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AN EXAMINATION OF THE IMPORTANCE OF POST-SECONDARY VOCATIONAL/TECHNICAL STUDENT-PERCEIVED AFFECTIVE COMPETENCIES OF POST-SECONDARY VOCATIONAL/TECHNICAL TEACHERS

The Ohio State University

Ph.D. 1982

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VOCATIONAL/TECHNICAL STUDENT-PERCEIVED AFFECTIVE
COMPETENCIES OF POST-SECONDARY
VOCATIONAL/TECHNICAL TEACHERS

DISSERTATION

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

by

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The Ohio State University

1982

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Participative faculty and students at Utah Technical College.
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Chapter I
INTRODUCTION

In order to simulate real world environments and to acquire good work values, attitudes, and behaviors, post-secondary vocational/technical institutions look to business and industry for their prospective teachers. Some prospective teachers also are identified from teacher education programs and other educational institutions. When prospective teachers are identified, the employing post-secondary vocational/technical institute then screens their employment applications to determine the extent of their occupational experience (Gillie, 1973; McMahon, 1972; Ramp & Reeder, 1970; Schaefer, 1975; Wenrich & Wenrich, 1974).

Occupational experience, according to McMahon (1972), Strong and Schaefer (1975), and Brantner (1974), is used as a primary requirement and sometimes as the sole requirement for employment by the post-secondary vocational/technical institute, even though Sage (1979) and Evans (1971) indicate that years of occupational experience are not a good predictor of teacher success. Evans (1971) further asserts that the occupational experience gained by someone employed in business and industry offers some evidence to the employing
institutions that the prospective teachers possess many of the cognitive and psychomotor skills of their occupational area. Post-secondary vocational/technical institutes further presume that the occupational experience of prospective teachers will further assure that the learning experiences presented to their students will incorporate many of the activities, tools, materials, and equipment used by their employed counterparts (Gillie, 1973; Wenrich & Wenrich, 1974).

McMahon (1972) indicates the existence of many problems in the selection and preparation of post-secondary vocational/technical teachers. Gillie (1973) concludes that the post-secondary vocational/technical teacher selection process is haphazardous at best. As Brantner (1974) and Ramp and Reeder (1970) indicate, this haphazard, problematic vocational/technical teacher selection process emphasizes work experience. Post-secondary institutions strongly believe that the cognitive and psychomotor competencies gained through employment by the prospective teacher are justified. However, the affective competencies of the prospective teacher are not formally assessed by the employing institution. Schaefer and Law (cited in Travers, 1973) incisively declare that studies involving the affective domain have been conspicuously absent in post-secondary vocational education research. Schaefer in 1975 again emphasized that little has been studied about the affective
problems of students needing vocational education.

The absence of affective domain research in post-secondary vocational/technical education cannot be rationalized nor justified. Brown (1975) states:

The neglect accorded the affective role of the teacher is curious. Anyone who has thought even a little about the subject knows there is always an affective component in learning. If the student is involved in any way in an act of learning, negative and/or positive affective components are present. . . . What seems incredible is that for as long as we have known about the affective components of learning they have not been recognized explicitly in the structure of lessons or curriculum, nor have we usually accounted for them in teaching methodology. . . . We are just beginning to raise questions which ask how the student feels about something. (pp. 174-175)

A review of more than fifty studies by Rosenshine (1971) showed that the affective components of learning strongly relate to student achievement. Amidon and Hough (1967) were more specific in their assertion that the affective components of classroom climate strongly relate to teaching effectiveness. Bender, McCormick, Woodin, Cunningham, and Wolf (1972); Gillie (1973, 1976); Mager (1968); and Schaefer and Kaufman (1971) agreed with Rosenshine, Amidon, and Hough. They concluded that the post-secondary
vocational/technical teacher has a powerful effect not only on the learning environment, but also on the student's learning values, attitudes, and behaviors.

The effect that post-secondary vocational/technical teachers have on their students lends logic to the salient conclusion of Kulik and McKeachie (1975) and of Costin, Greenough, and Menges (1971) concerning teacher evaluation. They indicate that a student's observation should not be ignored, since students experience daily exposure to the teacher and hence are in a better position to evaluate the teacher's affective competencies. Miller (1980) further supports the merit of using student evaluations when he accentuated that students are valid and reliable judges of teaching effectiveness.

**Statement of Problem**

Studies concerning student-perceived affective competencies of post-secondary vocational/technical teachers were nonexistent as of 1973; also, literature searches between 1973 and the present did not identify any affective domain research in post-secondary vocational/technical education. Therefore, this study examined the importance of affective competencies of post-secondary vocational/technical teachers based on student evaluations and selected teacher demographic data.
Purpose of Study

The primary purpose of the study was to measure the importance of student-perceived affectivity of post-secondary vocational/technical teachers. A secondary purpose was to examine discriminant relationships among selected teacher demographic data and student evaluations. More specifically, this study tested the following null hypotheses:

H01—There will be no significant difference between the affective competencies of Group I and Group II as assessed by the Affective Competency Inventory (Beebe, 1980).

H02—There will be no significant difference between the time ratios of Group I and Group II as assessed by the Personal Orientation Inventory (Shostrom, 1974).

H03—There will be no significant difference between the support ratios of Group I and Group II as assessed by the Personal Orientation Inventory (Shostrom, 1974).

H04—There will be no significant difference between Group I and Group II's years of teaching experience.

H05—There will be no significant difference between Group I and Group II's years of occupational experience.

H06—There will be no significant discriminating effects by support and time ratios, as assessed by the Personal Orientation Inventory (Shostrom, 1974); by affective competency, as assessed by the Affective Competency Inventory.
Inventory (Beebe, 1980); by years of teaching experience and/or years of occupational experience between Group I and Group II.

**Definition of Terms**

Affective Competency Inventory (ACI) refers to an instrument designed to collect data about the post-secondary vocational/technical teacher's affective competencies believed to be important in a post-secondary vocational/technical educational environment.

Course Instructor Evaluation Questionnaire (CIEQ) refers to an instrument designed to collect data about general attitudes, teaching methods, course content, interest, and instructor; and additionally, to give an overall total evaluation in the educational setting (Aleamoni, 1979).

Group I refers to those contracted, full-time day PSVTE (see below) teachers who were rated by their PSVTE students in the top 33 percent on selected subscales of the Course Instructor Evaluation Questionnaire (Aleamoni, 1979).

Group II refers to those contracted, full-time day PSVTE teachers who were rated by their PSVTE students in the bottom 33 percent on selected subscales of the Course Instructor Evaluation Questionnaire (Aleamoni, 1979).

Personal Orientation Inventory (POI) refers to a self-administered instrument created to measure the values and teacher behaviors believed to be important in the develop-
ment of the self-actualizing person (Shostrom, 1974).

Post-Secondary Vocational/Technical Education (PSVTE) is public education that comes after high school or after an individual is no longer officially registered in a secondary institution. Post-secondary vocational/technical education as used here is full-time during the day, as opposed to the evening, and includes vocational and/or technical and related general education offerings but does not include avocational offerings. It can include adult education and career education if these fall within the guidelines already herein established. Any one- or two-year vocational/technical institution that is post-secondary and falls within the guidelines discussed, such as vocational centers, community colleges, and two-year colleges, also is included.

Description of Setting for Study

Utah Technical College (UTC) at Salt Lake City, Utah, is one of two technical colleges and one of nine colleges and universities in the state of Utah governed by the Utah State Board of Regents within the Utah System of Higher Education. UTC is fully accredited by the Northwest Association of State Colleges and Universities. UTC's mission statement emphasizes vocational, technical, and paraprofessional subjects. These are combined with authorized programs in general education, including the Associate of Science and the two-year Associate of Applied Science
degrees. With short courses and evening courses, credit and noncredit, UTC provides significant educational training and employment opportunities. Transfer possibilities to other public post-secondary institutions in Utah can be arranged.

The labor force (defined as 16 years and up) in Salt Lake City totals 180,790 persons with 67,307 being female. (Refer to Table 1 for breakdown by categories of employment.)

Table 1
Percent of Salt Lake City Work Force Engaged in Categories of Employment

<table>
<thead>
<tr>
<th>Categories of Employment</th>
<th>Percent of Work Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>2.1</td>
</tr>
<tr>
<td>Construction</td>
<td>3.9</td>
</tr>
<tr>
<td>Finance, insurance, and real estate</td>
<td>5.4</td>
</tr>
<tr>
<td>Transportation, and commerce</td>
<td>7.0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>15.5</td>
</tr>
<tr>
<td>Services</td>
<td>18.5</td>
</tr>
<tr>
<td>Government</td>
<td>23.0</td>
</tr>
<tr>
<td>Trade (wholesale/retail)</td>
<td>24.6</td>
</tr>
</tbody>
</table>

Education in Salt Lake City shows a median of twelve and one-half years completed. Seventy percent of students complete four years of high school; 15 percent complete four or more years of post-secondary education.
The median effective buying income is $19,000 annually. Approximately 30 percent of the population earn over $25,000; about 5 percent earn less than $10,000. The average factory worker earns $14,512 yearly. The average house cost $64,000 in 1980, and seasonably adjusted unemployment is 5 percent of the work force.

UTC is located on two hundred acres in the southwest valley of the Great Salt Lake. The college has six buildings plus a heating plant. The buildings house: auto trades, metals trades, construction trades, administration, technology, and the college center. UTC offers six occupational areas: benchwork and processing occupations, business occupations, machine trade occupations, service occupations, structural work occupations, and technical occupations. In addition to the six occupational areas, UTC operates a cooperative education program, a skills center, apprenticeship programs, pre-technical (developmental), and general education offerings. By state law UTC must maintain 75 percent vocational/technical classes and may not exceed 25 percent general education classes.

The contracted, full-time day faculty (n = 117) at UTC consists of 25 females and 92 males, 97 percent of whom are tenured. They teach in 39 programs representing related general education, developmental education, and all vocational service areas except agriculture.
UTC has no academic ranking; however, 3 percent of the faculty have Ph.D.s, 41 percent have Master's degrees, 28 percent have Bachelor's degrees, 14 percent have Associate of Applied Science Degrees, and 13 percent have no degree. UTC's hiring practice, except in general education, does not require a college degree. Faculty members are hired on the basis of having a minimum of six years of occupational experience in the area for which application is made, or three years of occupational experience together with three years of post-secondary education experience. Occasionally, a performance test is required of a prospective teacher. Seventy percent of the faculty is hired on nine-month contracts, leaving 30 percent on twelve-month contracts.

The average faculty member's age is 49 years. Seventy-seven percent of the faculty is between 41 and 57 years old. The average faculty member has taught for 11 years at UTC; 66 percent have taught at UTC between 6 and 16 years.

Faculty loads vary from 15 to 25 student contact hours for an average class size of 17 students. Faculty members earn an average nine-month salary of $19,000, while twelve-month faculty average $24,000 annually.

UTC serves approximately 6,000 students representing approximately 3,975 full time equivalent students (FTEs). Fifty-four percent of the students are full-time day students, while 46 percent of them attend evening classes. The median age of the population served by UTC is 25.7 years.
Sixteen percent of the population is 20 years old or younger, 39 percent is between 21 and 29 years, and 45 percent is 30 years or older. Ethnic minorities at UTC are as follows: Blacks comprise 0.4 percent of the population, 2.4 percent are of Spanish origin, 1.2 percent are native Americans, 1.4 percent are of Asian descent, and 0.3 percent are classified as "other."

**Scope of Study**

The sample of teachers to be studied were divided into two groups. Group I consisted of 11 contracted, full-time day PSVTE teachers, and Group II consisted of 15 contracted, full-time day PSVTE teachers. These 26 selected teachers represent office administration, machine trades, welding, electronics, mathematics, marketing/management, electricity, English, automotive, health, developmental, diesel mechanics, brick masonry, and drafting occupations. One class from each of the above identified 26 teachers was selected to assess affective competencies. Approximately 471 PSVTE students participated in this study.

**Limitations of Study**

The study was limited to:

1. the contracted, full-time day PSVTE teachers at UTC who participated in this study;
2. the manner in which the data was collected;
3. the perceptual consistency of the participants; and
4. instrument reliability for the participating
students and faculty.

Since UTC's descriptors are very similar to other PSVTE institutions and/or two-year colleges (described in Gillie, 1976; Monroe, 1977; Standard Education Almanac, 1980; Digest of Education Statistics, 1980; Dearman and Plisko, 1980; Grant & Lind, 1978; and Parker, 1970), generalizability to other populations having similar characteristics may be appropriate.

**Assumptions of Study**

1. PSVTE students at UTC understand the questions posed by the instruments.

2. PSVTE students at UTC will be observant of their teachers' affective behaviors and will have the ability to distinguish and describe those behaviors as requested by the instruments.

3. PSVTE students at UTC will be able to accurately express their feelings.

4. PSVTE teachers' affective behaviors at UTC influence their students' affective behaviors.

5. PSVTE students' affective behaviors at UTC influence their teachers' affective behaviors.

6. Multiple messages flow simultaneously when interactions occur between PSVTE teachers and their students at UTC.

7. PSVTE teachers at UTC and their students develop patterns of acting, reacting, and interacting that remain
relatively constant.

8. PSVTE teachers at UTC develop patterns of behavior based on personal characteristics that remain relatively constant.

9. PSVTE teachers at UTC respond in a limited number of ways in given affective circumstances which are determined by specific and general features of these circumstances.

10. The behaviors of PSVTE teachers at UTC, the behaviors of their students, and the interactions resulting from those behaviors are probable rather than certain.
Chapter II
REVIEW OF LITERATURE

How does post-secondary vocational/technical education (PSVTE) perceive the affective domain? Does it involve teacher personality, or perhaps a set of teacher behaviors? Does it imply an interactive communications process between the teacher and students? Is it the learning environment, and if so, how does that environment affect learning? If, in fact, it is an environment, how does one recognize or evaluate that environment, and whose responsibility would that evaluation be?

Rhetorical questions such as those cited above could be asked ad infinitum. These questions emphasize the mercurial and nebulous nature of the terms "affective," "affectivity," "affective countenance," and "affective competency." However, these terms have been conceptualized within various contexts. James (1980) linked affectivity to a tacit bond a good teacher achieves with the inner lives of students. Kelman (cited in McCafferty, 1980), saw affectivity as teacher influenced compliance, identification, and internalization of learning. Rogers (1980), Monroe (1977), Brown (1975), Carkhuff (1971) and Mager (1968), viewed affectivity
as a student/teacher interactive process. This interactive process focuses on the teacher and the teacher's ability to create a complete learning environment consistent with the student's affective needs thereby influencing the student. Implicit in this concept, is Morgan's (1976) contention that students must see teachers as human beings. Further, the teacher must create a language of acceptance to make the student feel genuinely accepted. Once this occurs the teacher becomes a powerful influence on the student.

Another conceptualization of affectivity is Krathwohl, Bloom and Masia's (1956) taxonomy of educational objectives in the affective domain. They suggest that, developmentally, there is an initial exposure to affective concerns, followed by a successions of internalizing steps leading to inculcating the affective concern into the value system of the individual.

Along with being conceptualized in various contexts, descriptors have been used to define affectivity. Strong (1976), Lovelace (1975) and Kravas (1974), described affectivity as a combination of empathetic understanding and genuine caring. Stone (1971) developed a list of ten terms which purported to define affectivity. Along with empathy, he added orderly, productive, reliable, creditable, cooperative, aware, presentable, expressive and adaptive.

Combs (1965) personalized affectivity by asserting that since teaching is intensely personal and done best by those
who have an internal people oriented frame of reference, then teachers must develop a sensitivity to students.

Affectivity has been shown to correlate positively with increased learning. Rogers (1980), Bell (1980), Annarino (1980), Washington (1979), Archer (1979), Conger (1976), Peck (1975) and Kravas (1974), indicated definite positive correlations between teacher effectiveness and affectivity. Rogers (1980) et al., focused on empathetic understanding and unconditional positive regard. Rogers (1980) et al, also indicated that the higher the levels of affective sensitivity the more learning occurred.

Rosenshine (1971), showed that the affective components of learning strongly relate to student achievement. Amidon & Hough (1967) asserted that classroom climate relates strongly to teaching effectiveness.

The importance of affectivity as it relates to learning may best be summarized by George I. Brown when he stated "... There is always (emphasis added) an affective component to learning. If the student is involved in any way in an act of learning, negative and/or positive affective components are present..." (Brown, 1975, p. 4).

However, Schaefer and Law (cited in Travers, 1973) reported that research in the affective domain of vocational education, including post-secondary education, was conspicuous by its absence. A definitive body of literature describing the affective domain in PSVTE appears not to
exist. Consequently PSVTE literature must be perused, and selected passages excerpted from documents whose focus may not necessarily be in the affective domain of PSVTE. These passages then have to be arranged into the format of a scholarly presentation to maintain their original flavor, intent, meaning, clarity, and continuity. However, passages reflecting affective concerns in PSVTE—when expressed outside of their context—tend to sound trite and maudlin; therefore, the discussion that follows is necessarily somewhat disjointed and fragmented.

A review of affective domain literature in PSVTE is divided into three sections. Section one describes literature focused primarily on the affective domain in PSVTE; section two focuses on affective domain themes in PSVTE literature; and section three concentrates on future affective domain objectives for PSVTE.

The Affective Domain in PSVTE

Only three documents concentrated on some aspect of the affective domain in PSVTE: one study, one module on assessing student affective concerns, and one document relating affective skills to transferrable skills, published by the National Center for Research in Vocational Education, Columbus, Ohio.

The study was conducted at Platte Technical Community College in North Platte, Nebraska by Dr. Ronald Hutkin (1975). Hutkin evaluated the students' cognitive and affec-
tive development in achieving written communications objectives placed in a world-of-work content. The study utilized two experimental and two control groups in a post-test-only research design that randomly selected full-time day students. The experimental groups utilized community college resources, world-of-work resources, and community resources in the teaching of communications. The control groups utilized only the community college resources.

Both the experimental and control groups were evaluated using the same criteria. The scores of the control and experimental groups were combined, and a t-test was run to test a hypothesis of no significant difference between mean scores for objective number one. The Personal Orientation Inventory was used to determine the differences in degrees of self-perception and affective development gains between the control and experimental groups to assess objective number two.

The Performance Based Teacher Education, Module D-3, "Assess Student Performance: Attitudes" is designed to teach teachers the processes used to assess a student's classroom affective performance through self study and/or a resource person (American Association for Vocational Instructional Materials, 1977). This module is used in several states such as Utah, Nebraska, Washington, and Arizona (cited by Hamilton, 1981) as part of their PSVTE teacher inservice program.
The third document reports results of exploratory activities intended to estimate the "... current state of knowledge with regard to the nature of occupationally transferrable skills ..." (Wiant, 1977, p. 1). A series of nine conferences was conducted across the United States to determine how representatives of businesses and industries view the kinds of skills that are occupationally transferrable. Another objective of the conference was to identify the types of skills important in work settings to qualify for job transfers and progressions. Seventy-seven transferrable skills were identified by conference participants, fifty of which reflected strong affective components. Nine of the 77 transferrable skills were mentioned with notable frequency, and of these nine, six had strong affective components. Wiant's conclusion stressed a definite need to relate human abilities, attitudes, and affective competencies to the job market.

Affective Themes

When Schaefer and Law (cited in Travers, 1973) could not identify any studies addressing the affective domain in PSVTE, affectivity today still remains largely unidentified, undefined, and/or ignored. Affective concerns remain segmented, fragmented, unresearched, and buried within the literature on PSVTE. Herein lies a perceivable dichotomy: apparent avoidance of the affective domain by PSVTE educators, on the one hand; but references to the affective
domain in PSVTE within the PSVTE literature, on the other hand. Certain themes pertaining to the affective domain of PSVTE tend to persist within the literature, even though the literature may be intended to directly address issues other than affective concerns.

One of these themes emphasizes that PSVTE tends to focus on the cognitive and psychomotor domains, thereby assuming—incorrectly—that affective competencies will be peripherally learned (Bender, McCormick, Woodin, Cunningham & Wolf, 1972; Morgan, 1976). Morgan (1976) further emphasizes the incomplete nature of the approach that develops the cognitive and psychomotor domains but ignores the affective domain. He asserts that recognition is needed; that man is a trichotomy of mind (cognitive), body (psychomotor), and emotions (affective). Since man is a triumvirate being, logic suggests that PSVTE address the complete person.

Another theme discernible in PSVTE literature is expressed succinctly by Reinert (1977) when he asserts that higher education in America is shot through with false values, one of which is the assumption that the personality of the teacher is irrelevant as a function of professional competence. Monroe (1977); Allred, Baird, Burke, Carter, Ferrin, Jackson, Law, Mouritsen, and Stone (1980); and Schaefer and Law (cited in Travers, 1973) all insist that teacher personality is not only important, but is critically important to the PSVTE teacher.
Allred et al. (1980) add a corollary to the importance of PSVTE teacher personality by recognizing other characteristics which they consider essential to the effective PSVTE teacher. They suggest qualities (such as being friendly, tactful, considerate, enthusiastic, prompt, patient, prepared, and appreciative) also are appropriate. Tennyson and Strom (cited in Morgan, 1976), and Loveless (1975) maintain that a warm, friendly relationship between the PSVTE teacher and student is necessary. They also include the teacher's sincere interest in and genuine acceptance of the PSVTE student as being necessary. Loveless (1975) believes that genuine caring about PSVTE students provides the foundation for the rhetoric about PSVTE teacher affective characteristics.

PSVTE teachers' genuine caring about PSVTE students implies a third theme: the interactive nature of the affective domain in PSVTE. Cosand (1979) emphasized this point with the conclusion that the faculty conveys attitudes to students because many PSVTE students emulate their teachers in either a positive or negative manner. Since part of the affective domain in PSVTE is interactions between the PSVTE teacher and the PSVTE student, then logically PSVTE students need to be recognized by teachers and researchers as accurate observers of the inclusive teaching behaviors of their teachers (Tom & Cushman, 1975).

The last theme identified in the affective domain of PSVTE is that affective concerns emerge when curriculum con-
tent analysis techniques are used. For example, Sinnett (1976) found affective competencies were identified during DACUM (Miller-Beach, 1980) processes of task analyses in eight occupational areas. Sinnett's conclusions were similar to those of the Wisconsin State Board of Vocational, Technical and Adult Education (1975) where affective competencies strongly emerged from a list of priorities for research subjects in vocational and adult education.

Thus far five themes have been discussed. Theme one referred to the need to develop all facets of the affective domain of PSVTE to achieve balance with the cognitive and psychomotor domains. Theme two recognized the critical importance of the PSVTE teacher's personality and other characteristics. Theme three is a recognition of the interactive aspects of PSVTE teaching with the accompanying conveyance of attitudes and values. Theme four is a recognition that the best assessor/evaluator of PSVTE teachers' affective competencies may be the PSVTE students. Theme five recognizes that strong affective elements emerge from various sources even when those sources may not be focused on affective concerns.

Implicit in these five themes is the need to change PSVTE. What should the direction of PSVTE be in the affective domain?
Future Goals of PSVTE in the Affective Domain

Since affectivity and cognition are closely related in the classroom and may be practically inseparable, and since job performance has been found to be a function of certain affective skills and attributes, Essex and Liu (1974) suggest more and stronger emphasis needs to be placed on the affective dimensions of human development. They stress that the affective domain is a very important and complex part of human and vocational development that must be understood. Essex and Liu (1974) emphasize the need to identify work-related affective skills and attributes to provide career educators with affective goals.

Tennyson and Strom (cited in Morgan, 1976) add another dimension by suggesting that the educational environment within which PSVTE students learn be made more human and functionally relevant. They further assert that PSVTE educators need to consider the learner more important than the traditional subject matter.

Gillie (1973) reflects the same humanistic concerns by suggesting that all of vocational education undergo a general overhaul and be redesigned in terms of people-oriented objectives. He feels that the entire society should be viewed as a mechanism for serving people rather than considering people as devices for serving society.
Gillie (1976) further states, "When preparing community junior college teachers, . . . teacher trainers must be aware of individual differences in potential teachers and should coax them into teaching roles that are congruent with their basic personalities" (p. 131). Gillie also urges that a series of investigations into teacher-student interactions within prescribed environments be conducted soon and that successful teachers be identified.

Two factors identified by PSVTE affective domain literature, and a personal letter, strongly support a study designed to delve into the affective domain in PSVTE. The first factor identified by PSVTE literature in the affective domain is the lack of literature that specifically addresses affective concerns in the affective domain in PSVTE literature. An interview with Dr. James Hamilton (1981), who directed the development of Performance Based Teacher Education Modules at the National Center for Research in Vocational Education, revealed that "little literature was found dealing with the affective domain in any segment of vocational education, with the exception of home economics on the secondary level."

The second factor was Gillie's (1976) call for investigations into teacher-student interactions within prescribed environments. This study does exactly that: studies PSVTE teacher-student interactions within a PSVTE institution and identifies why certain teachers are considered by their
students to be successful and affectively competent.

In 1978, the researcher wrote to Dr. George I. Brown at the University of California in Santa Barbara outlining this study. Dr. Brown's response indicated that such a study would indeed be useful and relevant.
Chapter III

METHODS AND PROCEDURES

The following chapter will discuss the methods and procedures utilized in conducting this study:

1. identifying the sample;
2. describing the instruments to be used;
3. describing the data collection process;
4. developing and describing the research design; and
5. describing the data analysis model.

Sample Description

The sample for this study was the contracted, full-time day PSVTE teachers on the main campus of Utah Technical College, Salt Lake City, Utah. This sample was utilized because of the accessibility to their classrooms and facilities, administrative support, and an attitude of cooperation among the faculty. Additionally, thirty-six programs comprise the vocational/technical classes, related general education, and pre-technical classes. These programs provided the researcher with a broad spectrum of data about teachers and teaching personalities.

Utah State Teacher Certification is not required for post-secondary vocational/technical teachers; however, UTC
hiring practice dictates that a prospective teacher have six years of occupational experience or three years of post-secondary education in the occupation for which application is made to teach. Teachers in general education areas must have a Bachelor's degree in the academic field or in a suitably related academic field in which application is made. For areas such as barbering and nursing, a valid state license for that occupation is required. To continue employment, each teacher must earn a minimum of six quarter credit hours during each two years of employment for the first ten years. Salary schedule advancement is based on academic pursuits and/or work experience.

Description of Instruments

Three instruments were utilized in this study. They are:

1. the Personal Orientation Inventory (POI) (Shostrom, 1974);
2. the Course Instructor Evaluation Questionnaire (CIEQ) (Aleamoni, 1979); and
3. the Affective Competency Inventory (ACI) (Beebe, 1980).

The POI was developed by Dr. Everett L. Shostrom in 1963 and is available from Educational and Industrial Testing Service, San Diego, California. The CIEQ was developed by Dr. Lawrence Aleamoni in 1975 and is available from the Office of Instructional Research and Development, Uni-
versity of Arizona, Tucson, Arizona. The ACI was developed by this researcher to assess the affective competency of contracted, full-time day PSVTE teachers at Utah Technical College. Both the CIEQ and POI are established and validated instruments with acceptance in their own areas of measurement.

**Personal Orientation Inventory (POI)** (Shostrom, 1974) refers to a self-administered instrument consisting of 150 two-choice comparative and behavior judgment items. The POI measures teacher values and behaviors believed to be important in the development of a self-actualizing person (Shostrom, 1974).

In private during a time and place selected by the examinee, the PSVTE teacher reads two statements and selects one that best describes his/her self-perceived characteristics. Following administration the POI is tabulated. Two ratio scores are calculated and ten subscales are plotted, with population norms and standard deviations identified. The POI also discriminates between self-actualized and non self-actualized individuals (Shostrom, 1974).

Shostrom and Knapp (1966), and Fox, Knapp, and Michael (1968) further established that the POI differentiated between criterion groups at a .01 confidence level. This supports POI's sensitivity to clinically differentiate between hospitalized psychiatric patients and normal adult samples. Test-retest reliability coefficients on the POI,
obtained from a sample of 48 undergraduate college students, fell between .52 and .82 (Klavetter & Mogar, 1967). In general, the test-retest coefficients for POI are commensurate with other personality inventories (Ilardi & May, 1968; Shostrom, 1974).

Course Instructor Evaluation Questionnaire (CIEQ) (Aleamoni, 1979) refers to a self-administered instrument consisting of 21 statements that an examinee reads; he/she then indicates his/her preference on a four-point Likert Scale. The CIEQ also gathers student demographic data and, through open-ended questions, data relating to course content, teacher qualities, objectives of the course, papers, and homework, examinations, and course improvements.

CIEQ's validity was established through the use of a factor analysis (Aleamoni & Spencer, 1973). Additional content validity was established using subjective expert judgments. CIEQ's reliability was established through test-retest measures. These coefficients remained above .80 (Gillmore, 1973; Aleamoni, 1979).

Affective Competency Inventory (ACI) (Beebe, 1980) refers to a self-administered instrument consisting of 26 forced-choice, Likert Scale items. The inventory gathers data relating to the affective competencies of a teacher.

ACI's content validity was established through a panel of experts followed by a factor analysis of the final instrument wherein all factor loadings exceeded 0.56 while
controlling for 85 percent of the instrument's variance. Reliability was established through correlation with another instrument and an item-to-scale correlation matrix wherein correlations exceeded .56. Additionally, a Cronbach alpha of .972 was computed.

Data Collection

Prior to data collection, visits were made to UTC divisional meetings to obtain permission from teachers and from division chairpersons to allow classroom visits to collect data. Classroom visits were conducted within the constraints of each teacher's schedule based on unannounced visits near the start of each class. Permission was again obtained from each teacher before their students completed the CIEQ and ACI. Cooperation was high, with only one out of 101 teachers refusing to allow data collections.

Before instrument administration, a statement explaining the study was read to the students, followed by directions for completing the CIEQ and ACI. Student questions and concerns were addressed before the forms and pencils were distributed. A large envelope was left on the desk for participating students in which to place their completed instruments. To provide the students an opportunity to complete the instruments without teacher intimidation, the teacher provided this researcher with additional information in an adjacent room.
Figure 1 (p. 32) is designed to illustrate the relationships of the proposed analysis procedures. Figure 1 also illustrates how the t-test for independent groups from Statistical Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975) will be utilized to test for significant differences between the group means. Five tests will be made to determine significance at an alpha level of .05 between:

1. Means of Group I and Group II on the support ratio (O/I), which refers to the ratio of other-directed to inner-directed, and places the individual on a continuum from extreme other-directed to extreme inner-directed. Other-directed (O) refers to an individual who seems to be directed by external fears, as well as by influences of other people, while inner-directed (I) refers to one who seems to have developed a sense of independence and is able to obey his/her internal piloting (Shostrom, 1974).

2. Means of Group I and Group II on the time ratio (Ti/Tc), which refers to the ratio of time incompetence to time competence, comparing the amount of time one used carefully with the amount of time one misuses or wastes. Time competence (Tc) refers to the extent to which one lives in the present, while time incompetence (Ti) refers to the extent one brings into the present the guilts and fears that accompany actions, decisions, and other activities of the past (Shostrom, 1974).
3. Means of Group I and Group II on the ACI.
4. Means of Group I and Group II on years of teaching.
5. Means of Group I and Group II on years of occupational experience.

A SPSS (Nie et al., 1975) discriminant analysis program will be used as a second analysis procedure to distinguish between Group I and Group II. The discriminant analysis will be based on the independent variables support ratio (POI), time ratio (POI), ACI, years of teaching and years of occupational experience.

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Ratio (POI)</td>
<td>_-test</td>
<td>Support Ratio (POI)</td>
</tr>
<tr>
<td>Time Ratio (POI)</td>
<td>_-test</td>
<td>Time Ratio (POI)</td>
</tr>
<tr>
<td>ACI</td>
<td>_-test</td>
<td>ACI</td>
</tr>
<tr>
<td>Years of Teaching</td>
<td>_-test</td>
<td>Years of Teaching</td>
</tr>
<tr>
<td>Years of Occupational experience</td>
<td>_-test</td>
<td>Years of occupational experience</td>
</tr>
</tbody>
</table>

Figure 1. Data Analysis Model Determined on the basis of the CIEQ.
Chapter IV
ANALYSIS OF DATA

This chapter presents the results of the research by:
1. describing the population,
2. outlining the data collection process, and
3. describing the two statistical processes used for data analysis.

The population used in the study were the contracted, full-time day PSVTE teachers at Utah Technical College. Using the Course Instructor Evaluation Questionnaire (CIEQ), 100 teachers were evaluated by PSVTE students enrolled in one of their classes after the sixth week in the quarter. A total of 1,812 instruments (CIEQ's) were collected.

Group I represents those teachers whose ratings were in the upper 33 percent on the CIEQ data base, which includes 14,917 course sections representing in excess of 470,000 students (Aleamoni, 1979). Eleven teachers were placed in this group.

Group II represents those teachers whose ratings were in the bottom 33 percent of the CIEQ data base. Fifteen teachers were placed in this group.
Data representing affective competence, time ratio and support ratio (from the POI), and years of teaching and occupational experience were collected from each of the 26 teachers. These data were analyzed to determine differences between the two groups of teachers. Two statistical processes were utilized: 1) t-test for independent groups, and 2) discriminant analysis (Nie et al., 1975).

The first statistical process addresses the separate affects of each variable on teacher ratings of the CIEQ (hypotheses one through five). These data were analyzed with a t-test for independent groups (Nie et al., 1975).

The second statistical process looks at the joint affects of each variable on teacher grouping (hypothesis six). The process used to determine the amount of interaction was the discriminant analysis (Nie et al., 1975).

**T-Test Analysis of Data**

The first statistical process will present each hypothesis in the following manner: statement of the hypothesis, presentation of the results, and a verbal description of the results.

Affective competencies were expected to show significant differences between Groups I and II on hypotheses one and six. These affective competencies were also expected to show significant discriminant characteristics between Groups I and II.
H01--There will be no significant difference between the affective competencies of Group I and Group II as assessed by the Affective Competency Inventory (Beebe, 1980).

Table 2
T-Test for Independent Group Means
On Affective Competency

<table>
<thead>
<tr>
<th></th>
<th>X</th>
<th>S.D.</th>
<th>F Value</th>
<th>Pooled Variance</th>
<th>D.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>90.78</td>
<td>4.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=11)</td>
<td></td>
<td></td>
<td>1.41</td>
<td>(p=0.59)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>t=7.24</td>
<td>(p=0.000)</td>
<td>24</td>
</tr>
<tr>
<td>Group II</td>
<td>75.49</td>
<td>5.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An analysis of the t-test for independent groups (Nie et al., 1975) revealed an F value of 1.41. This F value produced a two-tailed probability of 0.59. This F value indicates equal variance within the groups.

With equal variance indicated, a pooled variance estimate was utilized to generate a t-value. A t-value of 7.24 with 24 degrees of freedom was calculated. The two-tailed probability of this t-value was 0.0000. Based on the analy-
sis of this data, there was a significant difference between Group I and Group II on the Affective Competency Inventory (Beebe, 1980). This finding was expected.

H02--There will be no significant difference between the time ratios of Groups I and II as assessed by the Personal Orientation Inventory (Shostrom, 1974).

Table 3
T-Test for Independent Group Means
On Time Ratio

<table>
<thead>
<tr>
<th></th>
<th>X</th>
<th>S.D.</th>
<th>F Value</th>
<th>Pooled Variance</th>
<th>D.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>5.23</td>
<td>5.97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=11)</td>
<td></td>
<td></td>
<td>1.25</td>
<td>t=-0.39 (p=0.68)</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(p=0.70)</td>
<td></td>
</tr>
<tr>
<td>Group II</td>
<td>6.09</td>
<td>5.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An analysis of this data by a t-test for independent groups (Nie et al., 1975), revealed an F value of 1.25. This F value indicates equal variance within groups.
With equal variance indicated, a pooled variance estimate was utilized to generate a t-value. A t-value of -0.39 with 24 degrees of freedom was calculated. The two-tailed probability of this t-value was 0.70. Based on an analysis of the data, there was no significant difference between Group I and Group II on time ratio. This finding was unexpected.

H03--There will be a significant difference between the support ratios of Groups I and II as assessed by the Personal Orientation Inventory (Shostrom, 1974).

Table 4
T-Test for Independent Group Means
On Support Ratio

<table>
<thead>
<tr>
<th></th>
<th>X</th>
<th>S.D.</th>
<th>F Value</th>
<th>Separate Variance</th>
<th>D.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>2.82</td>
<td>2.23</td>
<td>5.01</td>
<td>t=0.22</td>
<td>13</td>
</tr>
<tr>
<td>(N=11)</td>
<td></td>
<td></td>
<td>(p=0.007)</td>
<td>(p=0.83)</td>
<td></td>
</tr>
<tr>
<td>Group II</td>
<td>2.66</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An analysis data by a t-test for independent groups (Nie et al., 1975) revealed an F value of 5.01. This F
value indicates unequal variance within groups.

With unequal variance indicated, a separate variance estimate was utilized to generate a t-value. A t-value of 0.22 with 24 degrees of freedom was calculated. The two-tailed probability of this t-value was 0.83. Based on the analysis of data, there was no significant difference between Group I and Group II on support ratio. This finding was unexpected.

H04--There will be no significant difference between Group I and Group II's years of teaching experience.

Table 5
T-Test for Independent Group Means on Years of Teaching Experience

<table>
<thead>
<tr>
<th></th>
<th>X</th>
<th>S.D.</th>
<th>F Value</th>
<th>Pooled Variance</th>
<th>D.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I (N=11)</td>
<td>14.64</td>
<td>8.15</td>
<td>1.40</td>
<td>t=0.40</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(p=0.55)</td>
<td>(p=0.70)</td>
<td></td>
</tr>
<tr>
<td>Group II (N=15)</td>
<td>13.47</td>
<td>6.89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An analysis of data by a t-test for independent groups (Nie et al., 1975) revealed an F value of 1.40. This F value indicates equal variance within the groups.
With equal variance indicated, a pooled variance estimate was utilized to generate a t-value. A t-value of 0.40 with 24 degrees of freedom was calculated. The two-tailed probability of this t-value was 0.70. Based on the analysis of data, there was no significant difference between Group I and Group II's years of teaching experience. This finding was unexpected.

H05--There will be no significant difference between Group I and Group II's years of occupational experience.

Table 6
T-Test for Independent Group Means on Years of Occupational Experience

<table>
<thead>
<tr>
<th></th>
<th>X</th>
<th>S.D.</th>
<th>F Value</th>
<th>Pooled Variance</th>
<th>D.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I (N=9)</td>
<td>13.11</td>
<td>6.77</td>
<td>1.21 (p=0.77)</td>
<td>t=0.38 (p=0.71)</td>
<td>17</td>
</tr>
<tr>
<td>Group II (N=10)</td>
<td>12.00</td>
<td>6.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Two of the 11 teachers in Group I and 5 of the 15 teachers in Group II were general education teachers. Since their occupational experience had occurred more than five years previously, a decision was made to remove them from the Groups. Consequently, Group I's N of cases is 9 and Group II's N of cases is 10 for years of occupational experience.

An analysis of data by a _t_-test for independent groups (Nie et al., 1975) revealed an _F_ ratio of 1.21. This _F_ value indicates equal variance within the groups.

With equal variance indicated, a pooled variance estimate was utilized to generate a _t_-value. A _t_-value of 0.38 with 17 degrees of freedom was calculated. The two-tailed probability of this _t_-value was 0.71. Based on the analysis of this data, there was no significant difference between Group I and Group II's years of occupational experience. This finding was expected.

**Discriminant Analysis of Data**

The analysis of hypothesis six will be made as follows: statement of the hypothesis and a presentation of results in two tables, followed by a verbal description. Table seven identifies the discriminating variable(s). Table eight will present the strength of that discrimination.

H06--There will be no significant discriminating affects by support and time ratios, as assessed by the _Personal_
Orientation Inventory (Shostrom, 1974); by affective competency, as assessed by the Affective Competency Inventory (Beebe, 1980); by years of teaching experience or years of occupational experience between Group I and Group II.

Table 7
Contribution of Variables to Discriminate Between Groups I and II

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilks' Lambda</th>
<th>F</th>
<th>Canonical Function</th>
<th>D.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>V3, Support Ratio</td>
<td>0.917</td>
<td>1.54</td>
<td>-0.053</td>
<td></td>
</tr>
<tr>
<td>V4, Time Ratio</td>
<td>0.926</td>
<td>1.35</td>
<td>-0.302</td>
<td></td>
</tr>
<tr>
<td>V5, Years of teaching</td>
<td>0.970</td>
<td>0.53</td>
<td>0.004</td>
<td>17</td>
</tr>
<tr>
<td>V6, Years of Occup. Experience</td>
<td>0.991</td>
<td>0.14</td>
<td>0.128</td>
<td></td>
</tr>
<tr>
<td>V34, ACI</td>
<td>0.292</td>
<td>41.22*</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>

* p<0.0000

A discriminant analysis (Nie et al., 1975) revealed an F value of 41.22 for the Affective Competency Inventory (Beebe, 1980). This F value produced a two-tailed probability of 0.0000. Based on the analysis of this data, there was a significant discriminating effect by the teachers' scores on the Affective Competency Inventory (Beebe, 1980). This finding was expected.
Table 8
Percent of "Grouped" Cases Correctly Classified
Based on the Affective Competency Inventory (ACI)

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group I</td>
</tr>
<tr>
<td>Group I</td>
<td>100.0%</td>
</tr>
<tr>
<td>(N=11)</td>
<td></td>
</tr>
<tr>
<td>Group II</td>
<td>6.7%</td>
</tr>
<tr>
<td>(N=15)</td>
<td></td>
</tr>
</tbody>
</table>

Since H06 was rejected with a discriminant analysis, further analysis of the Affective Competency Inventory (ACI) was undertaken. This discriminant analysis classified Group I's membership with 100% accuracy, and Group II's membership with 93.3% accuracy. The results of this analysis suggests that all members of Group I were affectively competent as measured by the ACI. However, members of Group II exhibited less affective competence as compared to Group I teachers except for one individual who was placed in Group I. This misplacement explains the 6.7% in Table 8.

One explanation why this individual was not correctly placed in the appropriate group could be instrument related. Both the CIEQ and the ACI could be inadequate as predictors. This inappropriate placement could have occurred initially when the CIEQ was used to determine the two groups, or it may have occurred during administration or
other use of the ACI.

Another explanation may be an overlap of the extreme tails of the distribution curves of each group. A visual perusal of the all-groups stacked histogram on page 40 suggests that this could be true. A further examination of the histogram suggests that perhaps with larger groups not only would individuals from Group II appear in Group I territory, but individuals from Group I may appear in Group II territory.

A third explanation could involve student related problems. Misinterpretation of the questions and/or terms and phrases used in the instruments, or a different perceptual reference concerning those questions, terms, and phrases than was intended could explain the inappropriate placement. Purposefully or willfully answering questions on the instruments that would cause embarrassment to the teacher involved could also explain inaccuracies. In this case, since a Group II teacher appeared in Group I territory, it would appear that intentionally incorrect answers, if used, were entered by the student for humanitarian reasons in an attempt to help the teacher. To properly formulate a correct hypothesis concerning why the teacher appeared in the unanticipated group would require knowing the individual and having further information about the misplacement. Not having this information makes further speculation about the unanticipated placement inappropriate.
Table 9
All-Groups Stacked Histogram
Canonical Discriminant Function 1

<table>
<thead>
<tr>
<th>8 +</th>
<th>6 +</th>
<th>4 +</th>
<th>2 +</th>
<th>OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<td>2</td>
<td>2</td>
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<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Group 2    Group 1
Centroid    Centroid

$8 +$ 
$6 +$ 
$4 +$ 
$2 +$ 
OUT
Review of these data indicates that four of the six hypotheses, H02, H03, H04, and H05, could not be rejected due to no significant difference between group means. PSVTE students at Utah Technical College do not perceive any significant differences between Group I and Group II PSVTE teachers at the .05 level of significance based on time ratio, support ratio, years of teaching experience or years of occupational experience. However, PSVTE students at Utah Technical College did perceive a significant difference between Group I and Group II PSVTE teachers at a p 0.0000 significance based on the Affective Competency Inventory. Further, the only variable in this study capable of discriminating between Group I and Group II teachers at UTC was the Affective Competency Inventory (Beebe, 1980).

Since the Affective Competency Inventory (Beebe, 1980) exhibits a high Cronbach alpha validity coefficient (.972) (Beebe, 1980), and reliability coefficient (.56) (Beebe, 1980), these statistics provide highly significant results which are valid and reliable to the specific population studied (contracted, full-time day PSVTE teachers at UTC participating in this study) and other comparable populations.
Chapter V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes this study in two parts. First, the purpose of the study and the research hypotheses with their results will be presented. Second, the conclusions and recommendations for further study will be presented.

Purpose of the Study

The primary purpose of the study was to measure the importance of student-perceived affectivity of post-secondary vocational/technical teachers. A secondary purpose was to examine discriminant relationships among selected teacher demographic data and student evaluations.

Hypotheses and Results

The following hypotheses were generated to answer the research questions.

H01--There will be no significant difference between the affective competencies of Group I and Group II as assessed by the Affective Competency Inventory (Beebe, 1980).

H01 was rejected due to a significant difference between the means of Group I and Group II on their Affective
Competency Inventory (Beebe, 1980). This indicates that there was a significant difference between the means of Group I and Group II based on their Affective Competency Inventories, indicating that Group I exhibits more affective competencies.

H02--There will be no significant difference between the time ratios of Group I and Group II as assessed by the Personal Orientation Inventory (Shostrom, 1974).

H02 was accepted due to no significant difference between the means of Group I and Group II on their time ratios. This suggests that Group I and Group II are similar in their careful use of time versus misuse or waste of time. Further Group I and Group II are similar in their ability or inability to avoid bringing past guilts and/or fears into their decision-making process.

H03--There will be no significant difference between the support ratios of Group I and Group II as assessed by the Personal Orientation Inventory (Shostrom, 1974).

H03 was accepted due to no significant difference between the means of Group I and Group II on their support ratios. This indicates that Group I and Group II are similar in their ability to see themselves either as self directed or as "victims" of external forces that direct their lives.

H04--There will be no significant difference between Group I and Group II's years of teaching experience.
H04 was accepted due to no significant difference between the means of Group I and Group II on years of teaching experience. This suggests that years of teaching experience do not necessarily make one a better teacher as evaluated by students.

H05--There will be no significant difference between Group I and Group II's years of occupational experience.

H05 was accepted due to no significant difference between means on years of occupational experience. This suggests that years of occupational experience do not necessarily contribute to a high rating by students as a PSVTE teacher.

H06--There will be no significant discriminating effects by support and time ratios, as assessed by the Personal Orientation Inventory (Shostrom, 1974); by affective competency, as assessed by the Affective Competency Inventory (Beebe, 1980); by years of teaching experience and/or years of occupational experience between Group I and Group II.

H06 was rejected due to a significant discriminating level based on Variable 34, Affective Competency Inventory (Beebe, 1980). This indicates that Variable 34 possesses a significant discriminating value between Group I and Group II, and based on PSVTE student evaluation, distinctions can be made between Group I and Group II teachers.
Conclusions

Affective competence, as measured by the Affective Competence Inventory (Beebe, 1980), is seen by PSVTE students as the only important variable of the five tested in evaluating PSVTE teachers. This conclusion is similar to results obtained by other researchers. Kravas (1974, 1975), Morgan (1976), Sinnett (1976), Stone (1973), Loveless (1975), Ryan (1975), Brown (1975), and Weinstein and Fantini (1970), et al. have all noted the importance of the affective domain of education and its many facets.

The results of this study have shown that PSVTE teachers who exhibit affective competencies are rated higher by their students than PSVTE teachers who exhibit these traits to a lesser extent.

Since the primary function of the PSVTE teacher is to teach, then each of the educational domains--cognitive, psychomotor, and affective--must be explored. This study suggests that a priority listing of educational domains may be necessary. Skills and knowledge are necessary to properly function as a PSVTE teacher, but this study views the affective domain as an umbrella under which cognitive and psychomotor skills could be placed.

Affective competencies give the PSVTE teacher an ability to create a positive learning environment. Within that environment, the affectively competent teacher creates harmonious interpersonal relationships. The positive learning
environment in concert with the interpersonal relationships represent, according to Rogers (1979), the educational amnionic fluid environment which implies safety, protection, and control of that environment. Brown (1975), on the other hand, would label this same learning environment an "open" or "live" classroom, implying a safe place in which to communicate, and protection from negative feedback. Both Rogers (1979) and Brown (1975) imply that the classroom environment is the responsibility of the affectively competent teacher.

Since ACI can effectively discriminate between those PSVTE teachers that students evaluate highly as compared to those PSVTE teachers that were evaluated lower, then ACI could be used as an instrument to help diagnose affectively oriented problems of PSVTE. The results of this diagnosis could be used to establish individual and small group inservice programs, if, in fact, training will help.

The ACI could also guide professional development of future PSVTE teachers by identifying their strengths and weaknesses in those areas that make up affective competency; i.e., insight to student feelings, neatness and orderliness, productivity, reliability, believability, cooperativeness, awareness, being presentable, communicating, adaptability, and a student-centered, genuinely caring attitude.
Recommendations

This study has implications for selecting, training, educating, and evaluating PSVTE teachers.

Since Group I PSVTE teachers were rated higher than Group II PSVTE teachers by their students, then the concept of affective competencies should be a legitimate concern for teacher educators. Peck & Tucker (cited in Travers, 1973) points out that the acquisition of affective competencies is left to chance. Rarely is the concept or the importance of the actuality of affective competencies addressed through legitimate curricula. If affective competencies are not addressed in teacher education and an individual is not blessed with instinctive affective competencies, then how can a teacher acquire those affective skills that PSVTE students find so important, if in fact, they can be acquired?

Recommendation #1:

Because affective competencies should be included in PSVTE teacher education curricula, then a comprehensive review of PSVTE teacher education objectives should be undertaken. This review should be guided by the critical need to identify curriculum elements which should include affective competency objectives.

Recommendation #2:

Since affective competencies were rated higher for Group I teachers by their students, an evaluation of PSVTE teacher's affective competencies should be conducted. If
such evaluation is not conducted, how is one to know if his/her affective skills are adequate? And if they aren't adequate, where and what are the problems? And if they are adequate, to what extent are they adequate?

**Recommendation #3:**

Affectively competent PSVTE teachers should be identified and rewarded with significantly higher salaries; positive focus such as merit awards, articles about their teaching, interviews on the media, recognition in the professional publications; and other status-promoting and money-driven reward systems.

**Recommendation #4:**

This study be replicated and additional independent variables be identified and added to those used to distinguish between Group I and Group II teachers. An examination of social, psychological, cultural, physical, and/or moral attributes would seem logical. This examination could help to further identify significant distinguishing characteristics between Group I and Group II teachers.

Two new areas of behavioral study which may help to explain affective competencies are hypnosis, and neuro-linguistic programming.

Erickson, Rossi, and Rossi (1976); Erickson, and Rossi (1981); and Field (1979) define hypnosis as a multi-level, complex form of harmonic communication which the therapist
utilizes and which becomes part of a deep close relationship with the subject. Once this deep close relationship is formed the subject suspends self controls and defenses thereby allowing the therapist to have great influence and impact upon the subject by allowing information to be more easily transmitted from the therapist to the subject.

Logic suggests that if teacher is substituted for therapist, and student is substituted for subject in the above statement, and if the information is content oriented, hypnosis could be seen as a process to facilitate learning, and should be examined within the educational context. Hypnosis may contribute to the differences between Group I and Group II teachers. Affectively competent PSVTE teachers may possess the ability to use hypnosis in the classroom.

Recommendation # 5:

Research be conducted to examine significant differences between Group I and Group II teachers based on hypnotic facilitation of learning in the PSVTE classroom.

Neuro-linguistic programming (NLP) (Bandler & Grinder, 1979) is a process wherein one is able to recognize and "tune into" another person's referential index. The basic premise of neuro-linguistic programming (NLP) is that people are oriented toward a visual, auditory, or kinesthetic reference in their ability to perceive events. In other words, people either "see", "hear" or "feel" past or present events, and the circumstances surrounding these events. To
effectively influence the subject, the therapist must first recognize the subject's particular referential index, then, by aligning his/her own referential index with the subject's, establish a communication. Since this communication is based on a similar index, the communication has more influence on the subject's behavior, and responses to the therapist. Once again, if student is substituted for subject, and teacher for therapist, implications for research emerge.

Perhaps the Group I teachers are better able to correctly perceive a student's referential index better than the Group II teachers, thereby structuring their responses more appropriately to the student's needs.

**Recommendation # 6:**

A study be conducted designed to examine the differences between Group I and Group II teachers based on NLP. Additionally, other facets of NLP be examined as they relate to the learning environment.

**Recommendation # 7:**

Answers to questions such as those that follow should be made the subject of study.

1. What exactly is affective competence? How should it be defined?

2. What are the factors that produce affective competence?

3. Can affective competence be learned, or is it
innate to the individual?

4. How can affective competence be measured more completely?

5. Can affective competence be nurtured, and, if so, how?

7. Can affective competence be effectively played as a facade?
APPENDIX A
List of Variables
V1 ID/
V2 CARD NUMBER/
V3 SUPPORT RATIO/
V4 TIME RATIO/
V5 YEARS OF TEACHING/
V6 YEARS OF OCCUPATIONAL EXPERIENCE/
V7 INSTRUCTOR HAD A SPECIAL INSIGHT INTO STUDENT FEELINGS/
V8 NEAT AND ORDERLY/
V9 ABLE TO GET THINGS DONE/
V10 RELIABLE/
V11 BELIEVABLE/
V12 COOPERATIVE/
V13 KNEW WHAT WAS GOING ON/
V14 LOOKED THE PART/
V15 KNEW HOW TO COMMUNICATE/
V16 ADAPT TO STUDENT NEEDS/
V17 WAS IN HARMONY/
V18 LOOKED ME IN THE EYE/
V19 GENUINELY INTERESTED IN HELPING STUDENTS/
V20 TURNED ME ON TO SCHOOL/
V21 MADE ME FEEL CONFIDENT/
V22 WAS SURE OF SELF/
V23 OFTEN ANGRY/
V24 OFTEN SARCASTIC/
V25 CREATED GOOD FEELINGS IN CLASS/
V26 PUT STUDENTS DOWN/
V27 WAY OF ANNOYING TALKING/
V28 ANNOYING POSITION/
V29 DISTURBING MANNERISMS/
V30 DIDNT LIKE LOOK/
V31 DIDNT LIKE HANDS AND ARMS/
V32 INAPPROPRIATE LANGUAGE/
V33 RATING CN CIEQ/
V34 RATING ON ACT/
V7 TO V32(4)STRONGLY AGREE(3)AGREE(2)DISAGREE(1)STRONGLY DISAGREE/
V33(1)HIGH(2)LOWN/
V5 TO V32(0)
GENERAL=ALL
ALL
APPENDIX B

Computer Program, T-Test
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>NUMBER OF CASES</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>STANDARD ERROR</th>
<th>F-VALUE 2-TAIL PROB.</th>
<th>POOLED VARIANCE ESTIMATE</th>
<th>SEPARATE VARIANCE ESTIMATE</th>
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<tr>
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<td>0.007</td>
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<td>0.674</td>
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<td></td>
<td>GROUP 2</td>
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<td>6.0933</td>
<td>5.3450</td>
<td>1.177</td>
<td>1.25</td>
<td>0.674</td>
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<tr>
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<td>1.41</td>
<td>0.509</td>
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<tr>
<td></td>
<td>GROUP 2</td>
<td>15</td>
<td>75.4933</td>
<td>5.6081</td>
<td>1.467</td>
<td>1.41</td>
<td>0.509</td>
</tr>
</tbody>
</table>
APPENDIX C

Computer Program, Discriminant Analysis
DISCRIMINANT ANALYSIS ON GROUPS DEFINED BY V33 RATING ON CIEQ

26 (unweighted) cases were processed.
7 of these were excluded from the analysis.
0 had missing or out-of-range group codes.
7 had at least one missing discriminating variable.
0 had both.
19 (unweighted) cases will be used in the analysis.

NUMBER OF CASES BY GROUP

<table>
<thead>
<tr>
<th>V33</th>
<th>UNWEIGHTED</th>
<th>WEIGHTED</th>
<th>LABEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td>9.0</td>
<td>HIGH</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>10.0</td>
<td>LOW</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19</td>
<td>19.0</td>
<td></td>
</tr>
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</table>

GROUP MEANS

<table>
<thead>
<tr>
<th>V33</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.01111</td>
<td>4.75555</td>
<td>16.77778</td>
<td>13.11111</td>
<td>90.45555</td>
</tr>
<tr>
<td>2</td>
<td>2.54000</td>
<td>8.01000</td>
<td>14.20000</td>
<td>12.00000</td>
<td>74.45999</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2.28947</td>
<td>6.46942</td>
<td>15.42105</td>
<td>12.52632</td>
<td>82.03084</td>
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</table>
### Group Standard Deviations

<table>
<thead>
<tr>
<th></th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V34</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.92280</td>
<td>6.56241</td>
<td>7.32765</td>
<td>6.77208</td>
<td>5.27113</td>
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<tr>
<td>2</td>
<td>0.33160</td>
<td>5.04534</td>
<td>7.99722</td>
<td>6.14936</td>
<td>5.55342</td>
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<tr>
<td>TOTAL</td>
<td>0.94039</td>
<td>6.19323</td>
<td>7.58885</td>
<td>6.29257</td>
<td>9.75193</td>
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</tbody>
</table>

### Pooled Within-Groups Covariance Matrix with 17 Degrees of Freedom

<table>
<thead>
<tr>
<th></th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V34</th>
</tr>
</thead>
<tbody>
<tr>
<td>V3</td>
<td>0.3584052</td>
<td>37.13831</td>
<td>59.12680</td>
<td>40.2730</td>
<td>29.40273</td>
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<tr>
<td>V4</td>
<td>1.297673</td>
<td>-4.232876</td>
<td>-13.22222</td>
<td>51.58170</td>
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<tr>
<td>V5</td>
<td>0.0260124</td>
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</tr>
<tr>
<td>V6</td>
<td>-1.747712</td>
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<td>-9.979643</td>
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<tr>
<td>V34</td>
<td>-0.2653568</td>
<td>-0.979643</td>
<td>0.1582912</td>
<td>4.79093</td>
<td>29.40273</td>
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</table>

### Pooled Within-Groups Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V34</th>
</tr>
</thead>
<tbody>
<tr>
<td>V3</td>
<td>1.00000</td>
<td>0.53405</td>
<td>0.11594</td>
<td>-0.29253</td>
<td>-0.05292</td>
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<tr>
<td>V4</td>
<td>0.53405</td>
<td>1.00000</td>
<td>-0.09140</td>
<td>-0.35470</td>
<td>0.30200</td>
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<tr>
<td>V5</td>
<td>0.11594</td>
<td>-0.09140</td>
<td>1.00000</td>
<td>-0.26066</td>
<td>0.00380</td>
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<tr>
<td>V6</td>
<td>-0.29253</td>
<td>-0.35470</td>
<td>-0.26066</td>
<td>1.00000</td>
<td>0.12310</td>
</tr>
<tr>
<td>V34</td>
<td>-0.05292</td>
<td>0.30200</td>
<td>0.00380</td>
<td>0.12310</td>
<td>1.00000</td>
</tr>
</tbody>
</table>

Correlations which cannot be computed are printed as 99.0.
### Wilks' Lambda (U-Statistic) and Univariate F-Ratios

**WITH 1 AND 17 DEGREES OF FREEDOM**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Wilks' Lambda</th>
<th>F</th>
<th>Significance</th>
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</thead>
<tbody>
<tr>
<td>V3</td>
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<td>1.544</td>
<td>0.2310</td>
</tr>
<tr>
<td>V4</td>
<td>0.92639</td>
<td>1.351</td>
<td>0.2612</td>
</tr>
<tr>
<td>V5</td>
<td>0.96964</td>
<td>0.5323</td>
<td>0.4756</td>
</tr>
<tr>
<td>V6</td>
<td>0.99180</td>
<td>41.22</td>
<td>0.7123</td>
</tr>
<tr>
<td>V34</td>
<td>0.29200</td>
<td>0.292</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

**Covariance Matrix for Group 1, High**

\[
\begin{array}{cccccc}
V3 & V4 & V5 & V6 & V34 \\
V3 & 1.04611 & & & & \\
V4 & 5.32180 & 43.69528 & & & \\
V5 & 0.77777 & 0.51383 & 53.69444 & & \\
\end{array}
\]

**Covariance Matrix for Group 2, Low**

\[
\begin{array}{cccccc}
V3 & V4 & V5 & V6 & V34 \\
V3 & 0.69156 & & & & \\
V4 & 1.05400 & 31.36989 & & & \\
V5 & 0.86888 & -8.13555 & 63.95556 & & \\
V6 & -0.21111 & -8.02222 & -14.66667 & 37.77770 & \\
V34 & 1.11067 & -5.30400 & -5.34668 & -10.74444 & 30.84046 \\
\end{array}
\]
TOTAL COVARIANCE MATRIX WITH 18 DEGREES OF FREEDOM

<table>
<thead>
<tr>
<th></th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V34</th>
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<tbody>
<tr>
<td>V3</td>
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<td>37.86228</td>
<td>57.59064</td>
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</table>
DISCRIMINANT ANALYSIS ON GROUPS DEFINED BY V33 RATING ON CIEQ

ANALYSIS NUMBER 1

STEPWISE VARIABLE SELECTION

SELECTION RULE: MINIMIZE WILKS' LAMBDA

MAXIMUM NUMBER OF STEPS: 10

MINIMUM TOLERANCE LEVEL: 0.00100

MINIMUM F TO ENTER: 1.0000

MAXIMUM F TO REMOVE: 1.0000

CANONICAL DISCRIMINANT FUNCTIONS

MAXIMUM NUMBER OF FUNCTIONS: 1

MINIMUM CUMULATIVE PERCENT OF VARIANCE: 100.00

MAXIMUM SIGNIFICANCE OF WILKS' LAMBDA: 1.0000

PRIOR PROBABILITY FOR EACH GROUP IS 0.50000

VARIABLES NOT IN THE ANALYSIS AFTER STEP 0

<table>
<thead>
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<th>VARIABLE</th>
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<th>WILKS' LAMBDA</th>
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</tr>
<tr>
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<tr>
<td>V6</td>
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<td>0.9917951</td>
</tr>
<tr>
<td>V34</td>
<td>1.0000000</td>
<td>0.2519998</td>
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</table>
AT STEP 1, V34 WAS INCLUDED IN THE ANALYSIS.

<table>
<thead>
<tr>
<th>VARIABLE TO REMOVE</th>
<th>TOLERANCE</th>
<th>F TO REMOVE</th>
<th>WILKS' LAMBDA</th>
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<td>V34</td>
<td>1.000000</td>
<td>41.219</td>
<td></td>
</tr>
</tbody>
</table>

---

VARIABLES NOT IN THE ANALYSIS AFTER STEP 1

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>TOLERANCE</th>
<th>MINIMUM TOLERANCE</th>
<th>F TO ENTER</th>
<th>WILKS' LAMBDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>V3</td>
<td>0.9971996</td>
<td>0.9971996</td>
<td>0.22455</td>
<td>0.2879585</td>
</tr>
<tr>
<td>V4</td>
<td>0.9087947</td>
<td>0.9087947</td>
<td>0.18240</td>
<td>0.2807085</td>
</tr>
<tr>
<td>V5</td>
<td>0.9999856</td>
<td>0.9999856</td>
<td>0.13669</td>
<td>0.2895763</td>
</tr>
<tr>
<td>V6</td>
<td>0.9835907</td>
<td>0.9835907</td>
<td>0.559300-01</td>
<td>0.2909827</td>
</tr>
</tbody>
</table>

---

F STATISTICS AND SIGNIFICANCES BETWEEN PAIRS OF GROUPS AFTER STEP 1

<table>
<thead>
<tr>
<th>GROUP 1</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP 2</td>
<td>LOW</td>
</tr>
<tr>
<td></td>
<td>41.219</td>
</tr>
<tr>
<td></td>
<td>0.0000</td>
</tr>
</tbody>
</table>

F LEVEL OR TOLERANCE OR V1N INSUFFICIENT FOR FURTHER COMPUTATION.
### SUMMARY TABLE

<table>
<thead>
<tr>
<th>ACTION</th>
<th>VARS</th>
<th>WILKS' LAMBDA</th>
<th>SIG.</th>
<th>LABEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTERED</td>
<td>REMOVED</td>
<td>IN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>V34</td>
<td>1</td>
<td>0.292000</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

### CLASSIFICATION FUNCTION COEFFICIENTS

(FISHER'S LINEAR DISCRIMINANT FUNCTIONS)

- **V33** = HIGH
- **V34** = LOW

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>COEFFICIENT (CONSTANT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V34</td>
<td>3.076433</td>
</tr>
<tr>
<td>V34</td>
<td>-139.8334</td>
</tr>
</tbody>
</table>

### STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

- **V34** = 1.00000

### POOLED WITHIN-GROUPS CORRELATIONS BETWEEN CANONICAL DISCRIMINANT FUNCTIONS AND DISCRIMINATING VARIABLES

- **V14** = 1.00000
- **V6** = -0.30200
- **V6** = 0.12810
- **V1** = -0.05292
- **V5** = 0.00380
CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP     FUNC 1
1          1.55257
2          -1.39731

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE
OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL     RANK  LOG DETERMINANT
1 HIGH          1     3.324507
2 LOW           1     3.428826
POOLED WITHIN-GROUPS COVARIANCE MATRIX 1     3.381088

BOX'S M APPROXIMATE F DEGREES OF FREEDOM  SIGNIFICANCE
0.22969D-01  0.21664E-01  1, 859.0  0.8830
SYMBOLS USED IN PLOTS

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>GROUP</th>
<th>LABEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>HIGH</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>LOW</td>
</tr>
</tbody>
</table>

HISTOGRAM FOR GROUP 1 HIGH

-- CANONICAL DISCRIMINANT FUNCTION 1 --

CLASSIFICATION

GROUP CENTROIDS
CLASSIFICATION RESULTS -

<table>
<thead>
<tr>
<th>ACTUAL GROUP</th>
<th>NO. OF CASES</th>
<th>PREDICTED GROUP MEMBERSHIP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>GROUP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>LOW</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6.7%</td>
<td>93.3%</td>
</tr>
</tbody>
</table>

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 96.15%

CLASSIFICATION PROCESSING SUMMARY

26 CASES WERE PROCESSED.
0 CASES HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
26 CASES WERE USED FOR PRINTED OUTPUT.
### SUMMARY TABLE

<table>
<thead>
<tr>
<th>ACTION</th>
<th>VARS</th>
<th>WILKS' LAMBDA</th>
<th>SIG.</th>
<th>LABEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEP ENTERED</td>
<td>REMOVED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>V34</td>
<td>0.292000</td>
<td>0.0000</td>
<td>RATING ON ACT</td>
</tr>
</tbody>
</table>

### CLASSIFICATION FUNCTION COEFFICIENTS

(Fisher's Linear Discriminant Functions)

<table>
<thead>
<tr>
<th>V13 = 1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td></td>
</tr>
</tbody>
</table>

| V34 = 1.076433 | 2.532417 |
| CONSTANT = -139.8334 | -94.97504 |

### CANONICAL DISCRIMINANT FUNCTIONS

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>EIGENVALUE</th>
<th>PERCENT OF VARIANCE</th>
<th>CUMULATIVE PERCENT</th>
<th>CANONICAL CORRELATION</th>
<th>AFTER WILKS' LAMBDA</th>
<th>CHI-SQUARED</th>
<th>D.F.</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.424660</td>
<td>100.00</td>
<td>100.00</td>
<td>0.0414275</td>
<td>0.292000</td>
<td>0.0000</td>
<td>20.312</td>
<td>1</td>
</tr>
</tbody>
</table>

* Marks the 1 canonical discriminant function(s) to be used in the remaining analysis.

### STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

<table>
<thead>
<tr>
<th>FUNC 1</th>
<th>V34 = 1.00000</th>
</tr>
</thead>
</table>

### POOLED WITHIN-GROUPS CORRELATIONS BETWEEN CANONICAL DISCRIMINANT FUNCTIONS AND DISCRIMINATING VARIABLES

Variables are ordered by the function with largest correlation and the magnitude of that correlation.

<table>
<thead>
<tr>
<th>FUNC 1</th>
<th>V34 = 1.00000</th>
</tr>
</thead>
<tbody>
<tr>
<td>V4</td>
<td>-0.302800</td>
</tr>
<tr>
<td>V6</td>
<td>0.120110</td>
</tr>
<tr>
<td>V3</td>
<td>-0.05292</td>
</tr>
<tr>
<td>V5</td>
<td>0.001300</td>
</tr>
</tbody>
</table>
CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP   FUNC
1       1.55257
2       -1.39731

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

<table>
<thead>
<tr>
<th>GROUP LABEL</th>
<th>RANK</th>
<th>LOG DETERMINANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 HIGH</td>
<td>1</td>
<td>3.324507</td>
</tr>
<tr>
<td>2 LOW</td>
<td>1</td>
<td>3.428828</td>
</tr>
<tr>
<td>POOLED WITHIN-GROUPS COVARIANCE MATRIX</td>
<td>1</td>
<td>3.381088</td>
</tr>
</tbody>
</table>

BOX'S M APPROXIMATE F DEGREES OF FREEDOM SIGNIFICANCE
0.22989D-01  0.21684E-01  1,  859.0  0.8630
APPENDIX D

Letter from Dr. George I. Brown
7 December 1978

Mr. Robert Beebe
11132 South Redwood Road
South Jordan, Utah 84065

Dear Mr. Beebe:

Thank you for your letter of December 3. It caught me just before leaving for Europe so this reply will have to be a hasty one. In response to your questions: 1) yes, I think the study you suggest would be useful and relevant; 2) I would read Human Teaching for Human Learning and The Live Classroom, both under my name and available as Viking-Penguin books. That would be a beginning. Numbers 3, 4, 5, and 6 I cannot respond to at this time because they require a tremendous amount of time and effort which I do not have at this moment.

What I don't understand is why you were going to Ohio State University instead of applying here. I am not casting aspersions on Ohio State University, however, if the kind of work you want to do fits into the work we do here, it would seem to make more sense to be studying here.

I will be in Europe for a month and return the second week in January if you want to write to me then. I doubt very much that I will have time to work as a doctoral advisor for you because of demands from my own students which are heavy. But I wish you well anyhow.

Sincerely yours,

George I. Krum
Professor of Education
Program Leader,
Graduate Program in
Confluent Education

encl. Confluent Education Brochure
APPENDIX E

Letter from Dr. Lawrence E. Aleamoni
December 23, 1973

Mr. Robert B. Beebe
11132 South Redwood Road
South Jordan, UT 84065

Dear Bob:

Thank you for your note of December 14. I am glad to see that you have gotten yourself involved in a Ph.D. program, and in evaluations there at Utah Tech.

In response to your question about an instrument that could be used to measure affective behaviors of instructors in the context that you suggest of contrasting 'good' vs. 'poor' teaching, there have been several attempts in the literature to utilize student course and instructor evaluation instruments such as the one that I have worked on over the years. People at Kansas State have worked on, Berkeley, etc.; however, there is no one instrument that comes out as being clearly superior to anything that tends to be generated by those who have employed questionnaire design and analysis techniques and expertise. Basically, what I am saying is that there is not an established instrument that will do exactly what you want it to.

I think you can probably look at what is available and if you want to see what particular research has been done I would encourage you to look at publications over the past five years in Psychological Abstracts for titles of articles that are very close to what you are trying to do.

In response to the types of questions that you are posing, I think if you feel (and you are able to get some concurrence from others who are observing what is going on in the teaching setting) that those particular questions are the types that would get at exactly what you are trying to put your finger on in terms of contrasting 'good' versus 'poor' teaching, then there is no problem in setting them up that way. I think a great deal of care has to be taken in making sure that you are asking the right questions, which means that you have characterized the situation as accurately as possible. In terms of the way the questions should be stated, make sure that you ask for singular attitudes in each question and ask the questions in a format that allows the student to agree or disagree. The last two questions where you asked "Did the instructor talk in a way that I found annoying?" etc., are really yes or no questions. You do not get any degree of commitment to them. If you want to find out how annoying an instructor's speech was you need to provide degrees of annoyance or take an extreme position such as "The instructor speaks in a very annoying manner" and get agreement to disagreement in the range that will give you some indication of the strength and dimension of their feelings.
You might want to look at the Optional Item Catalog that I provide in addition to the CIEQ for faculty to select items from, as a means of either finding specific items to add to what you have come up with or use as models in generating your own. I think I left a copy there or sent a copy along, but if you do not find one let me know and I will send one out.

If I can provide you with any other information let me know. I look forward to hearing from you.

Cordially,

Lawrence M. Alesanoni
Director of IRAO
Professor of Educational Psychology

LMA/cal
REFERENCES


Archer, P. F.  *Student behavior and attitudes: The affective domain.* (ERIC Document Reproduction Service No. ED 184 599).


Beebe, R. B.  The Ohio State University course: Sociology 752--Scale Construction. Columbus, Ohio, 1980.


Brown, G. I.  The training of teachers for affective roles. In K. Ryan (Ed.), *Teacher education--the seventy-fourth yearbook of the National Society for the Study of*
Education (Part 2). Chicago: The University of Chicago Press, 1975, 174-175. (b)


Erickson, M. H., & Rossi, E. L. Experiencing hypnosis: Therapeutic approaches to altered states. New York:


Essex, D. W., & Liu, C. C. *A methodology to assess the content and structure of affective and descriptive meanings associated with the work environment.* Columbus, Ohio: The National Center for Research in Vocational Education, The Ohio State University, 1974.

Evans, R. N. *Foundation of vocational education.* Columbus, Ohio: Charles E. Merrill, 1971.


Hutkin, R. M. *Avocational approach to written communications.* Lincoln, Nebraska: Nebraska State Department of Education, Division of Vocational Education and Nebraska Research Coordinating Unit, University of Nebraska, 1975.


James, T. *Learning as practice into theory.* *Kappan,* 1980, 62, 185-188.


McMahon, G. U.  *Curriculum development in trade and industrial and technical education.* Columbus, Ohio: Charles E. Merrill, 1972.


Sage, J. E. As characteristics and needs profile of Ohio's Parts 1, 2, and 3). Columbus, Ohio: The Ohio State University, 1979.


Wiant, A. A. Transferable skills—the employer's viewpoint. Columbus, Ohio: The National Center for
Research in Vocational Education, The Ohio State University, 1977.
BIBLIOGRAPHY

Aleamoni, L. E. Personal communication, December 1978.


73(4), 229-232.

Communications and you. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1975.


Education and work: Two worlds or one. New Rochelle, New York: Change Magazine Press.


Helwig, C. Teacher evaluation: The state of the art and a solution (ERIC Document Reproduction Service No. ED 105 583).


Neville, B. Learning and personal qualities. Australian


Ohio Department of Education. Standards for colleges or universities preparing teachers. Columbus, Ohio, 1975.


Post-secondary teacher training: Module IS-2 instructional strategies. The Division of Occupational Research and Development, Department of Occupational and Technical Education, Texas Education Agency contract #52855402, Mount Pleasant, Texas: Education Service Center Region VIII.


Rogers, C. R. Freedom to learn. Columbus, Ohio: Charles E. Merrill, 1969.


Technical and industrial teacher's handbook. Colorado State University, undated. (Received in Utah Technical College Library 1975.)


