to use Perry in their theory-in-use than Judging types, they do not use Perry change criteria to a
greater extent than Judging types who also use Perry in their theory-in-use.

**Interrater Agreement and Reliability**

Measure of Epistemological Reflection. Two certified raters rated each MER. Table 14 reported exact and within-one-position percentage agreement by domain and total protocol rating for the total sample. Exact domain agreement was lowest in domain one (53.6%) and domain four (58.9%). The remaining domains were in the low to mid-60s range. Exact agreement on total protocol rating reached 78.6%. All Chi squares indicated that the levels of exact agreement exceeded those expected by chance. T values were moderate in all domains (.42-.58) and strong for the total protocol rating (.73). Within one position agreement showed that most rating differences were one position apart. Chi square analysis again showed that all levels within one position agreement were beyond chance.

Interrater reliability, the degree to which two raters' sets of ratings are similar, was also performed. Interclass R was calculated for the total protocol ratings. The two raters' correlation was .59($F[55,56]=3.908$, $p<.000$); this indicated a moderate level of reliability.
Table 14

Exact and Within-One-Position Percentage Agreement by Domain and Total Protocol Rating Between Two Expert Raters for the Total Sample

<table>
<thead>
<tr>
<th>Domain</th>
<th>Exact</th>
<th>$X^2$</th>
<th>T</th>
<th>Within One</th>
<th>$X^2$</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>53.6</td>
<td>38.21*</td>
<td>.42</td>
<td>78.6</td>
<td>15.90*</td>
<td>.55</td>
</tr>
<tr>
<td>Two</td>
<td>66.1</td>
<td>72.59*</td>
<td>.58</td>
<td>85.7</td>
<td>25.57*</td>
<td>.70</td>
</tr>
<tr>
<td>Three</td>
<td>60.7</td>
<td>56.52*</td>
<td>.51</td>
<td>87.5</td>
<td>28.22*</td>
<td>.74</td>
</tr>
<tr>
<td>Four</td>
<td>58.9</td>
<td>51.61*</td>
<td>.49</td>
<td>83.9</td>
<td>22.94*</td>
<td>.67</td>
</tr>
<tr>
<td>Five</td>
<td>64.3</td>
<td>67.00*</td>
<td>.55</td>
<td>82.1</td>
<td>20.45*</td>
<td>.63</td>
</tr>
<tr>
<td>Six</td>
<td>62.5</td>
<td>61.65*</td>
<td>.53</td>
<td>87.5</td>
<td>28.35*</td>
<td>.74</td>
</tr>
<tr>
<td>TPR</td>
<td>78.6</td>
<td>117.90*</td>
<td>.73</td>
<td>98.2</td>
<td>48.01*</td>
<td>.96</td>
</tr>
</tbody>
</table>

* $p<.001$

Congruence Ratings. The Perry Motivated subjects' intervention designs were rated by two experts in Perry's theory of intellectual development. Table 15 reported the percentage agreement by Perry intervention criteria and total congruence rating. Agreement was lowest on the cognitive challenge (75.9%), structure (79.3%) and abstractness/concreteness (79.3%) criteria. Agreement on the remaining criteria categories ranged from 82.8%-93.1%. Agreement on the classification of the intervention as
Perry Motivated was 100%. All Chi squares indicated that the level of agreement exceeded those expected by chance. T values were moderate to strong for all criteria (.72-.92). Interrater agreement on congruence rating was determined for exact, within one, and within two criteria. Table 16 reported that exact agreement was low (24.0%) with Chi square not exceeding the level of chance ($X^2=1.94$, $p>.05$). Agreement within one criterion did exceed the level expected by chance ($X^2=6.94$, $p<.01$) and represented the majority of ratings (62.1%). Within two criteria agreement showed that most ratings differences were within two criteria and exceeded the level expected by chance ($X^2=17.22$, $p<.001$).

Interrater reliability was computed with the Interclass R. The correlation was determined to be $r=.65$ ($F[17,18]=4.763$, $p<.001$). The correlation represented a moderate level of reliability.
Table 15

Percentage Agreement by Perry Intervention Criteria and Perry Motivation Classification Between Two Expert Raters for the Perry Motivation Sample.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Agreement</th>
<th>X²</th>
<th>p</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity</td>
<td>93.1%</td>
<td>146.06</td>
<td>.001</td>
<td>.92</td>
</tr>
<tr>
<td>Structure</td>
<td>79.3%</td>
<td>98.90</td>
<td>.001</td>
<td>.76</td>
</tr>
<tr>
<td>Abstractness/Concreteness</td>
<td>79.3%</td>
<td>98.90</td>
<td>.001</td>
<td>.76</td>
</tr>
<tr>
<td>Differentiation/Integration</td>
<td>86.2%</td>
<td>121.33</td>
<td>.001</td>
<td>.84</td>
</tr>
<tr>
<td>Cognitive Skill</td>
<td>86.2%</td>
<td>121.33</td>
<td>.001</td>
<td>.84</td>
</tr>
<tr>
<td>Cognitive Challenge</td>
<td>75.9%</td>
<td>88.54</td>
<td>.001</td>
<td>.72</td>
</tr>
<tr>
<td>Personalism</td>
<td>82.8%</td>
<td>109.83</td>
<td>.001</td>
<td>.80</td>
</tr>
<tr>
<td>Perry Motivated</td>
<td>100.0%</td>
<td>172.83</td>
<td>.001</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Table 16

Exact, Within-One and Within-Two Percentage Agreement By Congruence Rating Between Two Expert Raters for the Perry Motivated Sample

<table>
<thead>
<tr>
<th>Congruence Rating</th>
<th>Agreement</th>
<th>$X^2$</th>
<th>$p$</th>
<th>$T$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exact</td>
<td>24.0%</td>
<td>1.94</td>
<td>&gt;.10</td>
<td>NA</td>
</tr>
<tr>
<td>Within One</td>
<td>62.1%</td>
<td>6.94</td>
<td>&lt;.01</td>
<td>.39</td>
</tr>
<tr>
<td>Within Two</td>
<td>96.6%</td>
<td>17.22</td>
<td>&lt;.001</td>
<td>.92</td>
</tr>
</tbody>
</table>

Summary

Chapter 4 presented the findings of this study in four sections. The first section reported the comparison between Sample 1 and Sample 2 congruence rating means for the total sample and the Perry Motivated sub-sample. T-test analysis found no significant difference between means. The sample were combined for all subsequent analyses.

The second section reported Chi square analysis for Perry Motivated and remaining subjects on years of experience, Myers-Briggs type, and Perry level. Statistical differences were not found for motivation classification on years of experience and Extroversion/Introversion; Intuition/Sensing approached significance. Significant
statistical differences were found for Feeling/Thinking, Perceiving/Judging, and Perry level. Feeling subjects, Perceiving subjects and Relativistic subjects were more likely to be found among the Perry Motivated subjects than were Thinking subjects, Judging subjects, and Dualistic or Multiplistic subjects.

The third section reported the tests of hypotheses for Perry Motivated group only. Differences between Perry Motivated subjects on knowledge of Perry's theory, years of experience, Myers-Briggs type and Perry level were found not to be statistically significant. All research hypotheses were rejected. Within the Perry Motivated group the use of Perry criteria did not vary. All groups used the criteria at the same level.

Section four reported the non-hypothesized findings. Interrater agreement and reliability analysis for Measure of Epistemological Reflection ratings revealed agreement beyond chance for exact and within-one agreement on domain and Total Protocol Rating and moderate reliability. Interrater agreement for congruence ratings found exact agreement not to exceed the level expected by chance. Agreement within-one and within-two criteria was found to exceed the level expect by chance. Congruence rating interrater reliability was moderate for the MER and no comparative standard was available for the Congruence ratings.
CHAPTER V
SUMMARY, DISCUSSION, CONCLUSIONS, LIMITATIONS,
AND RECOMMENDATIONS

Summary

Statement of the Problem. The societal and campus unrest of the mid and late 1960's brought an end to the philosophy of *in loco parentis*. Student personnel worker found it necessary to reorient their professional practice from a controlling function to a service function. This change allowed for the re-emergence of the Student Personnel Point of View (1937) with an emphasis on the development of the individual and the role played by the college environment in this development.

The student development movement resulted in the creation of new theories and new practice. By the late 1960's and early 1970's new theories of college student development had begun to emerge. The decade of the 1970's saw a rapid development of procedural and process models through which student development theory could be practiced. The emphasis in the professional literature was on the translation of theory to practice.
Concern had begun to be expressed by the late 1970's and early 1980's that professional practice did not seem have been significantly influenced by the theoretical developments of the prior decade. The 1980's became a time to understand the nature of practice as a means to understand the theory-practice relationship.

Efforts to understand the theory-practice relationship became focused on the practitioner's depth of understanding of the theory and the internalization of that theory into the practitioner's assumptions, perspectives and constructs. The assumptions, perspectives and constructs of the practitioner represent the practitioner's theory-in-use. An internalization of this aspect of knowing is necessary before formal theory is reflected in the practitioner's theory-in-use. Yet, knowing theory and believing that one was using that theory does not provide evidence that the theory was indeed actualized in one's work. Incongruence between theory known and theory-in-use may result in ineffective practice. Understanding the factors that enhance theory known/theory-in-use congruence may be useful in improving the practice of student development.

Purpose of the Study. The purpose of the study was to examine the degree of congruence between student personnel professionals' purported knowledge of Perry's theory of intellectual development (1970) and their implicit
theory-in-use as well as the factors which may influence
the degree of congruence. The following research questions
were addressed in this study:

1) Do student personnel professionals who purport to
know William Perry's theory of intellectual development
in-depth demonstrate use of this theory in their implicit
theory-in-use?

2) Will differences in the length of time that these
student personnel professionals have practiced in the
field of student personnel work relate to differences in
degree to which Perry theory intervention criteria are
used in their implicit theory-in-use?

3) Will differences in these student personnel
professionals' preferred style of Perceiving and Judging
(Jung, 1923; Myers, 1980) the practice context relate to
differences among these professionals in degree to which
Perry theory intervention criteria are used in their
implicit theory-in-use?

4) Will differences in these student personnel
professionals' ability to bring a relativistic or
contextual perspective (Perry, 1970) to the practice
context relate to differences among these professionals
in degree to which Perry theory intervention criteria are
used in their implicit theory-in-use?

Review of the Literature. Argyris (1985) defined
practice as the "implementation of a set of ideas in order
to achieve intended consequences in the world of practical affairs" (p. 79-80). The simplicity of that prescription did not directly acknowledge that practitioners were likely to find themselves in unique, complex, uncertain and unstable situations (Schön, 1983). Schön (1987) suggested that practitioners must form theories of action for specific practice situations. The theories of action can be thought of as theory of practice (Argyris & Schön, 1974). Theories of practice can be manifested in two ways. The actions to which a practitioner verbalizes commitment were considered one's espoused theory of action; the beliefs one holds that actually guide one's actions were considered one's theory-in-use. Espoused theory and theory-in-use may be compatible or incompatible without the practitioner's awareness of either condition (Scott, 1969).

The assumptions that underlie one's theories-in-use were considered by Argyris and Schön (1974) to "constitute a psychology of everyday life" (p. 78). This perspective found support in Kelly's Construct Theory (Kelly, 1955). Kelly asserted that individuals form psychological theories which guide their actions based upon the way in which they anticipate events. Past experiences shape the individual's anticipation and his/her prediction of current events. Theory-in-use was, therefore, a construction based upon one's experiential knowledge.
Schön (1983) suggested that one's experiential knowing is "ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing" (p. 49). The intentional use of one's experiential knowing is dependent upon reflecting upon one's action. The reflective process leads to the formation of constructs, or theories, which modify and extend one's knowing-in-action and, therefore, the range of applicable situation of practice.

The relation of one's knowing-in-action to formal theory laid in the language, descriptions, and themes of the formal theory (Schön, 1983). Formal theory provided one's knowing-in-action with a means of interpretation applicable to situations of practice.

Perception of the practice context is critically related to the development and application of theories-in-use. Argyris and Schön (1974) noted that "Theory-building is reality-building, not only because our theories-in-use help to determine what we perceive of the behavioral world but because our theories-in-use determine our actions, which in turn help to determine the characteristics of the behavioral world, which in turn feed into our theories-in-use" (p. 18). Theories-in-use define for the practitioner that to which he/she will attend as well as provide the meaning associated with these variables. Jung (1923) suggested that individuals perceive based upon the content
of the situation (Sensing) or based upon association and symbolic interpretation of the situation (Intuition). Schon (1987) noted that the ability to perceive the relationship between the new practice context and one's prior practice experience is a critical dimension in the ability to engage in professional practice.

Perceiving the practice context is only one part of professional practice. One must use one's perceptions to identify the ends to be achieved and the means to achieve those ends (Schön, 1983). Implicit in this process is the act of choosing. Jung (1923) identified two preferences for choosing, or in his terminology Judging. Some individuals prefer to make judgments in an impersonal, analytical and logical manner (Thinking types), others base their judgments based on prioritized personal values (Feeling types). Schön (1987) suggested that analytical abilities of the practitioner applied to the process of reflecting-in-action enhanced one's practice by extending the theory-in-use to new contexts and by modifying the theory-in-use with new experiences.

Perception is directly related to the process of understanding one's practice context. Schön (1987) suggested that the practitioner's learning about his/her practice occurs over four continua: closed-system vocabulary/substantive understanding, unitary procedures/holistic grasp, narrow and superficial/broad and
deep, overlearning/multiple representations. Each continuum represented a range of increasingly complex knowledge or action. This notion of increasing complexity of understanding, knowledge and point-of-view is comparable to the theory of intellectual development proposed by William Perry (1970). Perry suggested that college student cognitive development occurs along a continuum of nine positions or stages. Each stage represents a more complex way of viewing knowledge. Knefelkamp and Slepitza (1978) suggested that the Perry scheme can be viewed as a general process model that provided "a descriptive framework for viewing the development of an individual's reasoning about many aspects of the world" (p. 136). This may suggest that individuals who reason more complexly, as defined by Perry, may view the practice context more complexly. Schön suggested that a more complex view of the practice context is necessary for theory-in-use to be broader, deeper and more substantive.

The development of theories-in-use is not necessarily a quick process. Schön (1987) suggested that practitioners first apply a learned method or rules for their actions. Over time, the practitioner reflects upon these actions and makes modifications that become the basis for professional artistry. Theory-in-use is a construction of reality based upon one's experiences and is manifested through this artistry. The time frame of professional training and
entry-level practice is likely to be the formative period for one's theory-in-use. Likewise, one would anticipate that the longer one practices the greater one's opportunity to reflect-in-action and, therefore, to broaden and deepen one's theory-in-use.

Most individuals find identifying their implicit theories-in-use to be a difficult task. This difficulty arises from the complex nature of theories-in-use and the lack of skill and ability of some individuals to think about their thinking (Argyris & Schön, 1974). A variety of methods for making explicit the implicit theories-in-use have been developed, all of which rely to some extent on inference from observed or reported behaviors. The Role Repertory Test (Kelly, 1955) had been modified as a means to identify constructs or theories that underlie individual's actions in a number of studies. Hunt utilized Kelly's process and Lewin's (1951) notion of behavior as a function of the person and environment to develop a method that allowed the practitioner to formulate theory-in-use statements.

Procedures. A correlational study was conducted. Variables of association were congruence level for the relationship between Perry's theory of intellectual development and implicit theory-in-use, length of time having worked in a student service/affairs practice context, Myers-Briggs personality type classification, and
level of cognitive complexity (Measure of Epistemological Reflection score).

Graduates from two large mid-western university student personnel programs were solicited to participate in the study. Respondents who purported to know Perry's theory of intellectual development in-depth were offered the opportunity to participate. Participants (N=56) developed their theory-in-use statements through techniques developed by Hunt (1980, 1987) and Hunt and Gow (1984). This technique involved the recreation of one's constructs of particular students, the outcomes desired for these students, and the conditions created to accomplish these outcomes. The relationship of these constructs represented the subject's theory-in-use. Subjects provided detailed descriptions of their intervention designs for those theory-in-use statements that appeared to be focused upon cognitive development.

Experts in Perry's theory of intellectual development rated the detailed descriptions of the intervention designs. Congruence between Perry's theory and the subject's implicit theory-in-use, as evidenced by the intervention design, was determined by the number of Perry theory intervention criteria present in the intervention. Subjects' whose intervention designs were rated as Perry Motivated, i.e., those demonstrating intentional use of
Perry's theory intervention criteria (N=18), were included in data analysis.

Findings. Chi square analysis was used to determine whether independent variables differences between Perry Motivated and the remaining subjects were greater than expected by chance. It was determined that differences for experience (three years or less, four years or more), Myers-Briggs Extroversion/Introversion and Intuition/Sensing were not greater than by chance. Myers-Briggs Feeling types and Perceiving types and subjects rated as Relativistic on the Measure of Epistemological Reflection were found in greater proportion than expected by chance among Perry Motivated subjects.

Hypothesis 1 stated: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, there will be a low to moderate correlation between the theory known in-depth and the subject's implicit theory-in-use. Validation of Perry Motivated subject's knowledge of Perry's theory found that only 9 (50%) were able to achieve a passing score of 75%. T-test analysis for congruence rating means for those who passed and those who failed found no statistical difference. A low, non-significant correlation was found. Theory-in-use did not appear to be related to knowledge of Perry's theory as measured by the validation test. Hypothesis one was rejected.
Hypothesis 2 stated: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those with three years or less experience in a practice context will demonstrate less degree of congruence than those with more than three years experience. Congruence rating for the subjects with more than three years experience was larger, but not significantly, than the mean for subjects with three years or less experience. Correlational analysis found no relationship between years of experience and congruence rating. Years of experience appeared not to be related to congruence rating; therefore, hypothesis 2 was rejected.

Hypothesis 3 stated: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those preferring to perceive the practice context through the use of Intuition will demonstrate a greater degree of congruence than those preferring to perceive through Sensing. Myers-Briggs Intuitives had a larger mean congruence rating than did the Sensing types; however, the difference was non-significant. Correlational analysis found no relationship between Intuition-Sensing and congruence rating. Hypothesis 3 was rejected.

Hypothesis 4 stated: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those preferring to judge the
practice context through the use of Thinking will demonstrate a greater degree of congruence than those preferring to judge through Feeling. The congruence rating mean for the Thinking subjects exceeded the mean for the Feeling subjects; however, the difference was not significant. A low, negative, non-significant correlation coefficient was found. The results required hypothesis 4 to be rejected.

Hypothesis 5 stated: Among student personnel professionals intentionally utilizing Perry's theory of intellectual development, those approaching the practice context in a relativistic or contextual way of making meaning of questions of knowledge and valuation will demonstrate a greater degree of congruence than those bringing a fixed, absolute framework for making meaning of questions of knowledge and valuation. Analysis of variance found no statistical difference between Dualistic subjects, Multiplistic subjects and Relativistic subjects. Pearson correlation analysis found no correlation between Perry intellectual development level and congruence rating. Hypothesis 5 was rejected.

Subjects with a preference for Perceiving were found to be more likely to be Perry Motivated and, within the Perry Motivated sample, to have passed the knowledge validation test. That finding raised interest in determining whether Perceiving types would demonstrate greater congruence than
Judging types within the Perry Motivated sample. Perceiving types had a slightly, but not significantly, higher mean than did Judging types. A low, negative, non-significant correlation was found between Judging-Perceiving and congruence rating.

Interrater agreement for the Measure of Epistemological Reflection found that level of rater agreement exceeded chance for all domains and Total Protocol Rating. Interrater reliability was moderate. For congruence rating, interrater agreement was found to exceed the level expected by chance. Interrater reliability was found to be moderate.

**Discussion.** Knowledge of a theory does not imply that the theory has been integrated into the professional's practice. Evidence of the use of change criteria of a theory in professional practice does not imply the intentional use of a particular theory. This is the case because many theories recommend the use of the same criteria and many change criteria are compatible with common sense. For example, building relationships and trust is common to Perry, humanistic-phenomenological theory and common sense; Perry and Rational-Emotive Theory share the criterion of challenging cognitive assumptions.

Hence, differentiating between the appearance of theory use and intentional theory use can only reliably occur if
there is explicit reference to the theory being used. All subjects in this study were rated as using Perry intervention criteria in their interventions; however, only 18 were rated as using Perry criteria intentionally, i.e., Perry Motivated. Therefore, only the Perry Motivated subjects were considered to have internalized Perry theory into their theory-in-use.

Perry Motivated subjects were significantly different from the other subjects. Perry Motivated subjects were significantly more likely to have a Myers-Briggs type preference for making judgments through the use of Feelings, a Myers-Briggs type preference for Perceiving, and a Perry intellectual development level of Relativism. If the Perry Motivated subjects represented professionals who had internalized Perry theory, then these differences (Feeling and Perceiving personality preferences and relativistic reasoning) may indicate factors important in the theory internalization process.

As noted by Argyris and Schön (1974), perception is the key to theory-building and theory-building is the key to action. Myers-Briggs Perceptive types orient themselves to the world in a manner that allows for life to be experienced and understood (Myers, 1980). Lawrence (1979) characterized Perceptive types as being flexible, as dealing easily with unplanned and unexpected happenings, as looking for new information, and as making changes to deal
with problems as they come along. A Perceptive attitude may facilitate the learning of theory as well as the retention of the concepts for application in new situations because theory, just as other experience, may be approached without pre-judgment as to its correctness and utility.

Jung (1923) suggested two ways of perceiving, Intuition and Sensing. A preference for Intuition or Sensing appeared to be unrelated to the intentional use of Perry theory intervention criteria. However, in the Perry Motivated sample the proportion of Intuitives approached significance. A larger sample size may have provided a clearer finding on this relationship. If Intuitives are more likely to have internalized theory, it may have been due to the theoretical orientation that is found among Intuitives (McCaulley, 1981). In addition, the use of insight to see possibilities may have allowed the Intuitive to recognize the relationship between the theory and the practice context.

Perception alone is insufficient for practice. In order for action to occur choices must be made. Subjects who preferred to make decisions based upon personal feelings and human values were more likely to have intentionally apply Perry's theory. Thinking and Feeling types may approach theory differently. Thinking types may focus upon the logical construction of the theory without concern for its applicability to people. The Thinking type may view
the practice context analytically based upon the theoretical concepts but may not translate the analysis into interpersonal action. Feeling types may be more likely to focus on the theory's impact on people without concern for the theory's logical construction or validation. A Feeling type may be more likely to see the relationship between the theory and the human condition and, therefore, apply the theory.

Participants who were rated as Relativistic on the Measure of Epistemological Reflection were observed in greater proportion than expected among the Perry Motivated subjects. The application of theory through direct interaction with a student may require that the professional be part of yet separate from the context. The professional may need to be able to take a third person perspective on the interaction as a means to process the interaction and formulate the appropriate developmental response. William Perry (1970) noted that "relativism provides the ground for detachment and for objectivity" (P. 126). Hence they are better prepared than Dualists or Multiplists to choose a strategy that was in their mind applicable to the particular context. Relativistic subjects also think more complexly than Dualists or Multiplists; hence, they may be able to analyze the complex relationship between general theoretical criteria and unique applied contexts and make the necessary translation
from the general to the specific. Hence, for all these reasons, Relativists maybe more likely to have internalized Perry's theory into their implicit theory-in-use.

The interpretation of the finding on Relativism must be viewed in relationship to the finding that Perry level rating was not independent of Myers-Briggs Intuition-Sensing function. Sensing types were significantly more likely to be Dualistic and Intuitive types were more likely to be Multilistic or Relativistic. Lawrence (1979) stated "Intuition provides insight into complexity, and ability to see abstract, symbolic and theoretical relationships, and a capacity to see future possibilities, often creative ones" (p. 7). This may suggest that Intuition facilitates the development of cognitive complexity.

An interaction between Intuition, cognitive complexity and intentional use of theory was suggested but cannot be established by the results. If this relationship is valid it may suggest that the internalization of formal theory into theory-in-use is more probable if the person has the ability to interpret the context from multiple, complex theoretical points-of-view and to translate these points-of-view into the specifics of a given practice context. A Relativistic orientation allows one to take a multi-dimensional view; Intuition allows for the association with theory; and both as needed to translate abstract general criteria into specific environmental contexts.
Participants in this study reported in-depth knowledge of Perry's theory of intellectual development. These perceptual data were validated with a Perry knowledge test. The Perry validation test assessed the subject's ability to identify characteristics of Perry stages. The behavioral data revealed that subjects intentionally using Perry intervention criteria were as likely to fail the test as they were to pass it. However, Myers-Briggs Perceptive types were significantly more likely to have passed the test. Knowledge of Perry's theory was not correlated with congruence rating of the use of Perry change criteria and the mean congruence rating of those passing was not significantly different from those who failed.

The result suggested that two kinds of knowledge of the Perry theory may be operating. The first kind of knowledge is knowledge of the stages and theoretical constructs, i.e., the characteristics, behaviors, assumptions attributed to specific Perry stages or positions. The second kind of knowledge may be knowledge of how developmental change takes place, i.e., the criteria appropriate to encourage development at a particular Perry level. The Perry knowledge validation test assessed the first kind of knowledge, but not the second. Hence, Perry Motivated professionals may or may not pass a validation test on knowledge of the stages or positions; however, they do appear to have internalized the change criteria. In the
future, therefore, validation tests should sample both kinds of knowledge of a theory and not just one kind.

Congruence rating reflected knowledge of intervention methodologies. Perceptive types had a significantly greater likelihood of knowing the theoretical constructs and intentionally using the change criteria in intervention methodologies. This may suggest that knowledge of the theoretical stage constructs contributes to but is not necessary for the implementation of the change criteria in intervention methodologies.

Schön (1987) suggested that professionals develop insight and understanding of their professional actions as they process those experiences. Reflecting-in-action was proposed by Schon as the means to expand one's repertoire of expectations, images and techniques. This study hypothesized that student personnel professionals with three or less years of professional experience would be in the early stages of the reflective process and, therefore, would have been less likely to have developed a high degree of congruence between formal theory and theory-in-use. Professionals with four or more years experience were expected to have had a greater opportunity to reflect on their practice and, therefore, would have developed greater congruence between formal theory and theory-in-use. The result did not support this hypothesis. While professionals with four or more years of experience had a
higher mean congruence score, the difference was not significant. This may suggest that length of experience was not the necessary condition influencing formal theory/theory-in-use congruence. Schon's concept of reflection-in-action suggested internalization of knowledge through the processing of experience. Processing of experience implies that the professional has a framework against which the experience is compared. In order to possess a theoretical framework the professional would have already internalized the constructs. The Perry Motivated subjects were intentionally using Perry's intervention criteria. This fact suggested prior acceptance and internalization of Perry concepts. Once the professional accepted Perry's theory as a valid means for understanding students and as a means for guiding one's work with students the process of reflecting-in-action may be related to the correctness and accuracy of one's intervention strategies.

The process of connecting theory with practice has been described as an intuitive one (King & Fields, 1980). Intuition, as conceptualized through the Myers-Briggs Typology, allows for the recognition of the possibilities and potentials of theory and the concrete context of practice (Lawrence, 1979). Schön (1987) suggested that the capacity to see possibilities is important in the reflective process and, therefore, the development of
The comparison of Intuitive and Sensing types within the Perry Motivated sample was a comparison of individuals intentionally using Perry's theory. They had already defined the context as one in which Perry theory intervention criteria were applicable. Intuitive and Sensing types may have reached that decision based upon different perceptions yet once that decision was made they utilized the intervention criteria previously internalized into their theory-in-use. Therefore, once theory was internalized differences in preferred means of perceiving had no affect on the use of the internalized constructs.

Schön (1987) stressed the cognitive and analytical dimension to the development of one's theory-in-use. It was hypothesized that professionals with a Myers-Briggs preference for Thinking would demonstrate greater congruence because of their analytical nature. The results from the Perry Motivated sample did not support this hypothesis. Myers-Briggs Thinkers and Feelers within the
Perry Motivated sample had already internalized Perry's theory into their theory-in-use as evidenced by the intentional use of Perry intervention criteria. While there was statistical evidence that Feelers were more likely to internalize Perry's theory, once theory was internalized preferred way of making judgments was unrelated to congruence rating. This result provided further support for the conclusion that once theory was internalized use was independent of the factors that may have facilitated its internalization originally.

Schön suggested that a complex view of the practice context is necessary for theory-in-use to be broader, deeper, and more substantive. It was hypothesized that practitioners who approached the practice context in a relativistic or contextual framework would demonstrate greater congruence than those who brought a fixed and absolute framework. While Relativists were more likely to have internalized theory, comparison among all Dualists, Multiplists and Relativists who internalized theory found no statistical difference. Once again the result suggested that if Perry's theory was internalized it was used, regardless of cognitive complexity of the practitioner.

The pattern of no-difference extended to Judging and Perceiving types within the Perry Motivated sample. As with all prior findings, once theory was internalized the
differences that may have facilitated internalization do not provide advantage for the use of the theory.

Conclusions and Implications

The methodology of this study adapted Hunt's (1987) classroom process for identifying practitioner's theory-in-use. The process was time consuming and mentally rigorous. While the process was successful in generating theory-in-use statements, the high drop-out rate suggested it was overly demanding when subjects received no reward except altruistic ones.

Contrary to Bloland's (1986a) assessment, some student personnel professionals appeared to be using theory in their interactions with students. The question that remains was the extent to which that theory use was intentional. Practitioners who appeared to be intentionally using theory brought to their practice a receptivity to theoretical knowledge that was useful in understanding and responding to people. In addition, they were able to understand the complexity of the practice context and view their interactions with students from a simultaneous interaction/process perspective.

In order to increase the intentional use of theory in the student personnel profession, new professionals must not only be immersed in the theoretical and practical knowledge that is available, they must be helped to develop an
appreciation and understanding of the complexity of their practice, an openness to ideas, and a valuing of the human interaction/developmental process.

Limitations

The following limitations are acknowledge in this study:

1. The small sample size, particularly of the Perry Motivated sample, reduces confidence in the statistical findings. While small sample statistics provide for control of Type I error, they lack power in detecting hypothesized differences unless those differences are large. Small sample size also precluded analysis for interaction among variables.

2. The sample size was greatly affected by the rigorous process of developing theory-in-use statements. It is unknown if those who finished the study were different from those who did not complete the study in ways that would have affected the results of the study. In addition, the rigorousness of the process may have caused those who completed the study to provide less than complete responses to the materials. If this occurred, congruence ratings may have been affected.

3. Congruence rating required a considerable amount of inference on the part of the expert raters. While rating differences were discussed and consensus reached, the result was a moderate degree of reliability.
4. The congruence rating reflected only the use of an intervention criteria, not whether that use was correct or appropriate.

**Recommendations for further Study**

1. New methodologies are needed to assess the theory-practice relationship or at least subjects must receive some substantial reward for engaging Hunt's rigorous process. Without effective means to make these assessments the debate over the progress of the profession in terms of theory use will remain at the subjective level.

2. Use of theory intervention criteria does not imply correct use or appropriate use. Further research is necessary to determine if those who have internalized theory are using the theory correctly.

3. Theory intervention criteria have been suggested as ways to promote development. Further research is needed to determine the most effective use of the criteria. Such a study might help to determine if criteria are equally effective, and/or if they must be used in particular combination.
IDENTIFYING YOUR IMPLICIT THEORIES

Session I. Introduction

A. Goals

1. To explain the purposes, principles and norms of the course.

2. To begin acquaintanceship and trust building within the group.

3. To administer the Measure of Epistemological Reflection, the Myers-Briggs Type Indicator, and collect demographic and professional employment information.

B. Procedures

1. Acquaintanceship Activity

   a. Each participant will be asked to identify himself/herself, state what he/she hopes to get out of the class and any information that he/she thinks is a uniqueness about himself/herself.

   b. Have the group sub-divide into groups based upon similarities in uniqueness (common themes, domains, etc.).

   c. Have each sub-group identify something that is different about everyone in the group (try to avoid situational, excessively permeable, superficial, vague or categorical responses).

   d. Have all groups share their similarities concept and differences concept.

2. Review of Course

   a. Purpose

      (1) To enhance self-knowledge through the identification of implicit theories.

   b. Principles

      (1) Inside-Out psychology (Hunt, Kelly)

      (2) B-P-E analysis (Lewin)
C. Norms

1. All participants, including leader, are colleagues working together to identify and share their theories.

2. To maximize feedback, all information is circulated so that each participant can see all theories.

3. To respect individual privacy information is anonymous; however, participants are free to disclose their own theories if they choose.

4. Discussions are non-critical with an emphasis on the personal validity of one's own theories and the informational value of others' theories.

D. About My Student Development Efforts

1. Instruction: Imagine you are writing to another student personnel practitioner, someone with whom you feel comfortable, to express what is most important in your work and how you go about it. Describe to this colleague the kinds of processes you use, in the environment that best helps freshmen learn and develop.

2. Allow participants to write for 5-10 minutes.

3. When the task is completed provide the following rationale: Summarizing one's overall foundation helps later to see relations between part which might otherwise seem disconnected. We need this whole to give meaning and coherence to the parts, and see how they fit together.

4. Collect summaries for facilitator review. They should be returned at the start of Session II.

E. Assignment: Assessment Measures

1. A set of measures is distributed to each participant (Myers-Briggs Type Indicator, Measure of Epistemological Reflection, demographic questionnaire, and professional employment history).

2. Participants are asked to complete the instruments before the next session.
Session II. About My Students

A. Goals

1. To identify the personal constructs held by each participant in regard to their students through the use of the Role Concept Repertory Test (Hunt, 1951; Kelly, 1955)

B. Follow-up to Session I

1. Collect instruments.
2. Return "letters to a colleague".
3. Ask participants for reaction to session I. Briefly respond to questions, comments.

C. Procedures

1. Ask each participant to list ten ways of describing their freshmen students.
2. Distribute twelve 3" x 5" cards to each participant. Have the cards numbered 1 to 12. Indicate that they will be writing on the cards names of students they know or have known in response to descriptions provided by the facilitator. Names should not be repeated.
3. Descriptors

Card 1 - The first freshman male student whose name comes to mind.
Card 2 - A freshman female student you found hard to understand.
Card 3 - A freshman male student you would like to help.
Card 4 - The first freshman female student who comes to mind.
Card 5 - A freshman male student you would like to know better.
Card 6 - A freshman female student you would like to help.
Card 7 - A freshman male student whom you like.
Card 8 - A freshman female student whom you like.

Card 9 - A freshman male student whom you don't like.

Card 10 - A freshman female student whom you don't like.

Card 11 - A freshman male student you found hard to understand.

Card 12 - A freshman female student you would like to know better.

4. Next, select cards No. 1, No. 4, and No. 8, and place them before you. After asking yourself: "Which two of these three are alike in some important way and different from the third?", select those two and put them together.

5. Next, ask yourself: "How are they alike?", describing this similarity in your own words. Using the Constructs of Persons record sheet provided circle the card numbers of the two people alike and write your word or phrase describing how you see them being alike.

6. Continue this procedure for the following nine triads (try to write ten different descriptions): triad 2) 2-5-9; triad 3) 3-7-10; triad 4) 4-6-11; triad 5) 1-5-12; triad 6) 2-6-9; triad 7) 3-4-10; triad 8) 5-6-11; triad 9) 7-8-9; triad 10) 10-11-12.

7. Participants complete the REP Test and leave their recording sheets to be duplicated for session III.

Session III

A. Goals

1. To share and discuss individual concepts of students.

2. To identify personal concepts held by each participant in regard to their objectives for the identified students.

B. Feedback and Discussion

1. Construct of Students recording sheets containing all participants' lists of student concepts are distributed.
2. Foci for Discussion
   a. Reaction to the REP Test

   b. Are the results of the REP Test personally valid: consider the source of the construct - the students, the context, and the participant - to determine how well they represent your true implicit concepts. Do your constructs only apply to the students your identified or are they generalizable to other students with whom you have worked?

3. Have participants generate categories under which individual concepts can be grouped.
   a. Place concepts into the categories.
   b. Identify the categories that are most represented by the participants concepts.
   c. Discuss whether participants' demographics (experience level, context of experience, etc.) are reflected in the categories.

4. Have participants compare their concept of persons to list of descriptors of freshmen students written at the beginning of Session II.
   a. Discuss any congruencies or incongruencies noted.

5. Lecturette: Concepts of the Person (Hunt & Sullivan, 1974)
   a. Concept of the Person occupies the central role in any psychological theory. Educational planning should begin with the student rather than with objectives or teaching methods.
   b. Ways of Describing a Student
      (1) Contemporaneous Perspective
         a) refers to type, i.e., tendencies, attributes, characteristics.
         b) focus is on the immediate situation.
         c) may (but not necessarily) imply fixed, non-modifiable state or classification.
d) matching the person with an environment is usually an attempt to produce a specific behavioral effect.

e) matching necessitates use of "accessibility channels", i.e., awareness of student needs. This implies a sensory orientation.

(2) Developmental Perspective

a) refers to the stage in which the individual is found

b) focus is on the possibility of change; student's present behavior is viewed in terms of indication of future growth and how it can be fostered.

c) contains conception of growth (1) change process is internal (organic or maturational theory such as Erikson), the environment facilitates growth; (2) change process is shaped from without (environmental and behavioral theory such as Skinner); (3) interaction occurs between the individual and the environment (different environments facilitate development depending on the person's present stage of development.

c. Contemporaneous and developmental approaches are need. Contemporaneous provides the context or structure, developmental provides direction or content.

C. Identifying Your Concepts of Objectives (B)

1. Instructions: "Consider the two students you sorted as being similar earlier: How are these two students alike in terms of the outcomes or objectives you would have in regard to their learning and development." Write down the outcome or behavior for each dyad created in Session II on the Constructs of Objects record sheet provided.

2. The recording sheets are collected for duplication.
Session IV

A. Goals

1. To share and discuss individual concepts of similar outcomes.

2. To identify personal concepts held by each participant in regard to developmental approaches.

B. Feedback and Discussion

1. Constructs of Objectives recording sheets containing all participants' lists of outcome concepts are distributed.

2. Foci of Discussion

   a. Reflection on the process: How difficult was it to focus on specific outcomes?

   b. Accuracy of the concepts: How generalizable are your "B" concepts? What can you identify as the source of the construct?

   c. Content of PB relationship: Do different concepts of the Person lead to different concept of Objectives?

3. Have participants generate categories under which individual concepts can be grouped.

   a. Look for common themes, individual patterns.

   b. Try to identify the source or reason for patterns.


   a. The concept of behavior (and its observable, measurable and objective nature) has been made disproportionately important in psychological theory and educational practice. How we define psychology or education is closely associated with the view of behavior:

      (1) as "prediction and control of behavior", then behavior likely to be seen in contemporaneous terms.
(2) as "understanding", then behavior is more likely to be considered as a referent for change in the person.

Behavior objectives, therefore, tend to come out of a tacit link with our concepts of the person.

b. Types of Objectives

(1) Content: refers to what a person learns.

(2) Process: refers to how and why the person learns.

c. Interaction of Content and Process

(1) Content is always present; the issue is the extent to which it is emphasized.

(2) Content and Process relate to contemporaneous and developmental perspectives.

 a) content related to contemporaneous

 b) process related to developmental

(3) Need content/contemporaneous for short-term goals (way of seeing what is occurring); process/developmental for long-term change.

d. Relationship of B to P

(1) Behavior-as-content is related to the concept of the person in terms of stimulus-response bonds and to conceptualizing development as an increase in the number of bonds.

(2) Behavior-as-process is related to a cognitive view of development in terms of structural reorganization.

C. Identifying Your Concept of Approaches (E)

1. Instructions: "Consider the two students you sorted earlier as being similar: How are these two students alike in terms of how you would work with them to encourage learning and development?" Record your approach and continue with the other nine pairs on The Constructs of Approaches record sheet.
2. The recording sheets are collected for duplication.

Session V

A. Goals

1. To share and discuss individual concepts of similar approaches.

2. To identify P-E relationship.

B. Feedback and Discussion

1. Feedback sheets containing all participants' lists of approaches are distributed.

2. Foci for Discussion

   a. Formal vs. less formal ways of stating approaches. Try to have formal terms explained.

   b. Look at the way approaches were stated, were there any differences, e.g. terminology, time/place orientation, prescription/proscription?

   c. Do approaches reflect how you would like to work with students or how you actually work with students?

   d. Generate categories under which individual concepts can be grouped.

3. Lecturette: The P-E Relationship (Hunt, 1976b)

   a. P-E relationship is a process of adaptation

      (1) adaptation may vary greatly within and among people and contexts.

      (2) the adaptive process has two components: reading, the sensitization to the persons, and flexing, modulation in creating the approach.

      (3) adaptation is shifting in approaches given the P-B context.

         a) Approach is not static, it must change as the person or objectives change.
b) If one is static is applying an approach then the practitioner is not working from their concept of the person.

C. Clarifying Your P-B-E Relationship

1. Instructions: In order to begin the process of verbalizing your implicit theories it is useful to clarify and integrate the work you have done on your P, B, and E constructs.

   a. On the P-B-E Summary record sheet please summarize your Constructs of Persons, Objects and Approaches. As you summarize please rewrite to give greater clarity and definition to your constructs.

   b. Once the summary is complete try to identify the relationships that may exist in each column, then across rows. Record these on a separate sheet of paper and save it for later reference.

      (1) Relationship across the rows are called matching models and take on an If... Then... pattern. Try to make If... Then... statements for each of your row relationships.

2. Ask participants to complete the process of identifying the matching model statements and turn the P-B-E Summary sheet before the next meeting in order to duplicate the sheets.

Session VI

A. Goals

1. To share and discuss individual P-B-E Summary Sheets.

2. To continue the process of making explicit theory-in-use statements found in the matching models.

B. Feedback and Discussion

1. P-B-E Summary sheets for all participants are distributed.

2. Lecturette: Forms of Matching Models

   a. Note that matching models can be expressed in a number of ways: 1) as action, e.g. if a student has difficulty with confidence I provide
opportunities to use skills; 2) as process, e.g. if a student has difficulty with confidence I encourage the student to find ways of using skills; 3) as basic belief, statements that do not explicitly state an approach but convey concepts such as the need for balance, unity, symmetry.

3. Foci for Discussion

a. Participants are asked to review the summary sheets and to identify relationships across rows. When a relationship is observed in one row, the participants should consider other rows for a reoccurrence of that relationship.

b. Identified relationships are shared with the group as a means of assisting each other's analysis. The participant identifying the relationship should explain the relationship as he/she sees it.

c. As the P-E relationships (matching models) are identified for each participant they are recorded on the Matching Model Record Sheet. The participant includes his/her rationale for the matching model as a means of expressing the underlying reasoning for the relationship.

C. Assignment

1. The Matching Model Record Sheet is to be complete and returned prior to the next session. Matching Model forms are duplicated for other participants.

2. Participants are asked to bring the "letter to a colleague" with them to the next session.

Session VII

A. Goals

1. To share and discuss individual matching model theories.

2. To compare one's implicit theories with one's espoused theory.

3. To validate knowledge of Perry's scheme.
B. Feedback and Discussion

1. Feedback sheets containing all participants' matching model statements are distributed.

2. Foci for Discussion
   a. Range and diversity of matching models
   b. Comparison of implicit theory with espoused theory.

   (1) Have participants re-read the letter they wrote to a colleague. This letter represents espoused theory.

C. Perry Scheme Test

1. Explain the need to validate their level of knowledge of Perry's theory.

2. Distribute the test.

3. Collect as they are completed.

D. Class Conclusion

1. General feedback on process, benefit, recommendations for changes.

2. Explain research hypotheses.
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### Constructs of Approaches

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Matching Models

Example:
IF (Student Characteristic P)
Then (Approach E)
Because (Rationale)

1. If ____________________________
   Then __________________________
   Because ________________________

2. If ____________________________
   Then __________________________
   Because ________________________

3. If ____________________________
   Then __________________________
   Because ________________________

4. If ____________________________
   Then __________________________
   Because ________________________

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   Then __________________________
   Because ________________________

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   Then __________________________
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   Then__________________________________________________
   Because________________________________________________

8. If____________________________________________________
   Then__________________________________________________
   Because________________________________________________

9. If____________________________________________________
   Then__________________________________________________
   Because________________________________________________

10. If____________________________________________________
    Then___________________________________________________
    Because________________________________________________
APPENDIX B
PERRY SCHEME QUIZ

Please circle the letter of the answer which best matches your understanding of Perry scheme.

1. The following description best represents which type of student according to Perry's basic division:

This student assumes that all information can be classified as either right or wrong and that uncertainty is an error of some sort.
   a. Dualism  
   b. Multiplicity  
   c. Relativism  
   d. Commitment in the midst of relativism

2. Which of the following is not a component of Perry's stage theory
   a. hierarchial  
   b. sequential  
   c. universality  
   d. qualitatively different

3. The integration of evidence or qualitative distinctions is characteristic of
   a. Dualists  
   b. Multiplists  
   c. Relativists  
   d. None of these

4. The avoidance of personal responsibility through the detachment of multiplicity is known as
   a. Temporizing  
   b. Stopping Out  
   c. Retreat  
   d. Escape

5. Which of the following would be inappropriate for a dualistic student?
   a. Indirect and vicarious learning opportunities  
   b. High structure  
   c. Personal atmosphere  
   d. Emphasis on opening-up alternative
6. In order for intellectual development to occur, which of the following conditions is optimal
   a. A highly supportive environment free of challenge
   b. High degree of motivation brought on by extensive challenge
   c. A challenging environment balanced by support
   d. An unpredictable situation, one in which the student has to pay attention to keep up

7. Focusing upon weighing pros and cons in order to make a decision would be most developmental for
   a. Dualists
   b. Multiplists
   c. Relativists
   d. Students who can't tell right from wrong

8. Challenge to the right of one person to judge another is most characteristic of
   a. Dualists
   b. Multiplists
   c. Relativists
   d. Students who are caught doing something wrong

9. Perry relativists would be least likely to have which of the following characteristics
   a. External locus of control
   b. Ability to take risks with oneself
   c. Ability to synthesize information
   d. Hold opinions on the basis of evidence

10. Which of the following conditions would least encourage development for a relativist
    a. Class discussions led by peers
    b. Keeping personal journals or logs
    c. Relating one's experiences to those of characters in literature
    d. Highly structured homework assignments

11. Which of the following perspectives is not true of Perry stage 2 when compared with stage 3.
    a. All knowledge is perceived as right or wrong.
    b. Opinions are not perceived as Truth unless the Authority provides them.
    c. Students role is to learn the Truth from the Authority.
    d. Some things are not known but eventually will be.

12. Which of the following perspectives is not true of Perry stage 4 when compared with stage 5.
    a. Uncertainty will always exist.
    b. Evaluation of ideas based upon rules of adequacy is possible.
    c. Learning to think for oneself is valued.
    d. Peers can be a legitimate source of information.
Dear Colleague:

We are writing to offer you an opportunity to participate in a staff development program entitled "Identifying Your Theories-In-Use". The staff development program is part of Terry Piper's doctoral dissertation study on the relationship between knowledge of developmental theory and student personnel professional's attitudes, values, and beliefs which are the foundation of one's professional practice. This area of research is important to the profession as we try to understand the complex relationship between theory and practice.

The staff development program will be conducted over a period of seven weeks beginning the first week of April. Each session will last one and a half hours. While the time commitment may sound extreme, the process of identifying your theories-in-use should be well worth the investment. At the conclusion of the program you will have developed a set of personal theories that are the guiding principals of your work. That which you develop may, and most likely will be, different from the knowledge that you cite as the foundation of your practice.

We hope you will consider taking advantage of this opportunity and, at the same time, support Terry's dissertation research. Enclosed is further information about the program and the study. If you would like to discuss the program further and/or if you would like to determine if you qualify for the study, please contact Terry at 292-9797 or 262-9827 prior to February 26, 1988.

Your consideration of our request is sincerely appreciated.

Best Wishes,

Robert F. Rodgers,
Associate Professor of Education and Psychology

Terry D. Piper
APPENDIX D
Dear Colleague:

We need your help and you are from among a small group of people who may be able to offer the assistance we need. Why you? Because you graduated from one of the leading Student Personnel Programs in the country and had the opportunity to study and use developmental theory. What Help? We need your help in trying to understand the relationship between knowledge of developmental theory and student personnel professional's attitudes, values and beliefs which are the foundation of one's professional practice. This area of research is important to our profession as we try to understand the complex relationship between theory and practice.

We are offering you the opportunity to identify and explore your theories-in-use. Theories-in-use are the personal understandings, assumptions and guidelines which you tacitly hold and call upon to inform your practice. Through the process of identifying your theories-in-use you will be contributing to Terry Piper's doctoral dissertation study in Higher Education at the Ohio State University and the development of our understanding of the relationship between theory and practice.

Enclosed is a detailed description of the study. We hope you will find the study of personal interest, valuable to our profession, and be willing to commit yourself as a participant. As we stated above, you are from a small and select group. Your participation is crucial to the success of this study because of the large number of subjects needed for this type of research. We hope we can count on your support.

If you would like to participate in the study please complete the demographic questionnaire and the survey entitled A Personal Assessment of Theories for the 1980's and return them to Terry by April 1, 1988. Should you meet the criteria for participation we will forward the second set of materials to you by April 7, 1988.

Thank you for your consideration. Your help will be sincerely appreciated. If you would like more information please feel free to contact Terry at the above address or call 614-292-9797 (days), 614-262-9827 (evenings).

Best Wishes,

Robert F. Rodgers
Assoc. Professor of Education and Psychology
Ohio State University

Terry D. Piper
Ph.D. Candidate
Higher Education & Student Affairs
Information for Potential Participants in A Study of the Congruence Between Theory Purported to be Known In-Depth and One's Implicit Theory-In-Use

Purpose of the Study: The study is designed to examine the degree of congruence between student development theory purported to be known in-depth and the implicit theory-in-use of the student personnel professional, and the factors which may influence the degree of congruence.

Procedures to be Used: Implicit theory-in-use will be identified through a series of self-paced guided activities derived from David Hunt's work in this area. The activities will focus on the attitudes, values, developmental assumptions, and beliefs about students, the desires one has for change in the student's behavior, and the means one believes will accomplish this change. Through the structured activities each participant will evolve a set of statements about his/her work that will represent his/her theories-in-use.

The participants will receive six activity sets in the mail at approximately one week intervals. Participants will be responsible for following the enclosed instructions, making a copy of the materials developed (reimbursement will be provided for copying costs) and returning the originals in a pre-addressed and stamped envelope.

Time Commitments: Uncovering theories-in-use is a complex and important process; it cannot be done superficially. Therefore, the activities will occur over a six week period of time. Each activity set will require about one hour of time. The time between activities sets will allow for personal reflection and insight which should lead to deeper understanding.

Confidentiality: Participants' written responses to activities will be coded in order to conceal the identity of the author. Results of the study will not report the names of the participants nor will individual responses or measures be associated with any individual.

Assessments to be Used: Three assessment instruments will be used that relate to specific variables under study. A Personal Assessment of Theories for the 1980's will be used to all the participant to report his/her level of knowledge of human development theory. The Measure of Epistemological Reflection will be used to assess participant's level of cognitive complexity on the Perry scheme. The Myers-Briggs Type Indicator will be used to determine participant's Jungian personality typology. Participants interested in the results of the assessments may contact the principal investigators to review and discuss the results.

Benefits of Participation: Identifying one's theory-in-use can lead to improved professional performance. This benefit accrues from the knowledge of that which guides one's work and the ability to make it congruent that which is espoused.
DEMOGRAPHIC AND PROFESSIONAL EMPLOYMENT INFORMATION

Please respond to the following by indicating the most appropriate response option for providing the information requested.

1. How many years, including the current year, have you been employed full-time in the field of student personnel work? Do not include paid assistantships or internships.
   ______ 1 ______ 2 ______ 3 ______ 4 ______ 5 ______ 6 ______ 7 or more

2. What is the highest degree you have earned?
   ___ MA ___ EdS ___ PhD/EdD
   Year earned ______

3. Are you currently pursuing a degree? ___ Yes ___ No
   If so, which one? ___ MA ___ EdS ___ PhD/EdD

4. Please list the positions you have held beginning with your current position and working backward. Include your graduate assistantship position(s). For each position indicate the title, department, length of time in the position, and the primary focus of the position using the following coded descriptors: (1) direct services to students, (2) assessment/design/delivery of programs, (3) administrative/managerial, (4) policy development/implementation, (5) other请选择 specify.

<table>
<thead>
<tr>
<th>Title</th>
<th>Department</th>
<th>Length</th>
<th>Primary Focus</th>
</tr>
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<tbody>
<tr>
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</table>

If additional space is needed continue on the reverse side.

5. Age: ________  6. Sex ___ M ___ F

7. Address at which you would like to receive materials
   __________________________________________
   __________________________________________
   __________________________________________

8. Daytime phone (___) __________
   Evening phone (___) __________
APPENDIX E
Greetings!

Thank you for responding to my request for your participation in my dissertation study. I am pleased to inform you that you meet the criteria for participation.

Enclosed is some additional introductory information and the first set of materials. Please follow each set of instructions. The first session materials will arrive in about a week. Please complete and return the enclosed materials by the date listed on the introductory page. Your success in meeting deadlines will be greatly helpful to me and sincerely appreciated.

You will need to sign, date and have witnessed the enclosed Consent for Participation in Social and Behavioral Research form. Any adult may sign as witness of your signature. Should you need any additional information about the study prior to signing the Consent form or at anytime during the study please feel free to call me at 614-292-9797 (daytime) or 614-262-9827 (evenings).

I am very happy that you will be participating in the study. I trust you will find this experience rewarding and personally beneficial. If I can do anything to make your efforts more enjoyable please feel free to let me know.

Best Wishes,
CONSENT FOR PARTICIPATION IN
SOCIAL AND BEHAVIORAL RESEARCH

I consent to participating in (or my child's participation in) research entitled:

A Study of the Congruence Between Theory Purported to be Known In-Depth
and One's Implicit Theory-In-Use.

Robert F. Rodgers, Assoc. Prof. or his/her authorized representative has
(Principal Investigator)
explained the purpose of the study, the procedures to be followed, and the
expected duration of my (my child's) participation. Possible benefits of the
study have been described as have alternative procedures, if such procedures
are applicable and available.

I acknowledge that I have had the opportunity to obtain additional information
regarding the study and that any questions I have raised have been answered to
my full satisfaction. Further, I understand that I am (my child is) free to
withdraw consent at any time and to discontinue participation in the study
without prejudice to me (my child).

Finally, I acknowledge that I have read and fully understand the consent form.
I sign it freely and voluntarily. A copy has been given to me.

Date: ______________________ Signed: ______________________
(Participant)

Signed: ______________________ Signed: ______________________
(Principal Investigator or his/her Authorized Representative) (Person Authorized to Consent
for Participant - If Required)

Witness: ______________________

HS-027 (Rev. 3/87) --(To be used only in connection with social and behavioral research.)
Identifying Your Theories-In-Use

Introduction

In order to identify your theories-in-use it is necessary to reflect upon what one does in the course of one's work. This reflective process cannot occur superficially if the results are to be personally informative and meaningful. David Hunt, an Educational Psychologist and frequent contributor to student personnel work, has developed a method of assisting practitioners gain the insight necessary to identify theory-in-use. The series of activities you will do are based upon Hunt's methodology.

Hunt asserts that we are each psychologists. By this he means that we each develop a set of personally relevant theories about others. These theories, which are implicit or tacit, are formed based upon our experiences and are used to predict the behavior of others. Our predictions about others become important in our own behavior in that we respond based upon our predictions. As our theories are proven correct we broaden the context in which we apply them. If our theories are proven incorrect, we modify them in order to increase their applicability. Hunt credits George Kelly's Personal Construct Theory as the origination of this perspective and cites it as the cornerstone of his own concept of Inside-Out psychology.

Understanding one's theories-in-use is a process of making explicit the tacit theories or constructs one holds. Hunt turns to Kurt Lewin's notions of behavior as the interaction of the person and the environment as a framework for this exploration. By combining Kelly's and Lewin's theories, Hunt has focused our attention on our constructs of the persons of our work, the behaviors or outcomes we want for these persons, and the environment or approaches we believe necessary to achieve these outcomes. The relationships among the constructs of persons, constructs of behaviors, and constructs of approaches represent theories-in-use.

The five sessions you will complete will lead you to an understanding of your constructs and the relationships among them. The end result will be a set of your theories-in-use. Before beginning the actual sessions however, you will need to complete a consent for participation form and two assessment instruments. The results of the assessments will serve as variables in my study. Please follow the instructions provided with each instrument. Do not place your name on the answer sheets.

The Measure of Epistemological Reflection will take about one hour to complete. Please complete the instrument in one setting. The Myers-Briggs Type Indicator will take 20-30 minutes. You need not take the both instruments consecutively.

Please return the consent form, instrument booklet and answer sheets by April _____. You will receive materials for Session 1 soon! Thanks
Identifying Your Theories-In-Use

Session I

Introduction

This session focuses upon your constructs of the students with whom you work. The material developed in the following activities will be the foundation for what you develop in ensuing session. You will need to complete and mail your activities by April _____.

Part I: About My Student Development Efforts

Materials Needed: writing paper, pen

Instructions:

1. Imagine you are writing to another student affairs practitioner, someone with whom you feel comfortable to express what is most important in your work and how you go about that work. Describe to this colleague THE KIND OF PROCESSES YOU USE IN THE ENVIRONMENTS THAT BEST HELP STUDENTS LEARN AND DEVELOP.

2. Please write the above letter taking 10 - 15 minutes to complete the task. When completed go on to Part II.

Part II: About My Students

Materials: 12 3x5 cards, Constructs of Students worksheet

Instructions:

1. Number the index card 1 through 12. You will be writing the names of students you know, or have known, on the cards. You will find the following task easier if you consider students you have dealt with recently or that you know/knew well. A person's name may only appear once among the 12 cards. If you cannot recall the student's name but have a clear remembrance of the person, write an identifying notation on the card.

2. Write the name of the student who comes to mind for each of the following descriptions on the appropriate card:

Card 1 - A student committed to his/her studies.
Card 2 - A student you found hard to understand.
Card 3 - A student in disciplinary/behavioral difficulty.
Card 4 - A student whose point of view is different from yours.
Card 5 - A student you thought to be in the wrong major.
Card 6 - A student good at problem-solving.
Card 7 - A student good at assuming responsibility.
Card 8 - A student who finds him/herself in arguments a lot.
Card 9 - A student who has difficulty with decision-making.
Card 10 - A student who tends to interpret college rules differently than you do.
Card 11 - A student who has difficulty following directions.
Card 12 - A student who has difficulty understanding a roommate or other peer.

3. Select card No. 1, No. 4, and No. 8, and place them before you. These three students will be called Triad 1.

   Ask yourself, "which two of these three are alike in some important way and different from the third?" Select these two cards and put them together.

   Next, using the Constructs of Students worksheet, circle for Triad 1 the numbers of the cards that you selected as being alike in some important way.

   Ask yourself, "How are they alike?" Write your description of this similarity in the space provided on the worksheet. Be as specific as possible. Avoid jargon and global descriptors; be concrete.

4. Repeat step (3) for each of the following Triads. Try to write ten different descriptions.

   Triad 2) 2-5-9
   Triad 3) 3-7-10
   Triad 4) 4-6-11
   Triad 5) 1-5-12
   Triad 6) 2-6-9
   Triad 7) 3-4-10
   Triad 8) 5-6-11
   Triad 9) 7-8-9
   Triad 10) 10-11-12

5. When step (4) is completed, review your list of constructs
for all dyads and consider the following questions:

-Is the list of descriptors personally valid, i.e., do you recognize these as one's you use to categorize students?

-How generalizable are your descriptions? Do they apply only to these individuals or do use them with other students you have known?

-Can you determine the source of these constructs? Are they dependent upon the individual, the context and/or other participants in the setting, and/or knowledge you have made your own

Discussion

The concept of the person occupies the central role in any psychological theory including your personal construct theory (theory-in-use). Hunt and Sullivan identify two ways of describing students. One is based upon an individual's tendencies, attributes and characteristics. It requires a focus on the immediate situation. While the use of categorizations is present, it does not imply a fixed, non-modifiable state. The use of this perspective in working with students usually entails building a unique model of the person and attempts to match a specific approach to the unique student in order to produce a specific behavioral effect. This type of matching requires an awareness of the student's needs. It is called the contemporaneous perspective.

The second way of describing students is from a developmental perspective. The developmental perspective proceeds from the developmental level in which the individual is found. The focus is on the possibility of change to a more developed level; present behavior is seen as an indication of future growth and how it needs to be fostered. Within this perspective are three concepts of growth: growth due to internal biological and psychological, growth due to external (environmental) shaping, and growth due to the mutual interaction between the person and the environment.

We use both contemporaneous and developmental perspectives in our work. Review your constructs of students and try to identify when and how you used each. Do your constructs and actions proceed more from contemporaneous or developmental perspectives? Please reflect upon these issues prior to receiving the next set of materials. Make notes to yourself. You may find these helpful in the next session. These notes need not be mailed to us.

THIS COMPLETES SESSION 1. PLEASE MAKE A COPY OF YOUR LETTER TO A COLLEAGUE AND YOUR CONSTRUCTS OF STUDENTS WORKSHEET (YOU WILL NEED THESE LATER). MAIL THE ORIGINAL TO ME BY APRIL _______. THANKS
CONSTRUCTS OF STUDENTS WORKSHEET

TRIAD 1) 1-4-8

TRIAD 2) 2-5-9

TRIAD 3) 3-7-10

TRIAD 4) 4-6-11

TRIAD 5) 1-5-12

(USE REVERSE IF MORE SPACE IS NEEDED)
<table>
<thead>
<tr>
<th>TRIAD</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2-6-9</td>
</tr>
<tr>
<td>7</td>
<td>3-4-10</td>
</tr>
<tr>
<td>8</td>
<td>5-6-11</td>
</tr>
<tr>
<td>9</td>
<td>7-8-9</td>
</tr>
<tr>
<td>10</td>
<td>10-11-12</td>
</tr>
</tbody>
</table>

(USE REVERSE IF MORE SPACE IS NEEDED)
Identifying Your Theories-In-Use

Session 2

Introduction

This session builds upon the results of Session 1. It focuses upon the outcomes or objectives you have for particular students. Knowing what you want to occur is an important step in planning for its occurrence. You will need to complete this activity set and mail it by April ________.

Part I: Identifying Your Constructs of Objectives

Materials: Construct of Students worksheet, Construct of Objectives worksheet

Instructions:

1. On the Constructs of Objectives worksheet circle the same numbers in each Triad as you did on the Constructs of Students worksheet. Your work on objectives will be based upon the same students you used in Session 1.

2. Use the dyad from Triad 1.

Please do not consider your construct of those students prior to completing the following activity.

Ask yourself, "How are these students alike in terms of the objectives or outcomes I have (or had at the time I worked with him/her) in regard to their learning and development?"

Record the objective or outcome in the appropriate section of the Constructs of Objectives worksheet. Please try to be as specific as possible. Avoid use of jargon or terms subject to varied interpretation. Try to make your responses specific and behavioral.

3. Repeat step (2) for each of the dyads. If possible avoid duplication of objectives.

4. When step (3) is completed review your list of objectives for all dyads and reflect on (no writing necessary) the following questions:

a) Was it difficult to identify the outcomes you were working toward for specific students? If so, to what do you attribute this?

b) Are your constructs of objectives generalizable? Do they represent common goals you have for a variety of students or are they very specific to the students under consideration?

c) What is the source of your objective? Is it based upon a need of the student? If so, how do you determine that need?
Does the source of the construct of objective evolve from within the context? Is the objective determined from outside the person and the context? If so, what makes that objective necessary in your mind? How does the objective relate to your own experience as a student? Does the objective derive from your use of a theory applied to the students?

d) Is there a pattern to your objectives? If so, how would you categorize this pattern? Why do you think the pattern exists?

Discussion

Hunt and Sullivan believe that psychology and education have put too much importance on behavior (and its observable, measurable and objective nature) per se. As a result, how one defines psychology or education is closely associated with how one views behavior. As an alternative, Hunt and Sullivan distinguish between two views of behavior:

1. If one views behavior as a means to predict and control behavior than one takes a contemporaneous view. This view necessitates a content focus. A content focus, in regard to objectives, suggests a focus on what the persons learns.

2. If one focuses on behavior as a referent for understanding the person than one views behavior as development or change potential in the person. This view necessitates a process focus. A process focus, in regard to objectives, suggests a focus on how and why the person learns.

Content and process are interactive. Content is always present but may or may not be emphasized. Content goals affect present behavior and short-term goals. Process tends to be long-term goals and considers the developmental origin of the expressed behavior.

Behavior-as-content is related to the person's stimulus-response bonds (behavioral assumptions). Development is seen as an increasing number of bonds.

The concept of behavior-as-process is related to how a person makes meaning (cognitive developmental assumptions). Development in this framework is conceptualized as structural reorganization.

Review your Constructs of Objectives. Try to determine which are based upon a content or process view of behavior. Do the objectives follow from contemporaneous descriptions? Do your process objectives follow from developmental descriptions? To what degree have you integrated content and process in each objective?

THIS COMPLETES SESSION 2. PLEASE MAKE A COPY OF YOUR CONSTRUCTS OF OBJECTIVES WORKSHEET AND SEND THE ORIGINAL TO ME BY APRIL ______

THANKS
CONSTRUCTS OF OBJECTIVES WORKSHEET

TRIAD 1) 1-4-8 ______________________________________

__________________________________________________

__________________________________________________

__________________________________________________

TRIAD 2) 2-5-9 ______________________________________

__________________________________________________

__________________________________________________

__________________________________________________

TRIAD 3) 3-7-10 ______________________________________

__________________________________________________

__________________________________________________

__________________________________________________

TRIAD 4) 4-6-11 ______________________________________

__________________________________________________

__________________________________________________

__________________________________________________

TRIAD 5) 1-5-12 ______________________________________

__________________________________________________

__________________________________________________

__________________________________________________

(USE REVERSE IF MORE SPACE IS NEEDED)
CODE_____

TRIAD 6) 2-6-9

TRIAD 7) 3-4-10

TRIAD 8) 5-6-11

TRIAD 9) 7-8-9

TRIAD 10) 10-11-12

(USE REVERSE IF MORE SPACE IS NEEDED)
Identifying Your Theories-In-Use
Session 3

Introduction

This session uses your Constructs of Objectives as the focus for developing your Constructs of Approaches. You will need to complete this activity set and mail it by May ________.

Part I: Identifying Your Constructs of Approaches

Materials: Constructs of Objectives worksheets, Constructs of Approaches worksheets.

Instructions:

1. On the Constructs of Approaches worksheet, circle the same numbers in each Triad as you did on the Construct of Objectives worksheet. Your work on Approaches will be based on the same students you used in Sessions 1 and 2.

2. Using the dyad from Triad 1 and without consideration of your Constructs of the Students nor your Constructs of Objectives ask yourself, "How are these two students alike in terms of how you work(ed) with them to encourage learning and development?" Record the approach in the appropriate section of the Constructs of Approaches worksheet. Please try to be as specific as possible. Include as much information as you can to clarify exactly what you did.

3. Repeat step (2) for each of the dyads.

4. When step (3) is completed, review your list of approaches and reflect upon the following questions: (no written responses are needed, but please reflect on these issues)

   a) Did you describe your approaches with formal or theoretical terminology or commonsense terms?

   b) Did you take a prescriptive (ought) or proscriptive (prohibitive) approach?

   c) Were your approaches dependent on the time or place that they occurred?

   d) If you used technical or theoretical terms, can you state what you did less technically or theoretically so that a "layperson" would understand?

   e) How did you decide upon the approach? Was it used with you when you were a student, observed by you, created by you, a theory you've found useful, etc.?

   f) Do your approaches reflect how you would like to work or how you did work? How you usually work?
g) Is there a pattern to your approaches? If so, how would you categorize them? Why do you think the pattern exists?

Discussion

You have developed three interrelated sets of constructs. The constructs are reflections of your theories-in-use, however, they are, if you will, the raw material of your theories. In order for the constructs to have clarity they must be viewed in terms of their relationship to one another within construct category and between construct categories. In preparation for Session 4 please review the three sets of constructs and try to answer the following questions about each:

a) What do your constructs within category have in common? What is different?

Example: My constructs of students all seem to deal with adjustment to college issues. My constructs of objectives all seem to focus on students gaining an understanding of themselves. My approaches vary depending on how much difficulty the student is having in adjusting and how this affects other students.

b) Are "themes" obvious within category? Between categories?

Example: Conflict is an underlying theme in my constructs. As I look across constructs I see that my objectives and approaches are focused on conflict reduction.

c) Look at your construct for the three categories for each dyad, are there similarities/differences as you compare between dyad construct sets? Describe them.

Example: In some dyad construct sets I have taken a strong intrusive posture, in others I act more as a consultant. This difference seems to be related to the openness of the student to my willingness to help.

d) How would you summarize the relationship between your construct of the student and your construct of approaches? Do you use certain approaches with certain types of students?

Example: If the student seems to be willing to accept guidance I become personally involved and created opportunities for the student to develop more skills.

THIS COMPLETES SESSION 3. PLEASE MAKE A COPY OF YOUR CONSTRUCTS OF APPROACHES WORKSHEET AND SEND THE ORIGINAL TO ME BY MAY ______

THANKS
CODE______

CONSTRUCTS OF APPROACHES WORKSHEET

TRIAD 1) 1-4-8 ____________________________

______________________________

______________________________

______________________________

______________________________

TRIAD 2) 2-5-9 ____________________________

______________________________

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TRIAD 3) 3-7-10 ____________________________

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______________________________

(USE REVERSE IF MORE SPACE IS NEEDED)
TRIAD 4) 4-6-11

TRIAD 5) 1-5-12

TRIAD 6) 2-6-9

TRIAD 7) 3-4-10

(USE REVERSE IF MORE SPACE IS NEEDED)
TRIAD 8) 5-6-11  __________________________________________

TRIAD 9) 7-8-9  __________________________________________

TRIAD 10) 10-11-12 __________________________________________

(USE REVERSE IF MORE SPACE IS NEEDED)
Identifying Your Theories-In-Use

Session 4

Introduction

The first three sessions have laid the groundwork for identifying your theories-in-use. Up to this point you have been asked to reflect upon your actions and thoughts. Now, you will be focusing upon the meaning behind those actions and thoughts. In this session you will be looking for the relationships among the constructs developed in session 1, 2, and 3.

Part 1: Identifying the Relationship between Your Constructs of Students and Your Constructs of Objectives

Materials: Constructs of Students and Constructs of Objectives worksheets, Students / Objectives worksheet

Instructions

1. Complete the Student/Objectives Relationship worksheet by transferring the student characteristics from the Constructs of Students worksheet for Triad 1 and objective statements from the Constructs of Objective worksheet for Triad 1 onto the Student/Objectives Relationship worksheet. Repeat this for the remaining Triads.

2. Look at each pair of statements in terms of an "if (student characteristic), then (specific objective)" to find the relationship. Write the relationship in the space provided.

Example:

<table>
<thead>
<tr>
<th>Student Characteristic</th>
<th>Objective</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If the student could not admit to being wrong and had to have his own way,</td>
<td>Then I try to get him to see others' viewpoint, to be more objective.</td>
<td>Expanding perspective and legitimizing others points of view.</td>
</tr>
<tr>
<td>2. If anger is misdirected,</td>
<td>Then learn to understand the anger, express it appropriately by getting into a problem-solving frame of mind.</td>
<td>Emotions can be controlled if I train myself to remain open and problem solve.</td>
</tr>
<tr>
<td>3. If a student needs approval from others in order to accept self or take actions,</td>
<td>Then next time it happens stand up to peers but do not fight. Then do this repeatedly.</td>
<td>Assertive, stand-up behaving leads to the capacity for autonomy and self-reliance.</td>
</tr>
</tbody>
</table>
3. When you have completed all ten pairs consider the ten statements of relationship. Briefly summarize these by writing a (few) concise statement(s) in the designated space on the Student/Objective worksheet. Example using the material from above:

Learning to understand self and others can lead to more satisfying and/or appropriate behavior.

The capacity for control of emotions, action without the need for approval from others, and accepting the legitimacy of many points of view can be developed through the experience of, and reflection upon, appropriate new behaviors.

Part II: Identifying the Relationships between Your Constructs of Students and Constructs of Approaches.

Materials: Constructs of Students worksheet, Constructs of Approaches worksheet, Student/Approaches worksheet

Instructions:

1. Complete the Student/Approaches worksheet by filling in the appropriate student characteristics as in Part I above and then transferring the approach used statement from the construct of approaches worksheet for each triad.

2. Look at each pair of statements in terms of an "If (student characteristic) then (specific approach)" to find the relationship. Write the relationship in the space provided. Example:

<table>
<thead>
<tr>
<th>Student Characteristic</th>
<th>Approach Used</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If the student could not admit to being wrong and had to have his/her own way,</td>
<td>Then, (1) point out when I, the student or some other respected authority were wrong, (2) describe for the student his/her assumption that &quot;I am never wrong&quot; (3) do this very calmly and empathically, (4) describe an alternative that accepts the possibility that self is in error, at least somewhat, and that others may have more valid perceptions.</td>
<td>Challenges to students behavior needs to model an alternative behavior that is an invitation to become more mature.</td>
</tr>
</tbody>
</table>
2. If anger is misdirected

Express concern and work to calm down the person in order to help him or her get into a problem solving mode.

Inappropriate use or control of emotions necessitates a warm and structured response.

3. If a student needs approval from others in order to accept self or take action,

Then the next time it happens praise independent, assertive action. Help the student learn differences among dependence, assertion and aggression.

Self help should be reinforced.

3. When you have completed all ten pairs, consider the ten statements of relationship. Briefly summarize these statements in the relationship column by writing a (few) concise statements(s) in the designated space on the Student/Approaches worksheet. Examples following from the above material:

If the person is trying to improve him/herself, I support him or her through warmth and reinforcement.

If the person is not trying or is negatively affecting, others I challenge and try to redirect the person's behavior.

If a person is trying to develop new attitudes or behaviors, I offer personal support to help the person sustain their efforts until they become self confident on their own.

If I am trying to help a person make meaning in more complex ways, I use counselling skills as I challenge current ways of making meaning and to model new alternative in ways that are understandable from the students frame of reference but extend that frame.

Part III: Identifying The Professional Rationale for Your Implicit Theories-In-Use.

Materials: Student/Approaches worksheets, Professional Rationale worksheet

Discussion:

Hunt refers to the If...Then... relationship statement as a Matching Model. These relationships are the theories one uses to guide one's behavior. The relationships found in the Student/Objective Matching Model represent one's values and
beliefs in regard to a particular perception of the student. The relationships found in the Student/Approaches Matching Model represent how the values and beliefs are manifested in action. By expressing these relationships one is making explicit one's theories-in-use.

As noted in an earlier session, personal constructs or theories-in-use are held for specific reasons. These reasons tend to be based upon the experiences one has had. Illuminating your rationale for your theory-in-use can complements your understanding of your theory-in-use and therefore your professional practice. The following task will allow you to identify and express your professional rationale for your theories-in-use.

Materials: Student/Objective worksheet, Student/Approaches worksheet, Professional Rationale worksheet

Instructions:
1. Complete the Professional Rationale worksheet as follows:
   a. Review your theory-in-use statements (Student/Objective and Student/Approaches relationship statements) for Triad 1.
   b. On the Professional Rationale worksheet explain the underlying reasons why each relationship statement is the way it is.

The following examples are based upon the examples used in Part I and Part II above:

1. Limited perspectives, absolute belief in one's rightness, and inability to perceive the legitimacy of multiple points of view are descriptive of Perry's stages of dualism. The approach I use challenges the assumptions of absolute rightness by pointing out that even respected authorities, myself, and the student himself or herself sometimes have invalid perceptions or conclusions. Modeling a new behavior that honors one's convictions and at the same time that it is given to possible error.

2. Self-insight and understanding is the key to development, this must occur in a supportive environment. Trustbuilding allows for challenges to be accepted. In addition, teaching alternative behavior cannot take place in the "heat" of emotions. A somewhat lower arousal level is needed in order for alternatives to be considered.

3. Trying new behaviors is difficult for most people in their real lives. Support and positive reinforcement are needed or the student may not persist in the new behavior frequently enough to integrate it into themselves. Cognitive organizers help people make meaning of their experiment with new behavior and the limitations of their current or past behaviors.
(c) Repeat the above procedure for each of the remaining triads.

Reflection: Please reflect on the following (no writing necessary):

Hunt identifies three ways in which theories-in-use can be expressed. They can represent action, i.e., the direct involvement of the practitioner such as creating new opportunities for the student. They can represent a process, i.e., indirect action such as helping the student reflect upon his/her concerns. They can represent basic beliefs, i.e., abstract or philosophical concepts not explicitly expressed but implied through concepts such as balance, unity, symmetry, etc.

Review your theories-in-use, into which categories do they fall?

THIS COMPLETES SESSION 4. PLEASE MAKE A COPY OF EACH WORKSHEET AND SEND THE ORIGINAL TO ME BY MAY ________.

THANKS
STUDENT/OBJECTIVES WORKSHEET
TRIAD_____

STUDENT CHARACTERISTIC: IF _____________________________________

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

OBJECTIVE: THEN ________________________________________________

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

RELATIONSHIP: ____________________________________________________

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
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PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE SPACE IS NEEDED
STUDENT/ApPROACHES WORKSHEET
TRIAD_____ 

STUDENT CHARACTERISTIC: IF _____________________________________ 

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OBJECTIVE: THEN 

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RELATIONSHIP: 

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PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE SPACE IS NEEDED
IDENTIFYING YOUR THEORIES-IN-USE

Session 5

Introduction

As a concluding step in the process of becoming more aware of the theories you hold and use to guide your work, this session will ask you to reflect in greater detail on three of your theories-in-use. You will be asked to provide a detailed account of your intervention with the individuals that comprise selected dyads. You will need to complete and mail your activities by May______.

Part I: My Intervention Design

Materials: Your Construct worksheets and relationship worksheets for Triads _____, _____, and one you would like to explore further, and the Intervention Design worksheet

Instructions:

1. On each Intervention Design worksheet please indicate the number of the Triad that will serve as the reference point for that worksheet.

2. Review your constructs, relationships and theory-in-use statements for the Triad identified on the worksheet.

3. In the section labelled Description of Intervention explain what you did to encourage learning and development. This may be a description of your personal actions, the contexts you created, or other means you used to create an impact. If you need more space please use the back of the page or attach additional pages.

4. In the section labelled Method of Intervention explain as specifically and concretely as you can how you went about doing whatever you stated in #3 above. Again use the back of the page or attach additional sheets if necessary.

5. In the section labelled Professional Rationale explain why, at that time, in your mind you did what you did. Again please use the back of the page or attach additional sheets if necessary.

6. Repeat the above procedure for the remaining two triad pairs.

7. When the above procedure is completed for the three triad pairs compare your theories-in-use identified in Session 4 with the details of your intervention design. You should be able to identify how you have used your theory to guide your actions.

8. Compare the description of your work (letter to a colleague written in Session 1) with your intervention design and your theories-in-use. How closely are they related? Was your
espoused work (your letter) indicative of your implicit work (your theories-in-use)? If you were to rewrite the letter, would you write it differently? If so, how? If not, why not?

Part II: ONE MORE TASK

Materials: Sealed envelope included with this mailing

Instructions:

1. Open the envelope and follow the instructions enclosed.

Conclusion

You have completed a journey into self-understanding. I hope the process has helped you identify and clarify the foundation of your work. Needless to say, the theories you have produced are only a small part of your theory base. By repeating these activities with different students you can identify more of your theories. Minimally, I hope the last six weeks have helped you renew and strengthen your professional identity.

Thank you for participating in my study. Upon receipt of this concluding session I will forward to you a check to cover the cost of your xeroxing (@ $.05 per page unless you indicate that you paid a higher amount) and some information that will assist you in processing your experience and provide additional information about the hypotheses of the study. Should you wish to discuss the materials you have produced or any issues related to the tasks you have completed or their meaning please feel free to contact me. Your assistance has been invaluable. Best wishes for your continued professional development and success.

THIS COMPLETES SESSION 5. YOU NEED NOT MAKE A COPY OF YOUR WORK UNLESS YOU DESIRE A COPY FOR YOUR REFERENCE. PLEASE SEND ME THE ORIGINAL OF EACH WORKSHEET AND THE KNOWLEDGE VERIFICATION SHEET FROM THE SEALED ENVELOPE BY MAY ________.

THANKS
INTERVENTION DESIGN WORKSHEET

TRIAD_____  

DESCRIPTION OF THE INTERVENTION: WHAT YOU DID TO ENCOURAGE

LEARNING AND DEVELOPMENT

__________________________________________________________________________

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PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE
SPACE IS NEEDED
INTERVENTION DESIGN WORKSHEET

TRIAD_____

METHOD OF INTERVENTION: HOW YOU WENT ABOUT DOING

WHATEVER YOU DID

PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE SPACE IS NEEDED
INTERVENTION DESIGN WORKSHEET

TRIAD____

PROFESSIONAL RATIONALE: WHY, AT THAT TIME, IN YOUR MIND

________________________________________________________________________

YOU DID WHAT YOU DID

________________________________________________________________________

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PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE SPACE IS NEEDED
VALIDATION OF THEORETICAL KNOWLEDGE

You are aware that this study is designed to assess the congruence between one's theoretical knowledge and one's actual practice. The focus of the investigation has specifically been on William Perry's scheme of intellectual development and the extent to which Perry criteria for promoting growth and development are evidenced in the practice of professionals who claim to know Perry's theory. In order to verify your self-reported knowledge of Perry's theory the following assessment has been developed. Please respond to the assessment items from your current level of knowledge, DO NOT consult reference material or other individuals.

Each of the following characteristics/criteria/statements can be identified with a specific position on the Perry scheme of intellectual development. For each item indicate either position 2, position 3, position 4 or position 5 as being the position on the Perry scheme specifically associated with that item.

1. All information can be classified as either right or wrong, uncertainty is an error of some sort.
2. Knowledge approximates truth and is probabilistic.
3. Knowledge is subjective and there are no definite criteria for making judgments.
4. The reason we had the civil war is known.
5. A History professor who has written more books about WWII can be believed more than a History professor who has written fewer books on the topic.
6. Eventually we will be able to answer unknown questions.
7. The student's role is to learn what the teacher presents in class.
8. There are many possible answers to every question and there is no way to decide which one is correct.
9. At what Perry position is the challenge of four or more points of view first appropriate?
10. Class discussion provides an opportunity to hear new ideas one may not have thought about before and maybe those discussions will help us find the right way to answer a given question.
11. Poor counselors don't know their jobs; why did this university hire them anyway?
12. The role of peers in a class is to ask questions so that everyone can get the answer.
13. A student whose English theme integrates several points of view and qualitative distinctions in writing a persuasive essay.

14. Focus on weighing pros and cons in decisions using generalized rules of evidence and inquiry leading to better or worse conclusions.

Please circle the letter of the answer which best matches your understanding of the Perry scheme of intellectual development.

15. Which of the following is NOT yet claimed by Perry for his scheme of intellectual development?
   a. Hierarchical
   b. Sequential
   c. Universality
   d. Qualitatively different

16. The avoidance of personal responsibility through leaving choice to fate is called:
   a. Temporizing
   b. Stopping Out
   c. Retreat
   d. Escape

17. Which of the following would be inappropriate for a dualistic student?
   a. Indirect and vicarious learning opportunities
   b. High structure
   c. Personal atmosphere
   d. Emphasis on opening-up alternatives

19. Which of the following perspectives is not true of Perry level 2 but is true of level 3?
   a. All knowledge is perceived as right or wrong.
   b. Opinions are not true unless they come from a legitimate authority.
   c. Student's role is to learn the truth from the authority.
   d. Somethings are not known but eventually will be.

19. Which of the following perspectives is not true of Perry level 3 but is true of level 4?
   a. Learning is a process of finding the answers to questions when we don't know yet.
   b. In some areas knowledge is certain but in most areas we don't know anything for sure.
   c. Quantity of work is an important criteria of evaluation.
   d. Career interest inventories will eventually lead one to the right job.

20. Which of the following perspectives is not true of Perry level 4 but is true of level 5?
   a. Uncertainty is the way most things are and will be.
   b. Evaluation of ideas based upon rules of adequacy is possible.
   c. Learning to think for oneself is valued.
   d. Peers can be a legitimate source of information.

Please return this assessment with the materials from Session 5.
Dear Colleague:

We need your help and you are from among a small group of people who may be able to offer the assistance we need. Why you? Because you graduated from one of the leading Student Personnel Programs in the country and had the opportunity to study and use developmental theory. What help? We need your help in trying to understand the relationship between knowledge of developmental theory and student personnel professional's attitudes, values and beliefs which are the foundation of one's professional practice. This area of research is important to our profession as we try to understand the complex relationship between theory and practice.

We are offering you the opportunity to identify and explore the building-blocks of your theories-in-use. Theories-in-use are the personal understandings, assumptions and guidelines which you tacitly hold and call upon to inform your practice. Through the process of reflecting upon your actual work you will begin to discover your theories-in-use and be contributing to Terry Piper's doctoral dissertation study in Higher Education at the Ohio State University and the development of our understanding of the relationship between theory and practice.

Enclosed is a detailed description of the study. We hope you will find the study of personal interest, valuable to our profession, and be willing to commit yourself as a participant. As we stated above, you are from a small and select group. Your participation is crucial to the success of this study because of the large number of subjects needed for this type of research. We hope we can count on your support.

If you would like to participate in the study please complete the enclosed postcard and mail it by December 10. You will receive a demographic questionnaire and a survey entitled A Personal Assessment of Theories for the 1980's. These materials will be used to determine your eligibility for the study. The actual study will run between mid-January and mid-February.

Thank you for your consideration. Your help will be sincerely appreciated. If you would like more information please feel free to contact Terry at the above address or call 702-739-3489 (days), 702-363-8155 (evenings).

Best Wishes,

Robert F. Rodgers
Assoc. Professor of Education and Psychology
Ohio State University

Terry D. Piper
Ph.D. Candidate
Higher Education & Student Affairs
INFORMATION FOR POTENTIAL PARTICIPANTS IN A STUDY OF THE
CONGRUENCE BETWEEN THEORY PURPORTED TO BE KNOWN IN-DEPTH AND
ONE'S IMPLICIT THEORY-IN-USE

PURPOSE OF THE STUDY: The study is designed to examine the degree of congruence
between student development theory purported to be known in-depth and the
implicit theory-in-use of the student personnel professional, and the factors
which may influence the degree of congruence.

PROCEDURES TO BE USED: Implicit theory-in-use will be identified through a
series of guided activities derived from David Hunt's work in this area. The
activities will focus on the attitudes, values, developmental assumptions,
and beliefs about students, the desires one has for change in student's
behavior, and the means one believes will accomplish this change. Through
the structured activities each participant will evolve a description of
one's actual work that will represent one's theory-in-use.

The participants will receive a set of assessment instruments and three
activity sets in the mail at approximately one week intervals. Participants
will be responsible for following the enclosed instructions, making a copy
of the materials developed (reimbursement will be provided for copying costs)
and returning the originals in a pre-addressed and stamped envelope.

TIME COMMITMENTS: Uncovering theories-in-use is a complex and important
process; it cannot be done superficially. Therefore, the participant should
expect to spend one to one and a half hours per week over a four week
period of time. The time between activities sets will allow for personal
reflection and insight which should lead to deeper understanding.

CONFIDENTIALITY: Participant's written responses to activities will be coded
in order to conceal the identity of the author. Results of the study
will not report the names of the participants nor will individual responses
or measures be associated with any individual.

ASSESSMENTS TO BE USED: Three assessment instruments will be used that relate
to specific variables under study. A Personal Assessment of Theories for the
1980's will be used to allow the participant to report his/her level of
knowledge of human development theory. The Measure of Epistemological
Reflection will be used to assess participant's level of cognitive
complexity on the Perry Scheme. The Myers-Briggs Type Indicator will be
used to determine participant's Jungian personality typology. Participants
interested in the results of the assessments may contact the principal
investigator to review and discuss the results.

BENEFITS OF PARTICIPATION: Identifying one's theory-in-use can lead to
improved professional performance. This benefit accrues from the
knowledge of that which guides one's work and the ability to make it
congruent with that which is espoused.
I am interested in participating in your research study on theory-in-use. Please send me the materials to determine my eligibility.

Name

(Please Print)

Address
Greetings,

Thank you for responding to my request for your participation in my dissertation study. Enclosed is a demographics questionnaire and a survey you will need to complete in order for me to determine your eligibility for the study. Please complete these materials and return them to me in the enclosed envelop. I would appreciate your effort to mail these items as soon as possible but no later than December 30, 1988. Upon receipt of your materials I will determine your eligibility. If you are eligible you will receive the first set of materials for the study on or about January 16, 1989.

Your willingness to assist me in the completion of my research is greatly appreciated. If at any time during the study you would like more information, need clarification or would like to discuss the task you are completing please feel free to contact me. I trust you will find this experience enjoyable, personally and professionally insightful.

Thank you,
Please respond to the following by indicating the most appropriate response option for providing the information requested.

1. How many years, including the current year, have you been employed full-time in the field of student personnel work? Do not include paid assistantships or internships.
   ____1 ____2 ____3 ____4 ____5 ____6 ____7 or more

2. What is the highest degree you have earned?
   ____MA ____EdS ____PhD/EdD
   Year earned __________________________

3. Are you currently pursuing a degree? ____Yes ______No
   If so, which one? ____MA ____EdS ____PhD/EdD

4. Please list the positions you have held beginning with your current position and working backward. Include your graduate assistantship position(s). For each position indicate the title, department, length of time in the position, and the primary focus of the position using the following coded descriptors: (1) direct services to students, (2) assessment/design/delivery of programs, (3) administrative/managerial, (4) policy development/implementation, (5) other-please specify.

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If additional space is needed continue on the reverse side.

5. Age: __________

6. Sex ____M ____F

7. Address at which you would like to receive materials
   ____________________________________________
   ____________________________________________
   ____________________________________________

8. Daytime phone ( )_________________________
   Evening phone ( )_________________________
Greetings,

Thank you for completing the eligibility materials for your participation in my dissertation study. I am pleased to inform you that you meet the criteria for participation.

Enclosed is some additional introductory information and the assessment instruments I previously mentioned. Please follow each set of instructions. The first session materials will arrive in about a week. Please complete and return the enclosed instruments by the date listed on the introductory page. Your success in meeting deadlines will be greatly helpful to me and sincerely appreciated.

You will need to sign, date and have witnessed the enclosed Consent for Participation in Social and Behavioral Research form. Any adult may sign as witness of your signature. Should you need any additional information about the study prior to signing the Consent form or at any time during the study please feel free to call me at 702-739-3489 (daytime) or 702-363-8155 (evenings).

I am very happy that you will be participating in the study. I trust you will find this experience rewarding and personally beneficial. If I can do anything to make your efforts more enjoyable please feel free to let me know.

Best Wishes

[Signature]
IDENTIFYING YOUR THEORIES-IN-USE

Introduction

In order to identify your theories-in-use it is necessary to reflect upon what one does in the course of one's work. This reflective process cannot occur superficially if the results are to be personally informative and meaningful. David Hunt, an Educational Psychologist and frequent contributor to student personnel work, has developed a method of assisting practitioners gain the insight necessary to identify theory-in-use. The series of activities you will complete are based upon David Hunt's methodology.

Hunt asserts that we are each psychologists. By this he means that we each develop a set of personally relevant theories about others. These theories, which are implicit or tacit, are formed based upon our experiences and are the used to predict the behavior of others. Our predictions about others become important in our own behavior in that we respond based upon our predictions. As our theories are proven correct we broaden the context in which we apply them. If our theories are proven incorrect we modify them in order to increase their applicability. Hunt credits George Kelly's Personal Construct Theory as the origination of this perspective and cites it as the cornerstone of his own concept of Inside-Out psychology.

Understanding one's theories-in-use is a process of making explicit the tacit theories or constructs one holds. Hunt turns the Kurt Lewin's notions of behavior as the interaction of the person and the environment as a framework for this exploration. By combining Kelly's and Lewin's theories, Hunt has focused our attention on our constructs of the persons of our work, the behaviors or outcomes we want for these persons, and the environment or approaches we believe necessary to achieve these outcomes. The relationships among the constructs of persons, constructs of behaviors, and constructs of approaches represent theories-in-use.

The three sessions you will complete will lead you to an understanding of your constructs. If you wish, you will be able to identify the relationship among your constructs thus leading you to the identification of your theories-in-use. Before beginning the actual sessions however, you will need to complete a consent for participation form and two assessment instruments. The results of the assessments will serve as variables in my study. Please follow the instructions provided with each instrument. Do not place your name on the answer sheets.

The Measure of Epistemological Reflection will take 45 - 60 minutes to complete. Please complete the instrument in one setting. The Myers-Briggs Type Indicator will take 20 -30 minutes. You need not take the both instruments at the same seating.

Please return the consent form, instrument booklet and answer sheet by January ________. You will receive the materials for Session 1 soon.

Thank you for your help.
IDENTIFYING YOUR THEORIES-IN-USE
SESSION 1

Introduction

This session focuses upon your constructs of the students with whom you work. The materials developed in the following activities will be the foundation for what you develop in ensuing sessions. You will need to complete and mail your activities by January _________.

Part I: About My Student Development Efforts

Materials Needed: writing paper, pen

Instructions:

1. Imagine you are writing to another student affairs practitioner, someone with whom you feel comfortable to express what is most important in your work and how you go about that work. Describe to this colleague THE KIND OF PROCESSES YOU USE IN THE ENVIRONMENTS THAT BEST HELP STUDENTS LEARN AND DEVELOP.

2. Please write the above letter taking 10 - 15 minutes to complete the task. When completed go on to Part II.

Part II: About My Students

Materials: 11 small pieces of paper, Constructs of Students worksheet

Instructions:

1. Number the pieces of paper 1 - 11. You will be writing the names of students you know, or have known, on the cards. You will find the following task easier if you consider students you have dealt with recently or that you know/knew well. A person's name may only appear once among the 11 pieces of paper. If you cannot recall the student's name but have a clear remembrance of the person, write an identifying notation on the card.

2. Write the name of the student who comes to mind for each of the following descriptions on the appropriate paper:

   Paper 1 - A student committed to his/her studies.
   Paper 2 - A student you found hard to understand.
   Paper 3 - A student whose point of view is different from yours.
   Paper 4 - A student you thought to be in the wrong major.
   Paper 5 - A student good at problem-solving.
   Paper 6 - A student good at assuming responsibility.
   Paper 7 - A student who finds him/herself in arguments alot.
Paper 8 - A student who has difficulty with decision-making.
Paper 9 - A student who tends to interpret college rules differently than you do.
Paper 10 - A student who has difficulty following directions.
Paper 11 - A student who has difficulty understanding a roommate or other peer.

3. Select papers No. 1, No. 3, and No. 7, and place them before you. These three students will be called Triad 1.

   a. Ask yourself, "which two of these three are alike in some important way and different from the third? Select these two papers and put them together.

   b. Next, using the Constructs of Student worksheet, circle for Triad 1 the numbers of the papers that you selected as being alike in some important way.

   c. Ask yourself, "How are they alike?" Write your description of this similarity in the space provided on the worksheet. Be as specific as possible. Avoid jargon and global descriptors; be concrete.

4. Repeat step (3) for each of the following Triads. Try to write six different descriptions.

   Triad 2) 2 - 4 - 8
   Triad 3) 1 - 4 - 11
   Triad 4) 2 - 5 - 8
   Triad 5) 6 - 7 - 8
   Triad 6) 9 - 10 - 11

5. When step (4) is complete, review your list of Constructs for all dyads and consider the following questions:

   - Is the list of descriptors personally valid, i.e., do you recognize these as one's you use to categorize students?

   - How generalizable are your descriptors? Do they apply only to these individuals or do you use them with other students you have known?

   - Can you determine the source of these constructs? Are they dependent upon the individual, the context and/or other participants in the setting, and/or knowledge you have made your own?

Discussion

The concept of the person occupies the central role in any psychological theory including your personal construct theory (theory-in-use). Hunt and Sullivan identify two ways of describing students. One is based upon an individual's tendencies, attributes and characteristics. It requires a focus on the immediate situation. While the use of categorizations is present, it does not imply a fixed, non-modifiable state. The use of this perspective in working with students usually entails building a unique model of the person and attempts to match
a specific approach to the unique student inorder to produce specific behavioral effect. This type of matching requires an awareness of the student's needs. It is called the contemporaneous perspective.

The second way of describing students is from a developmental perspective. The developmental perspective proceeds from the developmental level in which the individual is found. The focus is on the possibility of change to a more developed level; present behavior is seen as an indication of future growth and how it needs to be fostered. Within this perspective are three concepts of growth: growth due to internal biological and psychological change, growth due to external (environmental) shaping, and growth due to the mutual interaction between the person and the environment.

We use both contemporaneous and developmental perspectives in our work. Review your constructs of students and try to identify when and how you used each. Do your constructs and actions proceed more from contemporaneous or developmental perspectives? Please reflect upon these issues prior to receiving the next set of materials. Make notes to yourself. You may find these helpful in the next session. These notes need not be mailed to us.

THIS COMPLETES SESSION1. PLEASE MAKE A COPY OF YOUR LETTER TO A COLLEAGUE AND YOUR CONSTRUCTS OF STUDENTS WORKSHEET (YOU WILL NEED THESE LATER). MAIL THE ORIGINALS TO ME BY __________________. THANKS
CONSTRUCTS OF STUDENTS WORKSHEET

TRIAD 1) 1-3-7 ________________________________

______________________________________________________________________

______________________________________________________________________

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TRIAD 2) 2-4-8 __________________________________________

______________________________________________________________________

______________________________________________________________________

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TRIAD 3) 1-4-11 ________________________________

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(USE REVERSE IF MORE SPACE IS NEEDED)
TRIAD 4) 2-5-8

TRIAD 5) 6-7-8

TRIAD 6) 9-10-11

(USE REVERSE IF MORE SPACE IS NEEDED)
Identifying Your Theories-In-Use

Session 2

Introduction

This session builds upon the results of session 1. Part I of this session focuses upon the outcomes or objectives you have for particular students. Knowing what you want to occur is an important step in planning for its occurrence. Part II will ask you to focus on the approaches or methods you used with particular students. Part II need not be done in the same seating as Part I, however, Part II must be completed before you mail session 2 materials. You will need to complete and mail Session 2 materials by ________________.

Part I: Identifying Your Constructs of Objectives

Materials: Construct of Students worksheet, Construct of Objectives worksheet

Instructions:

1. On the Constructs of Objectives worksheet circle the same numbers in each Triad as you did on the Constructs of Students worksheet. Your work on objectives will be based upon the same students you used in Session 1.

2. Use the dyad from Triad 1.

   Please do not consider your construct of those students prior to completing the following activity.

   Ask yourself, "HOW ARE THESE STUDENTS ALIKE IN TERMS OF THE OBJECTIVES OR OUTCOMES I HAVE (OR HAD AT THE TIME I WORKED WITH HIM/HER) IN REGARD TO THEIR LEARNING AND DEVELOPMENT?"

   Record the objective or outcome in the appropriate section of the Constructs of Objectives worksheet. Please try to be as specific as possible. Avoid the use of jargon or terms subject to varied interpretation. Try to make your responses specific and behavioral.

3. Repeat step (2) for each of the dyads. If possible avoid duplication of objectives.

4. When step (3) is completed review your list of objectives for all dyads and reflect on (no writing necessary) the following questions:

   a) Was it difficult to identify the outcomes you were working toward for specific students? If so, to what do you attribute this?

   b) Are your constructs of objectives generalizable? Do they represent common goals you have for a variety of students or are they very specific to the students under consideration?

   c) What is the source of your objective? Is it based upon a need of the student? If so, how do you determine that need? Does the source of the construct of objective evolve from within the context? Is the objective determined from outside the person and the context? If so, what makes the objective necessary in your mind? How does the objective relate to your own experience as a student? Does the objective derive from your use of a theory applied to the student?
d) Is there a pattern to your objectives? If so, how would you categorize this pattern? Why do you think the pattern exists?

Discussion

Hunt and Sullivan believe that psychology and education have put too much importance on behavior (and its observable, measurable and objective nature) per se. As a result, how one defines psychology or education is closely associated with how one views behavior. As an alternative, Hunt and Sullivan distinguish between two views of behavior:

(1) If one views behavior as a means to predict and control behavior than one takes a contemporaneous view. This view necessitates a content focus. A content focus, in regard to objectives, suggests a focus on what the person learns.

(2) If one focuses on behavior as a referent for understanding the person, than one views behavior as development or change potential in the person. This view necessitates a process focus. A process focus, in regard to objectives, suggests a focus on how and why the person learns.

Content and process are interactive. Content is always present but may or may not be emphasized. Content goals affect present behavior and short-term goals. Process goals tend to long-term goals and considers the developmental origin of the expressed behavior.

Behavior-as-content is related to the person's stimulus-response bonds (behavioral assumptions). Development is seen as an increasing number of bonds.

The concept of behavior-as-process is related to how a person makes meaning (cognitive developmental assumptions). Development in this framework is conceptualized as structural reorganization.

Review your Constructs of Objectives. Try to determine which are based upon a content or process view of behavior. Do the objectives follow from contemporaneous descriptions? Do your process objective follow from developmental descriptions? To what degree have you integrated content and process in each objective?

THIS COMPLETES PART I OF SESSION 2. PLEASE COMPLETE PART II BEFORE MAKING A COPY OF YOUR CONSTRUCTS OF OBJECTIVES WORKSHEET.

THANKS
## CONSTRUCTS OF OBJECTIVES WORKSHEET

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<table>
<thead>
<tr>
<th>TRIAD 3)</th>
<th>1-4-11</th>
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*(USE REVERSE IF MORE SPACE IS NEEDED)*
TRIAD 4) 2-5-8

TRIAD 5) 6-7-8

TRIAD 6) 9-10-11

CODE______

(USE REVERSE IF MORE SPACE IS NEEDED)
Part II: Identifying Your Constructs of Approaches

Materials: Constructs of Objectives worksheet, Constructs of Approaches worksheet

Instruction:

1. On the Constructs of Approaches worksheet, circle the same numbers in each Triad as you did on the Constructs of Objectives worksheet. Your work on Approaches will be based on the same students you used in Session 1 and 2.

2. Using the dyad from Triad 1 and without consideration of your Constructs of Students nor your Constructs of Objectives ask yourself, "HOW ARE THESE TWO STUDENTS ALIKE IN TERMS OF HOW YOU WORK(ED) WITH THEM TO ENCOURAGE LEARNING AND DEVELOPMENT?" Record the approach in the appropriate section of the Constructs of Approaches worksheet. Please try to be as specific as possible. Include as much information as you can to clarify exactly what you did.

3. Repeat step (2) for each of the dyads.

4. When step (3) is completed, review your list of approaches and reflect upon the following questions: (no written responses are needed, but please reflect on these issues)

   a) Did you describe your approaches with formal or theoretical terminology or commonsense terms?
   b) Did you take a prescriptive (ought) or proscriptive (prohibitive) approach?
   c) Were your approaches dependent on the time or place that they occurred?
   d) If you used technical or theoretical terms, can you state what you did less technically or theoretically so that a "layperson" would understand?
   e) How did you decide upon the approach? Was it used with you when you were a student, observed by you, created by you, a theory you've found useful?
   f) Do your approaches reflect how you would like to work or how you did work? How you usually work?
   g) Is there a pattern to your approaches? If so, how would you categorize them? Why do you think the pattern exists?

Discussion

You have developed three interrelated sets of constructs. The constructs are reflections of your theories-in-use, however, they are, if you will, the raw materials of your theories. In order for the constructs to have clarity they must be viewed in terms of their relationship to one another within construct category and between construct categories. In preparation for Sessions 3 please review the three sets of constructs and try to answer the following questions about each (no writing is necessary):

   a) What do your constructs within category have in common? What is different?

   Example: My constructs of students all seem to deal with adjustment to college issues. My constructs of objectives all seem to focus on students gaining an understanding of themselves. My approaches vary depending on how
much difficulty the student is having in adjusting and how this affects other students.

b) Are "themes" obvious within category? Between categories?

Example: Conflict is an underlying theme in my constructs. As I look across constructs I see that my objectives and approaches are focused on conflict reduction.

c) Look at your construct for the three categories for each dyad, are there similarities/differences as you compare between dyad construct sets? Describe them.

Example: In some dyad construct sets I have taken a strong intrusive posture, in others I act more as a consultant. This difference seems to be related to the openness of the student to my willingness to help.

d) How would you summarize the relationship between your construct of the student and your construct of approaches? Do you use certain approaches with certain types of students?

Example: If the student seems to be willing to accept guidance I become personally involved and created opportunities for the student to develop more skills.

THIS COMPLETES SESSION 2. PLEASE MAKE A COPY OF YOUR CONSTRUCTS OF OBJECTIVES AND CONSTRUCTS OF APPROACHES WORKSHEET. PLEASE SEND THE ORIGINAL TO ME BY ___________

SESSION THREE MATERIALS WILL BE DEVELOPED FROM SESSION 2 RESPONSES, THEREFORE, I WILL SEND SESSION 3 SHORTLY AFTER I RECEIVE SESSION 2 BACK FROM YOU.

THANKS
| TRIAD 1) 1-3-7 |                                                                 |
|               |                                                                 |
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| TRIAD 2) 2-4-8 |                                                                 |
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| TRIAD 3) 1-4-11 |                                                                 |
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(USE REVERSE IF MORE SPACE IS NEEDED)
TRIAD 4) 2-5-8

TRIAD 5) 6-7-8

TRIAD 6) 9-10-11

(USE REVERSE IF MORE SPACE IS NEEDED)
Identifying Your Theories-In-Use  
Session 3

Introduction

As a concluding step in the process of becoming more aware of the constructs you hold and use to guide your work, this session will ask you to reflect in greater detail on three of your dyads. You will be asked to provide a detailed account of your intervention with the individuals that comprise selected dyads. While this is the last set of materials you will be asked to produce and return, you will receive a final set of materials that will guide you in formulating your theory-in-use statements based upon the construct relationships you have begun to identify.

You will need to complete and mail Session 3 materials by _________________.

Part I: My Intervention Design

Materials: Your Construct worksheets for Triads ___, ___ and one you would like to explore further, and the Intervention Design worksheet.

Instructions:

1. On each Intervention Design worksheet please indicate the number of the Triad that will serve as the reference point for that worksheet.

2. Review your constructs for the Triad identified on the worksheet.

3. In the section labelled Description of Intervention explain WHAT YOU DID TO ENCOURAGE LEARNING AND DEVELOPMENT. This may be a description of your personal actions, the contexts you created, or other means you used to create an impact. If you need more space please use the back of the page or attach additional page.

4. In the section labelled Method of Intervention explain as specifically and concretely as you can HOW YOU WENT ABOUT DOING WHATEVER YOU STATED IN #3 ABOVE. Again, use the back of the page or attach additional sheets if necessary.

5. In the section labelled Professional Rationale explain WHY, AT THE TIME, IN YOUR MIND YOU DID WHAT YOU DID. Again please use the back of the page or attach additional sheets if necessary.

6. Repeat the above procedure for the remaining two triads.

7. When the above procedure is completed for the three triad pairs compare the description of your work (letter to a colleague written in session 1) with your intervention design. Was your espoused work (your letter) indicative of your implicit work (your intervention design)? If you were to rewrite the letter, would you write it differently? If so, how? If not, why not?

Part II: One More Task

Materials: Sealed envelope included with this mailing

Instructions:

1. Open the envelope and follow the instructions enclosed.
Conclusion

You have completed a journey into self-understanding. I hope the process has helped you identify and clarify the foundations of your work. Needless to say, the constructs you have produced are only a small part of your construct base. By repeating these activities with different students you can identify more of your constructs. Minimally, I hope that last several weeks have helped you renew and strengthen your professional identity.

Thank you for participating in my study. Upon receipt of this concluding session I will forward to you a check to cover the cost of your xeroxing, instructions on extending your constructs into theory-in-use statements, and some information that will assist you in processing your experience and provide additional information about the hypotheses of the study. Should you wish to discuss the materials you have produced or any issues related to the tasks you have completed or their meaning please feel free to contact me. Your assistance has been invaluable. Best wishes for your continued professional development and success.

THIS COMPLETES SESSION 3. YOU NEED NOT MAKE A COPY OF YOUR WORK UNLESS YOU DESIRE A COPY FOR YOUR REFERENCE. PLEASE SEE ME THE ORIGINAL OF EACH WORKSHEET AND THE KNOWLEDGE VERIFICATION SHEET FROM THE SEALED ENVELOPE BY ___________.

THANK YOU VERY MUCH AND BEST WISHES.
INTERVENTION DESIGN WORKSHEET

TRIAD

DESCRIPTION OF THE INTERVENTION: WHAT YOU DID TO ENCOURAGE

LEARNING AND DEVELOPMENT

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PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE
SPACE IS NEEDED
INTERVENTION DESIGN WORKSHEET

TRIAD____

METHOD OF INTERVENTION: HOW YOU WENT ABOUT DOING

WHATEVER YOU DID

________________________________________

________________________________________

________________________________________

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PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE SPACE IS NEEDED
INTERVENTION DESIGN WORKSHEET

TRIAD

PROFESSIONAL RATIONALE: WHY, AT THAT TIME, IN YOUR MIND

YOU DID WHAT YOU DID

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PLEASE USE REVERSE SIDE OR ATTACH ADDITIONAL SHEETS IF MORE SPACE IS NEEDED
VALIDATION OF THEORETICAL KNOWLEDGE

You are aware that this study is designed to assess the congruence between one's theoretical knowledge and one's actual practice. The focus of the investigation has specifically been on William Perry's scheme of intellectual development and the extent to which Perry criteria for promoting growth and development are evidenced in the practice of professionals who claim to know Perry's theory. In order to verify your self-reported knowledge of Perry's theory the following assessment has been developed. Please respond to the assessment items from your current level of knowledge, DO NOT consult reference material or other individuals.

Each of the following characteristics/criteria/statements can be identified with a specific position on the Perry scheme of intellectual development. For each item indicate either position 2, position 3, position 4 or position 5 as being the position on the Perry scheme specifically associated with that item.

1. All information can be classified as either right or wrong, uncertainty is an error of some sort.
2. Knowledge approximates truth and is probabilistic.
3. Knowledge is subjective and there are no definite criteria for making judgments.
4. The reason we had the civil war is known.
5. A History professor who has written more books about WWII can be believed more than a History professor who has written fewer books on the topic.
6. Eventually we will be able to answer unknown questions.
7. The student's role is to learn what the teacher presents in class.
8. There are many possible answers to every question and there is no way to decide which one is correct.
9. At what Perry position is the challenge of four or more points of view first appropriate?
10. Class discussion provides an opportunity to hear new ideas one may not have thought about before and maybe those discussions will help us find the right way to answer a given question.
11. Poor counselors don't know their jobs; why did this university hire them anyway?
12. The role of peers in a class is to ask questions so that everyone can get the answer.
A student whose English theme integrates several points of view and qualitative distinctions in writing a persuasive essay.

Focus on weighing pros and cons in decisions using generalized rules of evidence and inquiry leading to better or worse conclusions.

Please circle the letter of the answer which best matches your understanding of the Perry scheme of intellectual development.

15. Which of the following is NOT yet claimed by Perry for his scheme of intellectual development?
   a. hierarchial
   b. sequential
   c. universality
   d. qualitatively different

16. The avoidance of personal responsibility through leaving choice to fate is called:
   a. Temperizing
   b. Stopping Out
   c. Retreat
   d. Escape

17. Which of the following would be inappropriate for a dualistic student?
   a. Indirect and vicarious learning opportunities
   b. High structure
   c. Personal atmosphere
   d. Emphasis on opening-up alternatives

19. Which of the following perspectives is not true of Perry level 2 but is true of level 3?
   a. All knowledge is perceived as right or wrong.
   b. Opinions are not true unless they come from a legitimate authority.
   c. Student's role is to learn the truth from the authority.
   d. Somethings are not known but eventually will be.

19. Which of the following perspectives is not true of Perry level 3 but is true of level 4?
   a. Learning is a process of finding the answers to questions when we don't know yet.
   b. In some areas knowledge is certain but in most areas we don't know anything for sure.
   c. Quantity of work is an important criteria of evaluation.
   d. Career interest inventories will eventually lead one to the right job.

20. Which of the following perspectives is not true of Perry level 4 but is true of level 5?
   a. Uncertainty is the way most things are and will be.
   b. Evaluation of ideas based upon rules of adequacy is possible.
   c. Learning to think for oneself is valued.
   d. Peers can be a legitimate source of information.

Please return this assessment with the materials from Session 3.
FORMAL THEORY/THEORY-IN-USE CONGRUENCE RATING FORM:

PERRY CRITERIA

BY

ROBERT F. RODGERS and TERRY D. PIPER

Instructions: For each subject, you have received three sets of Intervention Design worksheets. Each set contains three parts: Part 1 asks the subject to describe what his/her intervention was, Part 2 asks the subject describe how he/she went about implementing the intervention, Part 3 asks the subject to describe his/her professional rationale for the intervention. You will rate each Intervention Design set independent of the other sets for the subject.

1. On the rating sheet please indicate the subject's identification code and the Triad number from the Intervention Design worksheet.

2. Read the Intervention Design describe

3. Indicate for each Perry criterion category whether or not it is reflected in general in the design statements.
   A. If it is, indicate in the appropriate column whether reference is made to Perry's name, intellectual development or Widick/Knefelkamp criteria in association with the criterion category.

4. For each criterion category identified in the intervention design, indicate the specific content dimension that is utilized within the criterion category.
   A. When possible, indicate the level at which the content dimension was implemented.

5. In the comment section following the content dimensions provide any explanation or additional information that may clarify your rating, eg., design identifies students class rank, criterion and dimension present, however, the level may have been inappropriate given the description of the student.
DEGREE OF DIVERSITY

___ Present

___ Not Present

___ Perry's name, etc. cited along with criterion cat.

___ Perry's name, etc. not cited with criterion cat.

ContentDimensions:

___ Content diversity in curriculum, workshop, program, practice

___ One alternative

___ Two or three alternatives

___ More than three alternatives

___ Content diversity in conversation with Authorities.

___ One alternative

___ Two or three alternatives

___ More than three alternatives

___ Content diversity in conversation with peers, teammates, classmates.

___ One alternative

___ Two or three alternatives

___ More than three alternatives

___ Inventories of Self

___ One dimensional

___ Two or three dimensional

___ More than three dimensional

___ Tasks, homework, tests, etc. assigned by Authority

___ One alternative

___ Two or three alternatives

___ More than three alternatives

COMMENTS:
<table>
<thead>
<tr>
<th>Content Dimensions</th>
<th>Present</th>
<th>Not Present</th>
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</thead>
<tbody>
<tr>
<td>Syllabus, workshop outlines, descriptions of event</td>
<td>Highly prestructured by Authority</td>
<td>Low prestructured</td>
</tr>
<tr>
<td>Outlines of each session of class, workshop, or practice</td>
<td>Provided by authority</td>
<td>Not provided</td>
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<tr>
<td>Handouts on &quot;How to do&quot; assignments, skills, etc.</td>
<td>Provided by authority</td>
<td>Not provided</td>
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<tr>
<td>Discussion</td>
<td>Provided by authority</td>
<td>Not provided</td>
</tr>
<tr>
<td>Small group experience/simulation</td>
<td>Highly prestructured</td>
<td>Unstructured</td>
</tr>
<tr>
<td>Role playing/role rehearsal</td>
<td>Highly prestructured</td>
<td>Unstructured</td>
</tr>
<tr>
<td>Field trips/interviews</td>
<td>Prestructured and/or practiced in advance</td>
<td>Unstructured and/or not practiced</td>
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<tr>
<td>Actual experiential learning</td>
<td>Highly structured</td>
<td>Unstructured</td>
</tr>
<tr>
<td>Use of various media</td>
<td>Highly prestructured</td>
<td>Unstructured</td>
</tr>
<tr>
<td>Use of inventories</td>
<td>Highly prestructured</td>
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**Comments:**
## Content Dimensions:

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<tr>
<th>Activity</th>
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<td>Lectures</td>
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<tr>
<td>Discussions</td>
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<tr>
<td>Group experience, role plays, role rehearsal</td>
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<tr>
<td>Field Experiences</td>
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<td>Field observation without experience</td>
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<td>Field Interviews</td>
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**DEGREE OF ABSTRACTNESS-EXPERIENTIAL/CONCRETENESS**

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**COMMENTS:**
PROCESSING FOR DIFFERENTIATION/INTEGRATION

_____ Present  

_____ Perry's name, etc. cited 
_____ Not Present  

_____ Perry's name, etc. not cited with criterion cat.

Content Dimensions

_____ Lectures
_____ Processed for differentiation
_____ Processed for integration

_____ Tasks assigned
_____ Processed for differentiation
_____ Processed for integration

_____ Discussion
_____ Processed for differentiation
_____ Processed for integration

_____ Small group experience/simulation
_____ Processed for differentiation
_____ Processed for integration

_____ Role playing/role rehearsal
_____ Processed for differentiation
_____ Processed for integration

_____ Field Interviews
_____ Processed for differentiation
_____ Processed for integration

_____ Actual experiential learning
_____ Processed for differentiation
_____ Processed for integration

_____ Use of various media
_____ Processed for differentiation
_____ Processed for integration

_____ Use of inventories
_____ Processed for differentiation
_____ Processed for integration

_____ Readings
_____ Processed for differentiation
_____ Processed for integration

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<td>Content Dimensions:</td>
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<td>Memorize</td>
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<td>No emphasis</td>
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<td>slight emphasis</td>
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<td>heavy emphasis</td>
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<tr>
<td>Know the facts</td>
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<tr>
<td>no emphasis</td>
<td></td>
<td>moderate emphasis</td>
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<tr>
<td>slight emphasis</td>
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<td>heavy emphasis</td>
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<td>Awareness (differentiation)</td>
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<td>Compare and contrast (differentiation)</td>
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<td>moderate emphasis</td>
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<td>heavy emphasis</td>
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<td>Analyze into parts, relationships among parts, functions, proportions/assumptions, etc.</td>
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<td>no emphasis</td>
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<td>moderate emphasis</td>
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<td>slight emphasis</td>
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<td>heavy emphasis</td>
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<td>Inference from the analysis</td>
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<td>heavy emphasis</td>
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<td>slight emphasis</td>
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<td>Positive and negative critique</td>
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<td>Use supportive arguments and evidence for their position, a conclusion or opinion</td>
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<td>no emphasis</td>
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<td>slight emphasis</td>
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<td>heavy emphasis</td>
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<td>Application of the information (integration)</td>
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<td>no emphasis</td>
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<tr>
<td>Synthesize ideas or points of view (integration)</td>
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<td>moderate emphasis</td>
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<td>no emphasis</td>
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<td>heavy emphasis</td>
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<td>Category</td>
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<td>-------------------------------------------------------------------------</td>
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<tr>
<td>Relate and/or apply learning across contexts</td>
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<td>Evaluation</td>
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<td></td>
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<tr>
<td>Problem-Solving within and across domains or contexts</td>
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<tr>
<td>Generate new questions within and across domains</td>
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<tr>
<td>Generation of new theory or point of view or approaches</td>
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COMMENTS:
**COGNITIVE CHALLENGES EMPHASIZED**

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**Content Dimensions:**

<table>
<thead>
<tr>
<th>Break away from absolute view of authority</th>
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<tr>
<th>See various points of view as legitimate</th>
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<tr>
<th>Tolerance of diversity</th>
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<tr>
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<tr>
<th>Lose category of absolute certainty on questions of knowledge</th>
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<td>no emphasis</td>
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<td>slight emphasis</td>
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<tr>
<th>Support their position</th>
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<tr>
<th>Find and use non-absolute criteria for analysis and decision-making</th>
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<td>slight emphasis</td>
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<tr>
<th>Develop judgments and critical appraisal of competing ideas</th>
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<td>slight emphasis</td>
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<tr>
<th>Complex problem-solving, application, evaluation using a synthesis of points of view</th>
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<tr>
<td>no emphasis</td>
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<tr>
<td>slight emphasis</td>
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<tr>
<th>Generate new ways of looking at a domain or across domains</th>
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<tr>
<td>no emphasis</td>
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<tr>
<td>slight emphasis</td>
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</table>
Synthesis of apparent paradox

Find new ways to inquire

Dialectical reasoning on apparent paradox that results in dialectically worked out commitments

COMMENTS:
PERSONALISM

Present Not Present

Perry's name, etc. cited Perry's name, etc. not along with criterion cat. cited with criterion cat

Content Dimensions:

Initially, a process for acquaintance is used to build relationship/trust.

Explicit norms of self-disclosure is announced early.

Authority models self-disclosure on content or about him/herself personally before learners have to do so.

Self-disclosure on content or personal is solicited from the learner.

Small group techniques and discussions are used.

Personal meaning logs/journals are used with authority responses.

Personal interactions are open, friendly, warm.

Personal interactions occur without "put downs"

Personal interactions occur without an atmosphere of "tensions".

Conflict handled openly.

Authority is warm and friendly.

COMMENTS:
LIST OF REFERENCES


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