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Classroom Personalities of Effective Teachers within a Technical College Setting

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CLASSROOM PERSONALITIES OF EFFECTIVE TEACHERS WITHIN A TECHNICAL COLLEGE SETTING

by

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This study used student ratings to examine relationships between instructor personality and teaching effectiveness for technical college faculty. Research was specifically conducted to address three questions: (1) what personality traits are associated with effective teaching, (2) do the personality profiles of effective teachers differ by academic area, and (3) are there personality dimensions that distinguish above-average from below-average instructors.

Students enrolled in classes taught by instructors randomly selected from the accounting, computer information systems, marketing, and office occupations departments ar five Wisconsin technical colleges rated their instructors on 29 personality traits and 18 teaching behaviors. Pearson product-moment correlations were used to explore the relationship between personality and teaching ability. The 29 personality variables were subjected to a factor analysis in order to simplify comparisons between academic areas and effectiveness groups using analysis of variance techniques.

Survey data on 46 instructors teaching 102 different courses were collected from 1,306 students. Findings indicated that technical college students strongly associate teaching ability with an instructor who is sociable, fun-loving, intelligent, objective, and

showing leadership. Five personality factors or dimensions were derived: (1) Positive Approach, (2) Extroversion, (3) Systematic, (4) Achievement Oriented, and (5) Insecurity. Based on these dimensions, significant differences were found to exist between the personality profiles of instructors from the four academic areas. Significant, but less noteworthy, differences were also identified between highly effective teachers and their less effective counterparts.

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Fred Manley

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CHAPTER I

INTRODUCTION AND BACKGROUND

> I recall one undergraduate lecture on King Lear, during which a popular and dynamic professor stopped reading portions of a final scene and stood in front of a class of men while tears streamed down his face. He excused himself from the class, and while no one asked and he never ventured an explanation, that is one scene in literature whose power no one in that class will ever question or forget. It is important for a teacher to recognize which techniques work best for him or her and to rely on those most often. (Empric, 1986, p. 60)

I, too, recall my high school English teacher weeping as she read passages of David Copperfield. I have since learned that she had annually wept the same tears in front of freshman classes for 15 years preceding and following my presence in her class. All tolled, there are three decades of graduates from Crandon High School, the majority of which, can to this day tell you the author, setting, and basic story line of David Copperfield. This beautiful lady was quite prim, proper, and disciplined in her actions and I am sure that, if she had willed it so, she could have easily suppressed her emotions. But, she chose not to and, by not doing so, made a lasting impression upon her students.

In both of the above cases, instructors were willing to use not only their clinically defined techniques in the education of their students, but had learned to and were willing to draw upon other, more personal, reserves in order to accomplish their educational objectives. This principle of personal investment is embodied in the

sentiments of Bishop Spaulding as he noted, "A good teacher will find or devise good methods and will employ them with discernment, dealing with each pupil as an individual soul, unlike any other that exists or has existed" (as quoted by McKenny, 1910, p. 35).

On a more contemporary and national note, the authors of America's Choice: High Skills or Low Wages (1990) casually referred to the low international ranking of American students. A year later, in 1991, the National Education Goals Report informed Americans that fewer than 20% of their youth could be considered competent in math and, in the field of science, were considerably behind their counterparts in other advanced countries. In the words of the panel, "the performance gap is real" (p. 1).

These statements were mere echoes of the National Commission on Excellence in Education who warned in A Nation at Risk that "the educational foundations of our society are being eroded by a rising tide of mediocrity" (1983, p. 5). Among other findings, the Commission reported that the average college graduate of thirty years ago was better educated than today's average college graduate. To reverse this negative trend, the Commission challenged our educational leaders to develop a better understanding of the learning process and, specifically, to recruit faculty that "demonstrates an aptitude for teaching" (p. 30).

For centuries educators and researchers have sought to identify what human qualities constitute an aptitude for teaching. Horace Mann, in 1840, noted that "Aptness to teach involves the power of perceiving how far a scholar understands the

subject-matter to be learned, and what, in the natural order, is the next step he is to take. It involves the power of discovering and of solving at the time the exact difficulty by which the learner is embarrassed" (as quoted by Filler, 1965, p. 71). Mann further clarifies that a person

> who is apt to teach is acquainted, not only with common methods for common minds, but with peculiar methods for pupils of peculiar dispositions and temperaments; and he is acquainted with the principles of all methods by which he can vary his plan according to any difference of circumstances (as quoted by Filler, p. 73).

The powers and methods that Mann refers to are continually being studied and documented. Although we, as a society, are making progress in understanding the process of learning, there are many mysteries yet to be solved. The words of Lord Bacon are as true now as they were more than three centuries ago when he remarked "the art of well-delivering the knowledge we possess is among the secrets left to be discovered by future generations" (as quoted by Filler, 1965, p. 71). Our generation can only strive to make a respectable contribution to this noble and worthwhile effort.

Statement of the Problem

Educational research is, by definition, filled with studies that attempt to examine the nature of learning and, consequently, the nature of teaching. Variables surrounding the student have been explored, variables associated with the teacher have been examined, and variables connected with the school and classroom have been operationalized and manipulated. Social, economic, ethnic, psychological, genetic, physiological, and political variables have all been the subject of numerous research

projects. Studies on learning have been conducted from the cradle to the grave: preschool, kindergarten, elementary school, middle school, junior high, senior high, college, graduate school. As one reviews this accumulated body of knowledge, one point becomes obvious: the factors that affect the teaching-learning process are complex with many variables and relationships yet to be explored.

The fact that effective teaching has been questioned, analyzed, and documented is apparent and indisputable. However, one population or context that has not received an equal amount of investigative effort is that of the two-year technical or community college. As Janice Barnsley (1993) notes, "There is an appalling lack of research-based literature about the effective teacher in the community college" (p. 2655). Although considerable research has focused on postsecondary education, the vast majority of this research has been conducted within the setting of a four-year university. It should be noted that the philosophies and goals of these two postsecondary systems are quite different.

In the state of Wisconsin, for example, the state legislature established the university of Wisconsin system and charged it with a mission "to develop human resources, to discover and disseminate knowledge, to extend knowledge and its application beyond the boundaries of its campuses and to serve and stimulate society by developing in students heightened intellectual, cultural and humane sensitivities, scientific, professional and technological expertise (Wisconsin Statutes, 1994, 36.01(2)). In contrast, the statutory purpose of the Wisconsin technical college system is to "Provide occupational education and training and retraining programs, including

the training of apprentices, that enable residents to obtain the knowledge and skills necessary for employment at a technical, paraprofessional, skilled or semiskilled occupation" (Wisconsin Statutes, 38.001(2a)).

Generally speaking, a four-year university is expected to provide students with a well-rounded, liberal art education with a focus on a major field of study, e.g., mathematics, English, or computer science. In comparison, a two-year technical college is commissioned to train students in those skills required for entry-level employment in a specific occupation, e.g., accountant, secretary, or computer programmer.

Given that the underlying philosophies and methodologies of these two systems are significantly different, this author devoted his research to the study of effective teaching within the context of a technical college system. Specifically, this dissertation examines the personal traits and behaviors of technical college instructors and develops a personality profile for an effective technical college teacher. This author contends that there are distinctive personality traits inherent to a teacher, namely one who functions effectively within the culture and framework of a two-year technical college.

Purpose of the Study

The purpose of this study was to identify and examine personality traits that are congruent with effective teaching for instructors at several technical colleges within the state of Wisconsin. It is hoped that these findings will aid institutions in

the training of student teachers, will assist administrators in the hiring of new faculty, and will guide supervisors in developing highly competent educators.

Using two-year technical colleges as the setting for this study was intended to help fill a partial void in postsecondary educational, research that has, previously, focused primarily on four-year universities. Consequently, this study may encourage other researchers to consider the technical college environment for their investigative efforts. Differences and similarities between such studies as this and those conducted within a university setting can only strengthen both educational systems.

Research Questions

1. Is there a relationship between the personality of a technical college instructor and that instructor's teaching ability? If so, what personality traits are associated with effective teaching?

2. Does the personality profiles of effective technical college instructors differ between academic areas? If so, what are the discriminating personality factors?

3. Does personality distinguish above-average from below-average technical college instructors? If so, what personality dimensions are important in a highly effective teacher?

These questions were addressed in this study by surveying students enrolled in technical college courses and asking them to rate their instructor's personality and teaching effectiveness. Correlational, factor analytical, and analysis of variance

techniques were then used to investigate relationships between effectiveness, personality, and academic area.

Assumptions and Limitations of the Study

This study was fashioned after the research of Murray, Rushton, and Paunonen (1990) who identified and analyzed the personality traits of instructors teaching at the University of Western Ontario; this author acknowledges their methodology and instrumentation as the basis for this study.

This study assumed that the survey instruments have an acceptable degree of reliability and validity and that the random sample of colleges, courses, instructors, and students was representative and normal with respect to the population of the Wisconsin Technical College System. This study was not intended to be a formal analysis of the effectiveness or personalities of two-year technical college instructors in comparison to four-year university instructors.

Students were used in this study as the raters for both personality traits and teaching behaviors of the instructors and, as such, were not trained professionals in either of these areas. Admittedly, student opinions are subjective and undisciplined and are rarely based upon any established, objective criteria. However, students are the front-line consumers of this educational process and, therefore, their perceptions and opinions are certainly as practical, relevant, and useful as that of any trained observer.

Summary

This chapter has provided an overview as to the importance of quality education as it relates to the mission and philosophy of the technical college system. The concepts of personality and teaching effectiveness were introduced along with a brief summary of related literature and research in these areas. The purpose of this study was to compensate for the lack of educational research conducted within the context of the technical college system by examining the relationship between instructor personality and teaching effectiveness. Broad research questions were stated followed by a general description of the methodology employed.

Chapter II is devoted to a review of pertinent research literature and results. This will include the related areas of teaching effectiveness, academic achievement, personality, and the reliability and validity of student ratings. Chapter III describes the design of the current study including the methodology, survey instruments, data collection process, statistical procedures, and limitations. Demographical information and analytical results are reported in Chapter IV. Chapter V summarizes the research findings, discusses the implications of the current study, and provides suggestions for further research.

CHAPTER II

LITERATURE REVIEW

Introduction

The purpose of this study was to explore the relationship between personality and teaching by developing the personality profile of an effective technical college instructor. Further analysis was performed to determine whether personality varies between academic area and to ascertain what personality dimensions distinguish above-average from below-average instructors.

The literature reviewed in this chapter will provide the context for the current study. It will establish the function of a teacher, describe the components of effective classroom instruction, explore the classroom factors documented as having an influence on effective instruction, examine previous educational research that has focused on student personality and teacher personality, and considers the appropriateness and applicability of student ratings. In general, background material and historical data related to instructional effectiveness and personality will be identified and discussed.

The Literature

The Role of a Teacher

In stating his pedagogic creed, John Dewey in 1897 declared, "I believe that the school is primarily a social institution" (as quoted by Dworkin, 1959, p. 22). Indeed, the act of teaching is a social process whereby two or more people talk, listen, gesture, observe, and react to one another. Education is a very interpersonal experience or, as Peter Beidler (1986) expressed it, "Teaching is a 'people' activity. We professors teach a subject, to be sure, but we are not professors without the people we teach it to, and we would not have become professors without the people we learned it from" (p. 3).

So, the role of a teacher is twofold: (1) technical and (2) personal. The technical competencies of teaching involve those activities that are characteristic of the professions that are contractually required to fulfill the function, i.e., being knowledgeable about the subject, preparing well-organized presentations, providing understandable explanations, reciting meaningful examples, and evaluating student progress. In addition to performing those tasks that help the student to learn the subject matter, teachers are morally obligated to aid in the development of the individual as a responsible member of society. As Weimer (1990) observes, "Faculty needs to teach students how to think critically, how to analyze, synthesize, and evaluate information, how to question, and how to articulate ideas clearly and collaborate with others" (p. 8).

The personal competencies of teaching "are those that humanize the classroom and make students feel they have worth as individuals" (Jones, 1989, p. 557). A teacher who can make a favorable impression upon students can draw upon this positive relationship to facilitate the teaching-learning process. Again, in the words of John Jones, "The activity of teaching is essentially one of human interaction, and as such is arguable that it should be inextricably linked with the 'personal' qualities that characterize the situation, if the optimal use is to be made of it" (p. 558).

Given that human interaction is necessary in the educational process, the personalities of the people involved have a direct impact not only on the course of events but on the lasting impressions that result from those events. In particular, the character of the teacher, as much as the techniques employed by the teacher, has an influence on the interactions that take place in the classroom and on what is retained, or learned, by each student. In discussing instructor effectiveness, Raymond Perry (1985) notes, "When students identify characteristics they associate with good teaching, they most often use terms such as enthusiasm, rapport, charisma, dynamism, and personality" (p. 35).

Conditions That Influence Learning

The ultimate goal of educational research is to identify conditions which not only influence learning but can be manipulated to enhance learning. Conditions over which we have no control are interesting but have no practical application. In general,

the conditions over which we do have control can be grouped into two categories: (1) instructor-related and (2) course-related.

Dimensions of Instructional Effectiveness

This discussion focuses on the items included on course evaluations that students are asked to complete usually near the end of a course. The fundamental question that researchers have struggled with is one of construct validity, i.e., what are the valid constructs, factors, or dimensions that constitute instructional effectiveness. There appears to be agreement that instructional effectiveness is not based upon a single indicator but is multidimensional (Kulik & McKeachie, 1975; Centra, 1979; Marsh, 1984). The disagreement occurs in defining what these dimensions are and the degree to which they should be considered. It should be noted that factor analysis has played an important role in limiting the number of dimensions under discussion.

Early studies by Smalzreid and Remmers (1943), Creager (1950), and Bendig (1954) agreed upon two factors that could be characterized as Empathy/Rapport and Professionalism/Competence. Gibb (1955) identified four behavioral factors he labeled as Friendly Democratic, Communication, Organizational, and Academic Emphasis. Isaacson, et al. (1964) extracted six factors that they called Skill, Rapport, Structure, Overload, Feedback, and Interaction. Hartley and Hogan (1972) derived four factors from their research that they chose to call Overall Evaluation, Structure/Organization, Student-Teacher Interaction, and Load/Difficulty. In general,

there would appear to be a basic consensus in these early studies on the underlying constructs that contribute to instructional effectiveness.

More recent research tends to support and expand upon previous conclusions. Frey (1973) arrived at six factors that he designated as Student Accomplishment, Workload, Organization/Planning, Grading, Teacher Presentation, and Teacher Accessibility. Centra (1977) defined nine factors labeled as Student Effort, Lectures, Examinations, Difficulty/Workload, Reading Assignments, Objectives/Organization, Teacher-Student Relationship, Value of Course, and Overall Teaching Effectiveness. Cohen's (1981) synthesis of extant research revealed six common factors that he referenced as Skill, Rapport, Structure, Difficulty, Interaction, and Feedback. Marsh's (1983) meta-analysis concluded with nine factors that he called Learning/Value, Instructor Enthusiasm, Organization, Individual Rapport, Group Interaction, Breadth of Coverage, Examinations/Grading, Assignments/Readings, and Workload/Difficulty. Barton, Andrew, and Schwab (1994) used three factors they identified as Instruction, Interpersonal/Professional, and Leadership.

The amount of research about instructional effectiveness is impressive and this author does not presume to offer his own meta-analysis. However, some general areas or groupings may be noted. Constructs referred to as organization, planning, structure, presentations, lectures, and objectives all relate to Teaching Techniques and Methods. Factors labeled as examinations, grading, assignments, readings, and workload pertain to the Evaluation aspect of teaching. Finally, the dimensions of enthusiasm, rapport, interaction, accessibility, and communication are the Interpersonal Skills that are

essential to the teaching profession. Perhaps the point is that with the quantity and diversity of research, there is, surprisingly, a great deal on commonality and agreement as to the components that should be used in the evaluation of teaching effectiveness.

Course Characteristics

Extensive research has examined various course characteristics and how they interact with instructional effectiveness (see review by Feldman, 1978). In general, class size has been found to have an inverse relationship with course ratings, i.e., the greater the number of students enrolled in a course, the lower the ratings for the course (Perlman, 1973; Centra & Creech, 1976; Brandenburg, Slinde, & Batista, 1977). There also seems to be a general tendency for upper-level or advanced courses to receive higher student ratings (Pritchard, 1972; Brown, 1976; Elmore & Pohlman, 1978). Pohlman (1975) examined nine class characteristics (size, sex, GPA, etc.) and reported that the grade the student anticipated receiving in the course and the percentage of students taking the course as an elective had the highest correlations with student ratings of instruction. In studying the relationship between student achievement and teacher evaluations, Sullivan and Skanes (1974) reported significantly higher correlations for experienced (r=.685) and full-time (r=.528) instructors than for inexperienced (r=.007) and part-time (r=.132) instructors.

Personality

It is said that Socrates once discharged a student remarking, "I can teach him nothing, he does not love me" (as quoted by McKenny, 1910, p. 24). The teaching-learning process has traditionally relied upon a fruitful interaction between instructor and pupil. The character and personalities of both student and teacher can either facilitate or obstruct this process.

Student Personality

A modest amount of educational research has focused on the relationship between student personality traits and ratings of instructional effectiveness. For the most part, results have been insignificant. Yonge and Sassenrath (1968) studied the relationship between student self-reports of their personality and student ratings of teaching ability for instructors that exhibited drastically different teaching styles. Findings indicated that teaching style had a greater influence on ratings than did student personality traits.

Similarly, Costin and Grush (1973) reported that measures of effective classroom behavior were more highly correlated with student ratings of teacher personality than with student self-ratings of personality. In a later study, Grush and Costin (1975) again reported that correlations between student personality traits and teacher skill were not significant.

Finally, Abrami, Perry, and Leventhal (1982) conducted three separate but similar studies where students rated their own personalities and evaluated teaching ability. No meaningful relationships were found to exist.

Teacher Personality

Searching the journals on educational research, one finds numerous studies dealing with the degree of association between teacher personality and ratings of instructional effectiveness (see review by Feldman, 1986). Many of these investigations have reported the existence of statistically significant relationships.

Sherman and Blackburn (1975) reported a .77 personality-effectiveness correlation based on fifteen hundred student evaluations of 108 instructors. Instructors perceived by their students as dynamic, pragmatic, amicable, and intellectual received high ratings as competent instructors. Murray (1975) had peers rate the personalities of their fellow psychology professors. Student measures of successful teaching were strongly associated with instructor traits of leadership, extroversion, objectivity, and (lack of) anxiety. Tomasco (1980) collected 316 student ratings on instructor personality and teaching behavior. Results indicated that college professors characterized as industrious, friendly, helpful, aggressive, perfectionistic, non-authoritarian, and humble were also highly regarded as effective teachers. Rushton, Murray, and Paunonen (1983) reported strong correlations of .40 and higher between peer ratings of extroversion, leadership, liberalism, supportiveness, exhibitionism, objectivity, and cheerfulness and student ratings of teaching effectiveness.

Several studies have investigated the interaction of instructor personality, subject area of the course, and instructional effectiveness. Sherman and Blackburn (1975) not only found a significant correlation between student ratings of teacher personality and teaching effectiveness but also reported appreciable variations in the personality profiles between academic disciplines, i.e., humanities, natural sciences, and social sciences. Similarly, Marsh and Overall (1981), in addition to concluding that the instructor affected course ratings, found that the course type (accounting, economics, finance, etc.) had a small, but statistically significant, effect on the outcome of student ratings. Expanding upon this, Murray, Rushton, and Paunonen (1990) were able to conclude those teaching effectiveness ratings for a given instructor varied considerably depending on the type of course taught and that a distinct set of personality traits, i.e., a unique personality profile, could be associated with each type of course.

Teacher personality is being acknowledged in the research community and teachers' education institutions as a viable and credible factor in the development and assessment of quality instructors. A considerable amount of recent research has involved the use of personality measures in the recruitment, training, and screening of candidates in teacher education programs (Manning & Payne, 1984; Shechtman & Sansbury, 1989; Rojewski & Holder, 1990; McCutcheon, Schmidt, & Bolden, 1991; Shechtman & Godfried, 1993). Teacher personality is being recognized as an integral part of effective classroom instruction and, as such, does not necessarily undermine or contaminate ratings of teaching quality.

Non-significant Findings

Not all research on teacher personality has produced notable results. Studies by Bendig (1955), Sorey (1968), and Campbell (1984) were unable to detect any significant correlations between ratings of teaching effectiveness and self-ratings of teacher personality traits. Isaacson, McKeachie, and Milholland (1963) correlated one colleague rating and two self-ratings of instructor personality with student ratings of all-around teaching ability; they concluded that colleague ratings provided the most stable prediction of instructional competence. Costin and Grush (1973) collected both instructor self-ratings and student ratings of teacher personality and reported significantly higher effectiveness correlations with the student ratings. Elmore and LaPointe (1975) examined the interpersonal aspects of teacher warmth and interest in students as perceived by both the students and the teachers themselves; they noted those course evaluations were more influenced by who did the ratings, i.e., the students.

In reviewing the methodologies employed in all of the aforementioned studies, a discriminating point emerges. When instructors evaluated their own personality, no significant results were found. However, significant relationships were confirmed when teach personalities were rated either by their colleagues or by their students. This point requires a more detailed discussion.

Personality Measures

The consistent difference in results depending on the source of personality ratings is open to interpretation. From a statistical standpoint, Murray (1975) points out that the use of peer ratings (and student ratings as well) minimizes the rater bias introduced by self-evaluation and increases accuracy by being able to average the personality scores across several raters.

Costin and Grush (1973) contend that, within the time and context of the classroom, the student perceptions of a teacher's personality are more relevant with respect to teaching effectiveness that either the teacher's own self-perceptions or the perceptions of colleagues. That is, self and peer assessments tend to take into account all life aspects and situations and, therefore, provide an overall, general profile of a person's personality. Students base their assessment of a teacher's personality almost exclusively on the behaviors and interactions that take place in the classroom and, therefore, student perceptions are not contaminated by experiences outside the classroom setting.

Feldman (1986) offers similar explanations but proposes a different interpretation. According to Feldman, it is irrelevant whether the student perceptions of a teacher's personality correspond with or accurately reflect the teacher's true personality. He implies that an individual's personality may be transformed when that individual assumes a teaching role and acts out the character that is both expected by and, consequently, perceived by the students. Also, he suggests that classroom events,

experiences, and behaviors are not neatly tagged and categorized by students as related to either personality or instruction but rather that they impact and influence the student perceptions of both personality and instructional competence, i.e., there is an interaction effect.

Student Ratings

The use of student opinions to assist in the process of monitoring the quality of instruction has become an accepted practice for many postsecondary institutions. In 1980, Seldin noted that approximately 95% of the liberal arts colleges in this country were using student ratings in the evaluation of teaching performance. As with any survey instrument, questions of reliability and validity must be addressed.

Reliability

The use of student ratings to evaluate teaching effectiveness has, traditionally, raised questions of reliability. In response, Costin, Greenough, and Menges (1971) reviewed reliabilities of 11 independent studies that used a variety of evaluation instruments. Reliability coefficients for these instruments ranged between .67 and .94 that prompted the authors to conclude that "students can rate classroom instruction with a reasonable degree of reliability" (p. 513).

Similarly, Doyle (1975) examined the internal consistency and stability of student ratings of instructors based on data from 12 studies involving students from more than 135 courses. Consistency values ranged from .40 to .98 with the average

being in the high .80's. Stability indicators ranged from .41 to .95 and averaged in the .70's. From these results Doyle concluded that "student ratings gathered by means of any but the most poorly constructed rating scales will be sufficiently reliable to be used for course improvement purposes" (p. 44).

Feldman (1978) analyzed student ratings from numerous studies on teaching effectiveness and observed that when the class size is between 20 and 25 students, the average reliability of student ratings was usually in the .80s and .90s. Marsh (1984) agrees with this conclusion and states that the reliability of student ratings "compares favorably with that of the best objective tests" (p.717).

Within the last decade, the reliability of student ratings has, in general, not been a major point of contention in the research community. Recent studies involving student evaluation of teaching effectiveness systematically determine and report reliability coefficients for student ratings and, if coefficients are not acceptable, these specific studies concede the validity of results.

Validity and Achievement

The evaluation of instructional effectiveness has been dissected and analyzed from a variety of theoretical perspectives employing a variety of research methodologies and statistical procedures. The bottom line that researchers and educators agree upon is that the most important indicator of teaching effectiveness is student learning. As McKeachie (1979) stated, "we take teaching effectiveness to be the degree to which one has facilitated student achievement of educational goals" (p.

385). A great deal of research has focused on verifying a relationship between teaching effectiveness measures and student achievement usually for establishing the validity of student ratings.

Gessner (1973) derived highly significant correlations between student performance on a national medical exam and student ratings of content/organization (r=.77) and presentation of course (r=.69). Frey (1973) computed significant correlations between final exam scores and students' feeling of accomplishment (r=.87) and teachers' presentation (r=.75). Using an overall competence rating as a measure of effectiveness and final exam scores as a measure of achievement, Sullivan and Skanes (1974) were able to report a modest but significant correlation of .39 between effectiveness and achievement. Three universities participated in a study by Frey, Leonard, and Beatty (1975) which examined the relationship between performance on a final exam and instructional factors; fairly strong correlations were reported between exam scores and clarity of presentations (r=.58), planning/organization (r=.51), and students' sense of accomplishment (r=.59). In studying 72 sections of seven different types of course, Centra (1977) found a pattern of significant correlations between final examination scores and student ratings in the areas of overall teaching effectiveness, value of the course, course objectives and organization, and quality of lectures. Marsh and Overall (1980) collected data from more than 900 students enrolled in 31 different sections of a computer programming course and reported moderately significant correlations between final exam scores and instructional factors of enthusiasm and concern for learning (r=.40), student interaction

(r=.36), and overall competence (r=.38). Arreola (1983) noted significant relationships between student achievement as measured by final, cumulative course grades and student ratings of course organization, course difficulty, and student interest.

In solidifying research on the relationship between student evaluation of instruction and student achievement, Cohen (1981) synthesized results from 41 independent validity studies and reported an average correlation of .43 between overall instructor ratings and measures of student achievement. Based upon these findings, Cohen declared that there was a definite relationship between ratings and achievement and that this relationship could be "generalized to different students, instructors, institutions, and subject matter areas" (p. 305). In conclusion, Cohen stated that "student ratings of instruction are some valid indexes of instructional effectiveness. Students do a very good job of distinguishing among teachers based on how much they have learned" (p. 305).

Validity and Personality

A direct criticism of student ratings is that of the existence of a "halo effect" (Kerlinger, 1986). This effect proposes that ratings, instead of being an accurate and objective representation of instructional effectiveness, tend more to be a reflection of the entertainment aspect of the course, the popularity of the teacher, or a combination of both. This is particularly in question when personality is being measured and the same person rates the instructor's personality and teaching effectiveness.

In their review of empirical findings from studies using student ratings, Costin, Greenough, and Menges (1971) concluded that "the criteria used by students in their ratings of instructors had much more to do with the quality of the presentation of material than with the entertainment value of the course" (p. 530). The authors also noted that students described their best teachers not in terms associated with personality or charisma but in terms of being well-prepared, providing clear explanations, and ability to stimulate interest.

In a further attempt to address this issue, Grush and Costin (1975) collected ratings of the students' attraction to their teacher as a person, attraction to their teacher as a teacher, and their teacher's effectiveness as an instructor. Results led the authors to conclude that the students' attraction to an instructor as a person does not contaminate their assessment of that instructor's performance.

Conclusion

The review of literature reveals that a great deal of effort has been dedicated to understanding the duties of a teacher and to determining what constitutes competence in performing these duties. In general, these competencies include: (a) a mastery of certain instructional processes such as the organization and execution of educational activities, (b) an ability to provide meaningful feedback and evaluate student progress, and (c) a capacity to engage and relate to students on an individual, personal level.

Early studies on teaching competence combined items related to instructional processes and evaluation with a very modest set of interpersonal skills, such as enthusiasm, rapport, and warmth. Some more recent studies on instructional effectiveness have focused exclusively on teacher personality and incorporated more comprehensive spectrums of personality variables. In general, findings from these studies indicate that a relationship does exist between personality and effectiveness and define the profile of an effective teacher to include behaviors related to optimism, leadership, extroversion, objectivity, and intelligence. A few of these studies have also reported evidence that personality varies somewhat for effective teachers depending on the level of the course and the subject matter being taught. It should also be noted that using students or peers to rate the personality of an instructor has produced more notable results than having the instructor rate their own personality.

Educational research efforts have resulted in the development of instruments for assessing teaching effectiveness acknowledged and endorsed as beneficial. It is common practice at many institutions for these assessment instruments to be completed by students. Research substantiates the reliability of student ratings and, for collecting suggestions on instructional improvement, concedes that student opinions are as valid as any other measure.

This study examines the relationship between student ratings of a teacher's instructional competence and that same teacher's personality traits. Chapter III presents the research design and methodology employed in the study with detailed descriptions as to the sampling techniques, survey instruments, and data collection.

Chapter IV documents the statistical analysis of data and interprets the results as they relate to the research questions. Chapter V summarizes and discusses the findings and implications of the study within the context of previous research and literature; recommendations for further research are also outlined.

CHAPTER III

RESEARCH METHODOLOGY

Introduction

The purpose of this study was to demonstrate that an instructor's personal make up plays an integral part in what students believe to be a competent teacher, i.e., that quality instruction not only requires a mastery of teaching techniques and methods but also encompasses certain social skills. Specifically, this study was intended to address the following questions:

1. Is there a relationship between the personality of a technical college instructor and that instructor's teaching ability? If so, what personality traits are associated with effective teaching?

2. Does the personality profiles of effective technical college instructors differ between academic areas? If so, what are the discriminating personality factors?

3. Does personality distinguish above-average from below-average technical college instructors? If so, what personality dimensions are important in a highly effective teacher?

These research questions prompted the design of a research study to investigate the following conceptual hypotheses:

1. There is a relationship between the personality traits of a technical college instructor and that instructor's teaching ability.

2. There is a relationship between the personality profile of a technical college instructor and that instructor's academic area.

3. There is a relationship between the personality profile of a technical college instructor and that instructor's rating of teaching effectiveness.

To explore the relationships referred to in the conceptual hypotheses, it was decided to employ a cross-sectional survey research design using a stratified sample of colleges, a random sample of instructors, and a cluster sampling of students (Borg & Gall, 1989). A cross-sectional survey was used expeditiously to collect a substantial number of student opinions and to do it at approximately the same time in the semester for each college; this technique also minimized the effect of time-related variables, i.e., history and maturation (see Campbell & Stanley, 1963). Colleges were stratified by geographical region to represent state demographics, instructors were randomly chosen to strengthen internal validity, and students were selected in class-clusters for reasons of practicality and convenience. The survey instrument, data collection techniques, and statistical procedures used in this study were derived from previous research by Rushton, Murray, and Paunonen (1983), Erdle, Murray, and Rushton (1985), and Murray, Rushton, and Paunonen (1990). This research constitutes a modified replication of their research efforts.

Methodology

Sample

The Wisconsin Technical College System (WTCS), originally established by the Wisconsin state legislature in 1911 and reorganized in 1965, was chosen for this study. This system consists of 16 independent districts whose boundaries are essentially based upon population density, i.e., the southern, more heavily populated areas of the state have a greater number of districts than the northern, rural areas. Each district offers associate degrees in a variety of occupational areas categorized into five major divisions: (1) Business and Marketing, (2) Health Occupations, (3) Trades and Industry, (4) Protective Services, and (5) Agriculture. This study was limited to the Business and Marketing division.

For sampling purposes, the state was divided into five geographical regions such that there were at least three districts in each region. One college from each region was randomly selected and asked to participate in the study.

Based on 1993-94 enrollment figures from the WTCS's Client Reporting System, the WTCS provided education for 60,715 full-time equivalent (FTE) students, where one FTE is equal to 30 course-credits. Pewaukee with the equivalent of 3,500 full-time students was chosen from the southeast region that also included Milwaukee and Kenosha. Madison with the equivalent of 8,316 full-time students was chosen from the south central region that also included Janesville and Wisconsin Rapids. Eau Claire with the equivalent of 3,259 full-time students was chosen from the southwest

region that also included La Crosse and Fennimore. Superior with the equivalent of 2,468 full-time students was chosen from the northwest region that also included Rhinelander and Wausau. Appleton with the equivalent of 4,677 full-time students was chosen from the northeast region that also included Green Bay, Cleveland, and Fond du Lac. The sample of five colleges represents 31.3% of 16 colleges that are in the Wisconsin Technical College System. These five colleges accounted for 22,220 full-time equivalent students or 36.6% of the total FTEs.

This study focused on four academic departments within the Business and Marketing division: (1) Accounting, (2) Computer Information Systems (CIS), (3) Marketing, and (4) Office Occupations. These departments were chosen because they are present in all 16 WTCS districts and they, collectively, have the highest enrollments within the division.

At the beginning of the academic semester, the vice-presidents of instruction at each of the five colleges were verbally contacted to secure their permission and cooperation in conducting the study. Once this was accomplished, the five deans of the Business and Marketing divisions were each mailed a letter (see Appendix A) which briefed them on the nature of the study and asked them to supply a comprehensive list of the faculty members who taught in each of their four academic departments. Instructor-subjects were randomly selected from these lists.

As the researcher could not practically and within a reasonable time frame personally contact all the instructors at all five campuses, the local deans were asked and agreed to assist with the survey by contacting the selected instructors, explaining

the proposed survey to them, and securing their willingness to participate in the study. Each instructor was assured that their name would be kept strictly confidential and that any one college or department within college would be identified. Sample questions from the survey were also made available to some instructors so they could better understand the nature of the study and would be comfortable in being surveyed.

It was hoped that six courses from each department at each college could be surveyed. To accomplish this, two instructors from each department were asked to administer the survey to the students in three of the courses they were assigned to teach. Alternate instructors were also selected to replace those instructors not wishing to participate and to meet the six-course goal when a primary instructor did not teach three distinct courses within the department. Initially, the 120 sets of surveys were distributed to a total of 40 instructors.

Instrumentation

The survey instruments for personality and teaching effectiveness were designed such that they would be valid measures of these constructs yet would not require more than 15 minutes of class time and would not exceed the average student's vocabulary. The survey instrument for personality provided an adequate and understandable set of traits and had been used successfully in previous studies of this kind (Rushton, Murray, and Paunonen, 1983; Murray, Rushton, and Paunonen, 1990). The survey items for teaching effectiveness were based upon a synthesis of the efforts by Cohen (1981), and Marsh (1991).

Personality Measures

Twenty-nine personality traits were measured for each instructor using a version of the instrument developed by Murray, Rushton, and Paunonen (1990). Their original instrument was derived from three sources. Their first 20 personality traits were fashioned from Jackson's (1984) Personality Research Form that, in turn was based on H. A. Murray's (1938) personal need definitions. The next seven traits were derived from H. G. Murray's (1975) study on the personality of effective teachers. The final two traits of extroversion and neuroticism were adapted from the Eysenck Personality Questionnaire (Eysenck and Eysenck, 1975).

To minimize any bias that might have been introduced by emotionally-sensitive words and to ensure that the terms were more within the vocabulary of the technical college student (as opposed to a peer evaluator), this author modified the instrument by omitting the one-word titles assigned to each personality trait and simply provided a brief description of the behavior that is indicative of that personality trait. Students were asked to rate their instructor as to the frequency with which he or she displayed that behavior. Responses were based on a one (never) to five (always) point scale. A sample of the personality survey is provided in Appendix B.

Teaching Effectiveness Measures

Cohen (1981) examined 41 studies involving student ratings of instruction and student achievement. In performing his meta-analysis, Cohen identified six

dimensions of instructional ratings that were common to all these studies. These dimensions included: (1) skill, (2) rapport, (3) structure, (4) difficulty, (5) interaction, and (6) feedback.

Marsh (1991) describes research in teaching effectiveness that led to his development of the Students' Evaluations of Educational Quality (SEEQ). Based on this review of previous studies, Marsh defined nine factors that he felt contributed to an instructor's overall teaching effectiveness: (1) learning/value, (2) enthusiasm, (3) organization, (4) group interaction, (5) individual rapport, (6) breadth of coverage, (7) examinations/grading, (8) assignments, and (9) workload/difficulty.

A total of 18 items for measuring teaching effectiveness was developed based on Cohen's six dimensions and Marsh's nine factors. Each of the first 17 items concentrated on a specific classroom activity, instructional behavior, or educational outcome and asked the student to rate the degree to which that activity, behavior, or outcome had been demonstrated during the course. The eighteenth item asked the student to rate the instructor's overall teaching ability. Ratings were based on a 1 (poor) through 5 (excellent) point scale. A sample of the teaching effectiveness survey is provided in Appendix C.

Pilot Study

After applying for and receiving Human Subjects Institutional Review Board approval (see Appendix D) on November 8, 1993, original versions of the survey instruments for personality and effectiveness were piloted with the cooperation of nine

instructors from a local college. These instructors were asked to survey their classes and provide feedback as to the wording and appropriateness of items, time required to complete the surveys, and student reactions to the entire process. Survey data was also used to verify item reliability and to troubleshoot the statistical procedures. Information from the pilot study prompted the rewording of approximately half the survey items and convinced the researcher to use a computerized survey form. Once completed, the revised instruments were resubmitted to the HSIRB and approval extended to November 8, 1995 (see Appendix D).

Data Collection Procedure

The two-part survey was implemented using a machine-scannable form. This not only expedited the entry of data into a computer but also eliminated the human error introduced when data is manually entered.

The 18 teaching effectiveness items plus three demographic items (sex, age, and race) were printed on one side of the form. The 29 personality items were printed on the reverse side of the form. For control and manageability, it was important that there was only one piece of paper associated with each survey as opposed to a question booklet and answer form or multiple question/answer sheets.

Forms were also preprinted with a machine-readable code to identify the college, the academic department, and the course within a department. This was done not only to facilitate statistical analysis but also to provide a follow-up mechanism for contacting instructors regarding the status of unreturned surveys.

A survey packet was prepared and labeled for each of the 120 courses that were to be part of the study. Each packet consisted of a pre-stamped, pre-addressed envelope, 25 surveys, directions for administering the survey (see Appendix E), and a bundle of #2 lead pencils.

One box for each of the five colleges was prepared and loaded with 24 survey packets. Approximately eight weeks before the end of the academic semester, each box was personally delivered by the researcher to the divisional deans of Business and Marketing at each of the five campuses. The deans were asked to distribute the survey packets to the instructors who had consented to participate in the study. The researcher also reviewed the survey directions with each divisional dean who, in turn, reviewed them with the instructors.

Approximately four weeks before the end of the academic semester, instructors were asked to administer the survey to the students in their course(s). The directions supplied with each survey packet requested that the instructor read a short explanation of the research study to their students. Students were informed that their participation was totally voluntary and that their answers would be kept confidential. Instructors were advised to allow approximately 15 minutes of class time for their students to complete and hand-in the surveys. For each class, the instructor was to collect all surveys and place them in the pre-stamped, pre-addressed envelope, seal it, and drop it in the mail.

A checkoff list for the 120 survey packets was maintained by the researcher for control purposes. Upon receiving a survey envelope via the mail, the preprinted

college/department/course code was used to log the survey by recording the date received and the number of completed surveys. With approximately two weeks remaining in the academic semester, the divisional deans at the five colleges were contacted by telephone regarding the status of unreturned survey packets. Another 32% of the survey packets were received during the final two weeks.

For scanning purposes, completed surveys were separated from uncompleted surveys and were stacked uniformly. During the primary scan process, some surveys were rejected by the scanning program. Many of these rejects were due to an ink pen (instead of a pencil) being used to complete the survey or to a pencil mark not being dark enough. In these cases where it was clear as to the intent of the person completing the survey, the response was enhanced with a #2 lead pencil and the form successfully rescanned.

All other surveys rejected on the primary scan were due to either an incomplete response or a multiple response, i.e., the person completing the survey either did not mark a response to an item or marked more than one response to an item. These rejected surveys were not modified in any way but were rescanned using a less-rigid scanning program that simply left the item blank when there was an error or ambiguity. The data from these rescanned surveys was included in the statistical analysis.

Statistical Procedures

All statistical analyses were obtained by using the data analysis programs available in the Minitab for Windows, Release 9.2, (1993) statistical software package. Descriptive statistics were calculated for each survey item using values from all surveys collected. For purposes of internal analysis, group means were also calculated based upon college, department, course, sex, age, and race.

Reliability coefficients for each item were calculated by randomly dividing the surveys for a course into two groups (split-half), computing the item means for each subgroup, correlating these item means across all courses, and then applying the Spearman-Brown formula to correct for the effect of halving the number of raters (as described by Guilford & Fruchter, 1978).

Association between variables was measured using the Pearson product-moment correlation coefficient with statistical significance set at the .05 level for a two-tailed test (Hinkle, Wiersma, & Jurs, 1988). These correlation coefficients were calculated based upon the item means computed for each course. The degrees of freedom used in determining statistical significance varied depending on the group or subgroup being analyzed.

To facilitate a meaningful analysis of the data, a smaller number of variables, or factors, was desirable for both the set of 18 teaching variables and the 29 personality variables. To accomplish this reduction, each set of variables was subjected to a principal-components, varimax-rotation factor analysis (Kleinbaum &

Kupper, 1978) using the item means computed for each course. The number of factors for each set of variables was determined based upon a combination of: (a) knowledge of the subject matter, (b) reasonableness of the results, (c) eigenvalues that were approximately equal to or greater than unity, and (d) a minimum cumulative variance of 70% (Johnson & Wichern, 1982; Stevens, 1986).

Using the factor score coefficients derived from the factor analysis, personality factor scores were calculated (see Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975) for each course surveyed and sorted by academic area. A general MANOVA was performed to check for any significant difference between personality factors. For each academic area, separate ANOVAs were performed to identify specific personality dimensions that were significant. The degrees of freedom used for determining statistical significance varied depending on the number of courses in each academic area. In addition, line graphs were generated to assist the reader in distinguishing between the personality profiles for each academic area.

A final analysis was performed by splitting the course personality scores for each academic area into two groups depending on whether the instructor for the course was rated as either above or below the departmental mean for overall teaching ability. A general MANOVA was again performed on the personality factors to check for any significant difference between the above- and below-average groups. For each academic department, separate ANOVAs were also performed to identify the discriminating personality factors. Line graphs contrasting the two groups for each academic area were also generated.

Limitations

It must be remembered that this is a correlational study and caution must be exercised not to draw conclusions as to cause-and-effect. In addition, although factor analysis is statistically sound with respect to the derivation of factors, the titling or naming of these factors is totally subjective. Arriving at a term or phrase that encompasses and accounts for the meanings and loadings of the individual variables which groups under a factor are open to the interpretation of the researcher.

Due to the researcher's limited resources with respect to time and money, the face-to-face solicitation and indoctrination of the instructor-subjects were delegated to the divisional deans at each of the five colleges. In addition, the distribution and collection of the surveys to the student-subjects were entrusted to the instructor-subjects. Although deans were briefed in person as to the survey procedures and written procedures were provided to instructor-subjects and student-subjects, the uniformity with which the surveys were administered would be in question.

Sampling techniques would dictate that the results of the study could justifiably be generalizable to the Business and Marketing divisions at other technical colleges within the Wisconsin Technical College System. Any generalizations beyond these boundaries to other divisions, colleges, or universities would be unfounded.

Conclusion

Chapter III has provided a detailed description of the research design and methodology for this study. Students at five technical colleges are surveyed and asked to rate their instructor's personality traits and teaching effectiveness. Correlational procedures are used to establish the relationship between instructor personality and effectiveness. Factor analysis techniques are then used to examine personality differences between academic areas and between highly and not so highly rated instructors.

Results from the statistical procedures are reported in Chapter IV along with brief discussions as to their significance in light of the research hypotheses. A more in depth discussion of the findings and their ramifications is provided in Chapter V.

CHAPTER IV

RESEARCH RESULTS

Introduction

The purpose of this study was to determine the degree of association that exists between the personality of a technical college instructor and the teaching effectiveness of that same instructor as perceived by the students enrolled in that instructor's class. Additional determinations were sought regarding personality differences between academic departments and between highly-rated and lowly-rated instructors. As previously stated, the research questions that formed the basis of this study were:

1. Is there a relationship between the personality of a technical college instructor and that instructor's teaching ability? If so, what personality traits are associated with effective teaching?

2. Does the personality profiles of effective technical college instructors differ between academic areas? If so, what are the discriminating personality factors?

3. Does personality distinguish above-average from below-average technical college instructors? If so, what personality dimensions are important in a highly effective teacher?

For the purposes of doing statistical analysis and determining significance of findings, these questions were operationalized into the following hypotheses:

1. The Pearson product-moment correlation coefficients between the ratings of instructor personality and teaching effectiveness will be significantly different (p=.05) from zero.

2. For instructors in the different academic areas, the mean of one personality factor is significantly different (p=.05) from the other personality factor mean.

3. For instructors rated as either above average and below average with respect to teaching effectiveness, the mean of one personality factor is significantly different (p=.05) from the other personality factor mean.

In this chapter the results of the data analyses are reported and briefly discussed. Before addressing the actual research hypotheses, a demographical analysis was performed on the instructors, courses, and students that participated in the study to see how closely the sample matches the population. Reliability coefficients were calculated for the student ratings of both instructor personality and instructor effectiveness to determine the stability and internal consistency of the survey instruments. Ratings on the 18 teaching behaviors were analyzed and reduced to a single measure of overall teaching effectiveness that greatly simplified the testing of the three hypotheses.

Correlational coefficients between the single effectiveness measure and the 29 measures of personality were computed based on the entire set of responses; large correlations tended to verify the first hypothesis, i.e., that there is a relationship between personality and effectiveness. The second hypothesis that posits that there are distinct personality profiles by academic area was addressed through the use of

correlational coefficients; high correlations on different personality variables within each department initially verified this hypothesis. To facilitate further testing of hypotheses two and three, factor analysis was used to reduce the 29 trait variables to five trait factors. Personality profiles based upon just these five factors were mathematically generated for all the instructors from all four academic areas. The calculated factor scores for the five traits were averaged for each of the four departments and departmental comparisons made using analysis of variances; significant differences between these departmental averages further substantiated hypothesis two. Similar trait averages were computed for the highly rated and lowly rated instructors within each academic area; analysis of variances revealed significant differences between these trait averages for some departments that, in part, supported the third hypothesis.

Results

Demographics

Surveys were returned from a total of 46 instructors: (a) 12 from Accounting, (b) 13 from CIS, (c) 8 from Marketing, and (d) 13 from Office Occupations. There were 25 female instructors and 21 male instructors that participated in the study. Each college was represented in the study by at least one instructor from each department.

There were 102 distinct classes surveyed: (a) 27 from Accounting, (b) 24 from CIS, (c) 23 from Marketing, and (d) 28 from Office Occupations. This represents a return rate of 85% of the 120 survey packets originally distributed. Each college was represented in the study by at least three classes from each department.

A total of 1,306 students completed the survey: (a) 387 from Accounting, (b) 268 from CIS, (c) 324 from Marketing, and (d) 327 from Office Occupations. The minimum number of students represented by any one college was 235. The mean number of students per college that completed the survey was 261.2. The mean number of students per class that completed the survey was 12.8.

Females represented 70.1 % of the students surveyed and males represented 29.9%; this compares with statewide enrollment figures of 54.1% and 45.9%, respectively. Specifically, the Office Occupations area had a student count that was 90.0% female. Gender percentages based on just the other three academic areas (Accounting, CIS, and Marketing) were 63.6% female and 36.4% male.

Of the students surveyed, 23.3% were less than 20 years-of-age, 46.6% were between 20 and 29, 17.8% were between 30 and 39, 10.2% were between 40 and 49, and 2.1% was more than 50 years-of-age. Ethnically, 93.2% of the students were White, 3.9% were American Indian, 1.5% were Asian, 0.8% were Hispanic, and 0.6% were Black; this compares with statewide distributions of 95.9%, 2.0%, 1.3%, 0.4%, and 0.3%, respectively.

Overall, the random sample of students reflected and represented the statewide demographics for the technical college system's student population.

Reliability of Personality Ratings

Table 1 shows the grand mean, standard deviation, and reliability of mean ratings of the personality traits for the instructors of the courses surveyed based on the 1306 student ratings. The reliability coefficients were estimated by randomly splitting the student raters into two equal groups for each course having a minimum of ten raters, i.e., each split-half had to have at least five raters. Pearson product-moment correlation coefficients were computed on the mean ratings for the two subgroups and corrected using the Spearman-Brown formula.

Reliability coefficients computed in this way ranged from .26 to .81 and averaged .64, indicating that student assessment of instructor personality displayed moderate interrater reliability. The wide range of reliabilities may be due, in part, to the students' relative lack of familiarity with the instructor, having been in contact with him or her only a few hours per week over less than a three-month period. Student opportunities to gain insight into and establish a definite opinion on all 29 aspects of an instructor's personal character may not have presented themselves a sufficient number of times in that brief amount of time.

In addition, the personality traits receiving low reliabilities may reflect a lack of consensuses among the students as to the meanings of those traits. As the student raters had not been formally trained or briefed on how to evaluate personal behavior, their interpretation of the traits could be subjective and varied.

Table 1

Grand Means, Standard Deviations, and Reliabilities of Mean Ratings of Instructor Personality

Personality Trait	Brief Trait Description	Mean SD Reliability N=1306		
		$\bar{X}$	s	r_{hh}
Meek	Meek, modest, mild-mannered, soft-spoken	2.96	.58	.76
Ambitious	Ambitious; strives to accomplish difficult tasks	4.01	.40	.73
Sociable	Friendly, sociable, warmhearted	4.32	.45	.71
Aggressive	Aggressive, pushy, argumentative, scrappy	1.75	.45	.65
Independent	Independent, self-reliant, self-sufficient	4.00	.41	.46
Changeable	Flexible, adaptable; adjusts to change	3.99	.45	.76
Seeks definitiveness	Does not like things left up in the air; definitive	3.53	.42	.42
Defensive	Defensive, guarded, protective	1.84	.41	.61
Dominant	Forceful, dominant, controlling	1.81	.47	.58
Enduring	Determined, stubborn, persistent	2.16	.44	.47
Attention-seeking	Dramatic, colorful, flamboyant	3.12	.66	.78
Harm-avoiding	Careful, cautious, avoids problems and stress	3.18	.35	.35
Impulsive	Spontaneous, impulsive, impetuous	2.95	.52	.78
Supporting	Sympathetic, compassionate, understanding	3.92	.49	.73
Orderly	Neat, organized, tidy, orderly	4.17	.50	.81

Table 1—Continued

Personality Trait	Brief Trait Description	Mean SD N=1306		Reliability
		$\bar{X}$	s	r_{hh}
Fun-loving	Easy-going, lighthearted, cheerful	4.22	.44	.78
Aesthetically sensitive	Sensitive to sights, sounds, tastes, and other experiences	3.42	.46	.51
Approval- seeking	Concerned about what other people think of him or her	2.90	.42	.39
Seeks help and advice	Seeks the help, advice, and assistance of others	3.18	.35	.53
Intellectually curious	Intellectually curious; enjoys mental problems and puzzles	3.86	.44	.77
Anxious	Tense, nervous, uneasy	1.63	.38	.63
Intelligent	Bright, quick, clever, sharp-witted	4.00	.49	.65
Liberal	Progressive, modern, liberal; in tune with the times	3.91	.48	.74
Shows leadership	Shows leadership; takes initiative	4.21	.40	.75
Objective	Just, fair, impartial	4.14	.46	.77
Compulsive	Meticulous, perfectionistic; pays attention to details	3.84	.43	.78
Authoritarian	Strict, rigid, disciplined; sticks to the rules	3.06	.48	.64
Extroverted	Outgoing, extroverted; enjoys being around people	4.10	.49	.77
Neurotic	Worried, moody, temperamental	1.66	.37	.26

Reliability range .26-.81
Reliability mean .64

Reliability of Teaching Ratings

Table 2 shows the grand mean, standard deviation, and reliability of mean ratings of the teaching behaviors for the instructors of courses surveyed based on the 1306 student ratings. The reliability coefficients were estimated using the same split-half procedure as was used for the personality traits and corrected using the Spearman-Brown formula.

Reliability coefficients for instruction ranged from .72 to .89 and averaged .80, denoting substantial agreement among students with respect to their rating of teaching behaviors. These higher reliabilities in comparison to those for personality may reflect the fact that students have completed more teacher evaluations than personality evaluations and, therefore, as a whole, have a more universal understanding of the underlying constructs and terminology.

The Measure of Teaching Effectiveness

To facilitate analyzing the relationship of the 29 personality traits to teaching, it was desirable to establish a single measure of effectiveness that would accurately represent an instructor's overall classroom performance. To ascertain which of the 18 teaching variables had the highest degree of interrelationship with the other 17 teaching variables. Pearson product-moment correlation coefficients were computed between the mean student ratings for the 18 teaching variables across the 102 courses. The set of 17 correlation coefficients for each of the 18 teaching variables was then

averaged (Table 3). The correlation means ranged from .56 to .79 and averaged .67 that indicates a substantial level of agreement in ratings across the different variables, i.e., this suggests that these variables are highly related and may, indeed, be measuring a single construct. It may be noted that the highest mean correlation is that of overall teaching ability.

The course mean ratings for the 18 teaching behaviors were next examined using a principal-components, varimax-rotation factor analysis that resulted in a 3-factor solution accounting for 78.5% of the total variance in mean teaching ratings.

Table 3 also shows the sorted factor loadings and communalities. Factor 1, defined as Interpersonal Skills, accounted for 30.3% of the variance in ratings and was characterized by high scores on enthusiasm, respect for students, and providing encouragement and motivation. The second factor, Presentation Skills, accounted for 25.7% of the variance and reflected the technical aspects of teaching, i.e., preparation and organization, clarity of explanations, relevant illustrations, and availability outside of class. Factor 3, Evaluation, accounted for 22.5% of the variance and includes those elements that are necessary in determining whether learning is actually taking place, i.e., assignments and exams, grading, and learning objectives.

The final point to be made regarding the results of this factor analysis is that overall teaching ability has high to moderate loadings in all three factors and has the highest communality of all 18 teaching variables.

Considering analysis results for both the correlations and factors, the student ratings for overall teaching ability will be used as the single measure of teaching effectiveness for the statistical procedures that follow.

Table 2

Grand Means, Standard Deviations, and Reliabilities of Mean Ratings of Teaching Behaviors

Teaching Behavior N=1306	Mean	SD	Reliability
	$\bar{X}$	s	r_{hh}
Explanations are clear and easy to understand	3.91	.52	.82
Presentations are well prepared and organized	4.08	.51	.87
Instructor stimulates student interest in the subject matter	3.95	.58	.86
Student participation and discussion are encouraged	4.19	.42	.74
Assignments are reasonable in length and difficulty	3.88	.43	.72
Instructor has a thorough knowledge of the subject matter	4.56	.40	.81
Grading is fair and impartial	4.22	.49	.85
Students are treated with respect and dignity	4.39	.41	.80
Instructor is enthusiastic about teaching	4.42	.43	.88
Course work is mentally challenging and rewarding	4.06	.37	.72
Examples and illustrations are meaningful and helpful	4.04	.42	.79
Students are comfortable about asking questions	4.25	.43	.78
Instructor is available outside of class for consultation	4.11	.47	.72
Students complimented for correct answers and good work	3.92	.54	.79

Table 2—Continued

Teaching Behavior N=1306	Mean SD		Reliability
	$\bar{X}$	s	r_{hh}
Instructor senses student confusion and slows down	3.82	.56	.85
Course work is in line with course objectives	4.23	.38	.77
Overall amount of material learned in the course	4.04	.47	.81
Instructor's overall teaching ability	4.35	.52	.89

Reliability range .72-.89
Reliability mean .80

Table 3

Correlation Coefficient Means, Factor Loadings, and Communalities of Mean Ratings of Teaching Behaviors

Teaching Behavior N=102	Correlation Mean	Factor 1 Loading	Factor 2 Loading	Factor 3 Loading	Communality
	$\bar{X}$				h^2
Instructor is enthusiastic	.68	.76	.40	.24	.79
Respectful of students	.67	.73	.14	.55	.86
Instructor knowledgeable	.63	.71	.36	.25	.70
Overall teaching ability	.76	.69	.55	.35	.90
Encourages participation	.65	.69	.33	.36	.72
Student questions welcomed	.72	.67	.27	.58	.86
Students complimented	.67	.65	.42	.34	.71
Stimulates student interest	.75	.64	.62	.32	.89
Prepared presentations	.66	.37	.82	.23	.87

Table 3—Continued

Teaching Behavior N=102	Correlation Mean	Factor 1 Loading	Factor 2 Loading	Factor 3 Loading	Commun-ality
	$\bar{X}$				h^2
Instructor is enthusiastic	.68	.76	.40	.24	.79
Clear explanations	.64	.27	.81	.33	.83
Meaningful examples	.70	.34	.65	.53	.82
Overall degree of learning	.70	.35	.64	.53	.82
Instructor is available	.56	.52	.53	.13	.56
Reasonable assignments	.58	.22	.33	.75	.72
Grading is fair and impartial	.64	.56	.15	.68	.80
Course work is appropriate	.68	.28	.58	.62	.81
Course work is challenging	.66	.38	.45	.60	.71
Instructor senses confusion	.79	.55	.38	.57	.78

Correlation mean range .56-.79
Grand correlation mean .67

Relationship of Personality and Teaching

To investigate the first research question as to the existence of a relationship between effective teaching and instructor personality, Pearson product-moment correlation coefficients were calculated between the mean student rating for overall teaching ability and the 29 mean ratings of personality across the 102 courses. The results are given in Table 4.

It may be noted that coefficients exceed the established significance level ($p<.05$) in all but three of the twenty-nine personality ratings and that all but four of

the twenty-nine coefficients would be significant even at the .01 level. These results clearly indicate that a relationship does exist between teacher effectiveness and instructor personality.

Relationship of Personality and Academic Area

Initially to examine the second hypothesis that teacher personalities vary by academic area, Pearson product-moment correlation coefficients were also computed between mean student ratings of overall teaching ability and the 29 personality traits for each of the four academic areas (included in Table 4). Note that the number of cases varies slightly for each department that, in turn, establishes a different critical value for determining significance for each of the four departments.

Only nine of the personality trait correlations reached significance in all four departments: (1) Sociable, (2) Dominant, (3) Supporting, (4) Anxious, (5) Intelligent, (6) Liberal, (7) Leadership, (8) Objective, and (9) Extroverted. Correlations for two of the traits, Harm-avoiding and Approval-seeking, were not significant for any department. Correlations for five of the traits, Meek, Enduring, Attention-seeking, Aesthetically-sensitive, and Authoritarian, were significant in only one department but this was not the same department for all five traits. It may be noted that Meek had a high correlation of .68 within the Office department but did not even reach significance when the grand correlations were computed across all departments.

The number of significant correlations varied by department, i.e., Accounting had 23 significant correlations, CIS had 21, Marketing had 11, and Office had 21. In

total, there were 76 of the 116 correlations (29 traits by 4 departments) between personality traits and teaching ability that were statistically significant, whereas under the null hypothesis only 5.8 (116 x .05) would be expected. This indicates a substantial interaction effect between personality, teaching, and academic area.

Clearly the pattern and distribution of relations between personality and teaching varied greatly for the different departments. Simply stated, personality traits that were strongly associated with effective teaching in one academic area did not have a similar degree of association in other academic areas. For different academic areas, effective teachers displayed unique personality profiles.

Table 4

Correlations Between Student Ratings of Personality and Overall Teaching Ability

Personality Trait	All Areas N=102	Accounting N=27	CIS N=24	Marketing N=23	Office N=28
	r	r	r	r	r
Meek	.09	-.33	.13	-.06	.68*
Ambitious	.56*	.52*	.51*	.34	.72*
Sociable	.71*	.68*	.74*	.55*	.76*
Aggressive	-.41*	-.44*	-.55*	-.27	-.53*
Independent	.31*	.45*	.18	.48*	.46*
Changeable	.67*	.74*	.80*	.25	.66*
Seeks definitiveness	.54*	.70*	.59*	.35	.48*
Defensive	-.45*	-.61*	-.75*	-.20	-.31

Table 4—Continued

Personality Trait	All Areas N=102	Accounting N=27	CIS N=24	Marketing N=23	Office N=28
	r	r	r	r	r
Dominant	-.43*	-.46*	-.59*	-.43*	-.53*
Enduring	-.26*	-.43*	-.39	-.06	-.21
Attention-seeking	.37*	.42*	.31	.31	.34
Harm-avoiding	.22*	.18	.26	.04	.37
Impulsive	.31*	.42*	.46*	.06	.09
Supporting	.66*	.69*	.71*	.53*	.78*
Orderly	.46*	.46*	.54*	.28	.69*
Fun-loving	.70*	.64*	.84*	.37	.82*
Aesthetically sensitive	.32*	.49*	.32	.21	.28
Approval- seeking	.16	.23	.31	.03	.12
Seeks help/advice	.40*	.41*	.54*	.16	.52
Intellectually curious	.55*	.61*	.61*	.07	.62*
Anxious	-.58*	-.67*	-.53*	-.44*	-.62*
Intelligent	.76*	.79*	.77*	.66*	.77*
Liberal	.72*	.74*	.80*	.45*	.71*
Shows leadership	.75*	.87*	.73*	.80*	.69*
Objective	.74*	.78*	.77*	.79*	.79*
Compulsive	.47*	.35	.75*	.27	.47*
Authoritarian	-.14	-.23	-.13	.42*	-.31
Extroverted	.66*	.63*	.78*	.48*	.65*
Neurotic	-.46*	-.37	-.75*	-.15	-.41*

*Significant at the .05 level.

Factor Analysis of Personality

To arrive at a smaller set of uncorrelated personality characteristics for more extensive analysis, the 102 course mean ratings for the 29 personality traits were subjected to a principal-components, varimax-rotation factor analysis. The derivation of factors, by itself, has no direct bearing on the research questions, but is performed to provide the researcher and audience with a more manageable and understandable model. By examining the variables that statistically group together less than one factor (based on their factor loadings), the researcher can, hopefully, discern a higher-order construct that encompasses the essence of the lower-order variables. This interpretive process is repeated for each of the significant factors.

This analysis revealed five notable factors with eigenvalues greater than 1.0 that accounted for 71.8% of the total variance in mean personality ratings. Table 5 provides the sorted factor loadings for each of the five factors. At least two-thirds of the traits had a high loading on only a single factor and each of the five factors was defined by at least three traits. This 5-factor model appears to be relatively sound, simple, and interpretable.

The first factor, interpreted as Positive Approach, accounted for 22.2% of the variance in ratings and was bipolar in nature. Instructors receiving high ratings on this factor were perceived by their students as fair, flexible, encouraging, and cheerful whereas instructors receiving low ratings on this factor were perceived as defensive, dominating, aggressive, and temperamental. Factor 2, defined as Extroversion,

contributed 17.2% to the variance. High scoring instructors on this factor were seen to be colorful, outgoing, smart, and contemporary. Factor 3, Systematic, which accounted for 11.9% of the variance, was characterized by an instructor that was orderly, particular, and methodical. Factor 4, interpreted as Achievement-Oriented, accounted for 11.0% of variance and was distinguished by traits of independence, mental curiosity, and sensory acuteness. Factor 5, Insecurity, contributed 9.5% to the variance and was characterized by self-consciousness, uncertainty, and cautiousness.

These five factors represent five distinct dimensions of instructor personality as determined by the data in this study. At this point, though the instructors have been scored on the 29 personality traits, it is necessary to rescore the instructors based upon these five new personality dimensions, i.e., each of the 102 instructors must have a numerical value assigned to them for each of the five factors. To accomplish this, the mean personality ratings for the 102 instructor were standardized. Factor scores on each of the five personality dimensions were assigned according to the SPSS factor score procedure (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975). The 102 sets of personality factor scores were grouped by academic area and mean factor scores computed for each of the five personality dimensions (Table 6).

Factor Scores by Academic Area

A general MANOVA using Pillai's test (Minitab, 1993), in which the five personality dimensions were treated as the dependent variables and the four academic areas were treated as the factor variables, yielded a significant interaction effect, i.e.,

$F(15, 288)=5.133$, $p<.001$. This supports the hypothesis that personality profiles differ substantially across academic areas.

To determine which personality factors differed significantly across academic areas, individual univariate (ANOVA) tests for each of the five personality dimensions across the four departments were performed. These tests revealed significant main effects for Extroversion ($F(3,98)=16.35$, $p<.001$) and Insecurity ($F(3,98)=8.91$, $p<.001$). Figure 1 provides a graphic comparison of the personality profiles for instructors from the four academic areas of Accounting, CIS, Marketing, and Office, respectively.

Table 5

Factor Loadings for Student Ratings of Personality

Personality Trait N=102	Positive Approach	Extro-version	Sys-tematic	Achievement Oriented	Insecurity
Defensive	-.89	-.04	-.03	-.09	.10
Dominant	-.87	.05	.04	-.21	-.19
Aggressive	-.80	.09	-.13	-.27	-.06
Neurotic	-.78	-.15	-.24	.10	.07
Objective	.72	.20	.27	.42	.19
Enduring	-.70	.07	-.03	.21	-.31
Authoritarian	-.61	-.16	.51	.18	-.21
Changeable	.61	.38	.16	.26	.36
Fun-loving	.59	.55	.02	.28	.35
Supporting	.57	.36	.24	.25	.53

Table 5—Continued

Personality Trait N=102	Positive Approach	Extro-version	Sys-tematic	Achievement Oriented	Insecurity
Anxious	-.56	-.46	-.41	.12	-.01
Sociable	.53	.45	.11	.49	.21
Impulsive	-.10	.81	-.24	.08	.11
Extroverted	.32	.79	.12	.19	.28
Attention-seeking	-.23	.79	-.06	.27	.16
Liberal	.31	.75	.31	.17	.16
Intelligent	.21	.69	.39	.36	-.09
Shows leadership	.26	.65	.55	.19	.01
Orderly	.15	-.07	.85	.06	.18
Compulsive	.06	.02	.79	.30	.08
Seeks definitiveness	.11	.19	.67	.29	-.01
Independent	-.07	.10	.39	.70	.04
Intellectually curious	.28	.25	.24	.64	.02
Aesthetically sensitive	.05	.24	.07	.63	.45
Ambitious	.11	.35	.38	.60	.07
Harm-avoiding	.08	.08	.03	.37	.36
Approval-seeking	-.02	.12	-.03	.04	.82
Seeks help/advice	.27	.29	.09	.05	.74
Meek	.22	-.40	.14	.20	.47
Eigenvalue	10.95	3.88	2.81	2.01	1.18
% Variance	22.2	17.2	11.9	11.0	9.5
Cumulative %	22.2	39.4	51.3	62.3	71.8

Inspection of Figure 1 indicates there is a distinct personality profile for each of the four academic areas. No two graphs contain similar patterns, i.e., each personality pattern or mapping has a dimension or dimensions that make it unique from the other three patterns or mappings. Based upon a visual comparison of these graphs, one would conclude there are notable differences in the personality profiles of instructors teaching in the four departments.

Figures 2 through 6 provide a more detailed comparison of each personality dimension across the four academic areas. For the dimension of Positive Approach, Marketing instructors are perceived as more negative than instructors from the other three areas. The dimensions of Systematic and Achievement display relative stability across all four departments; this may indicate characteristics of teachers in general despite the academic area, i.e., the nature of the profession requires one to be organized and achievement-oriented.

The dimension of Extroversion provides the most dramatic difference where CIS instructors are rated as extremely introverted and Marketing instructors are rated as highly extroverted. This seems congruent with society's impression of these two professions, i.e., marketing people are thought of as outgoing and friendly whereas the impression of data processing people is that they would rather spend time with computers than with humans.

Table 6

Mean Personality Factor Scores by Academic Area

Personality Factor	Accounting N=27	CIS N=24	Marketing N=23	Office N=28
	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$
Positive approach	.050	.267	-.396	.048
Extroversion	.097	-.690	.933	-.268
Systematic	-..004	-.150	-.082	.199
Achievement oriented	.134	.052	-.006	-.168
Insecurity	-.411	-.227	-.175	.735

F(15, 288)=5.133, p<.001

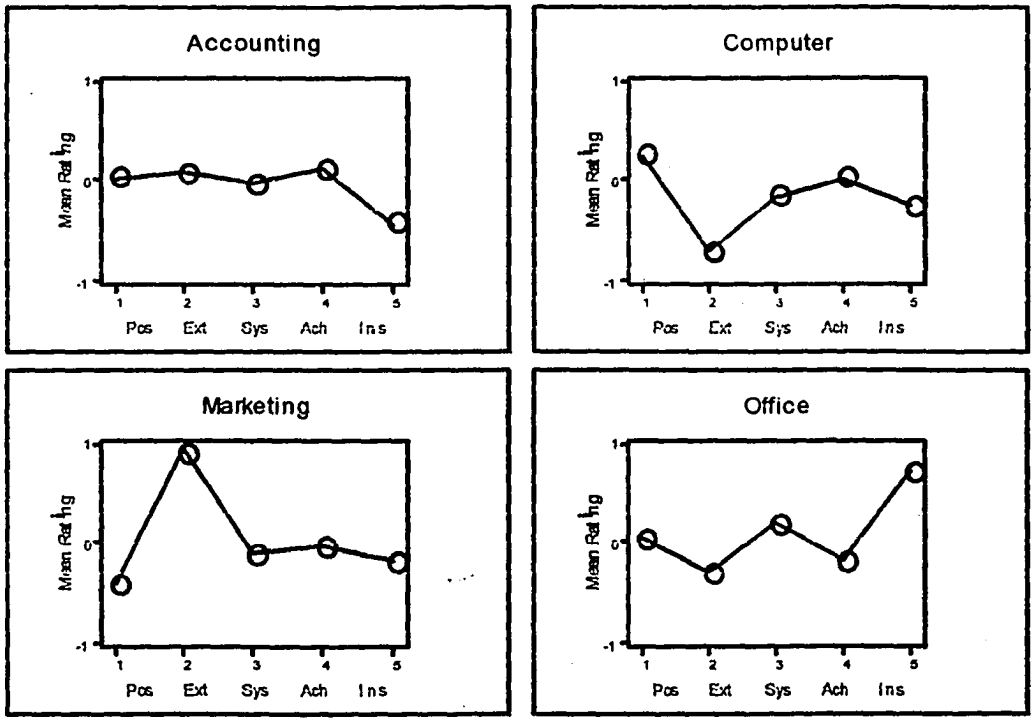


Figure 1. Mean Personality Factor Score Profiles for Accounting, Computer, Marketing, and Office Instructors.

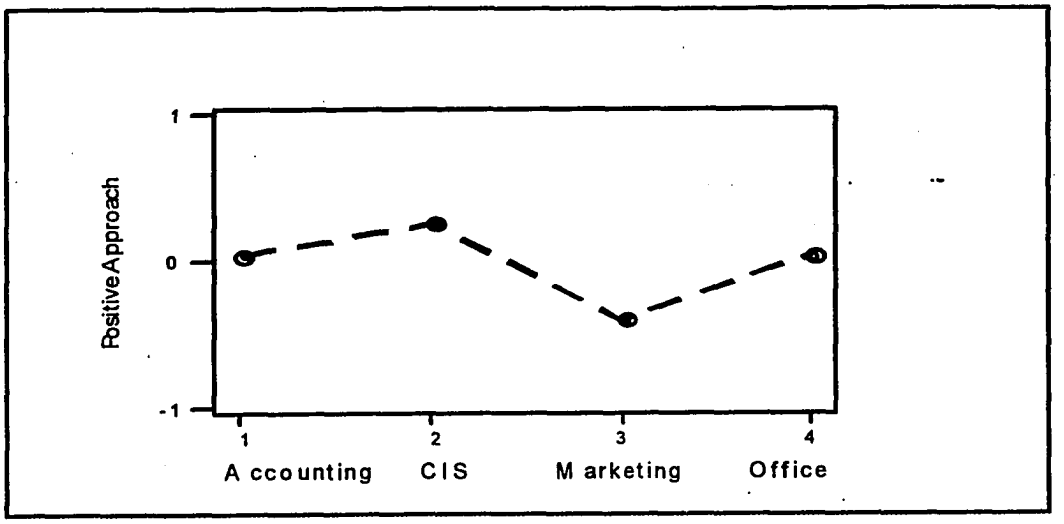


Figure 2. Mean Factor Scores for Positive Approach by Academic Area.

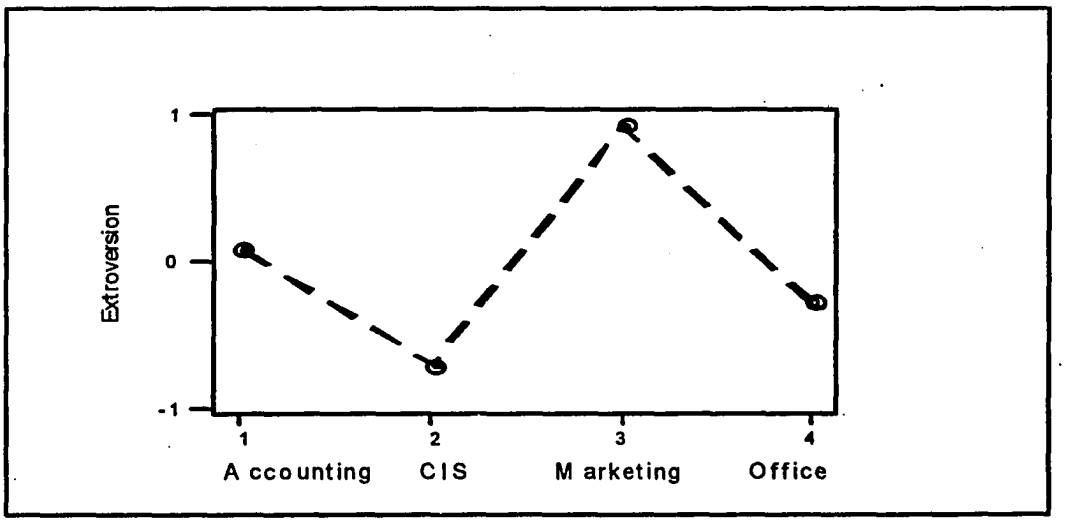


Figure 3. Mean Factor Scores for Extroversion by Academic Area.

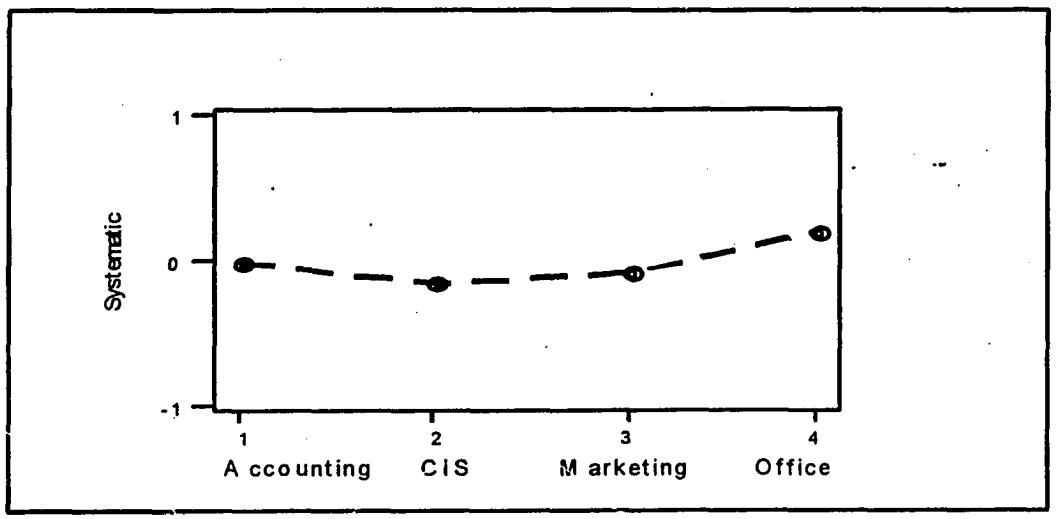


Figure 4. Mean Factor Scores for Systematic by Academic Area.

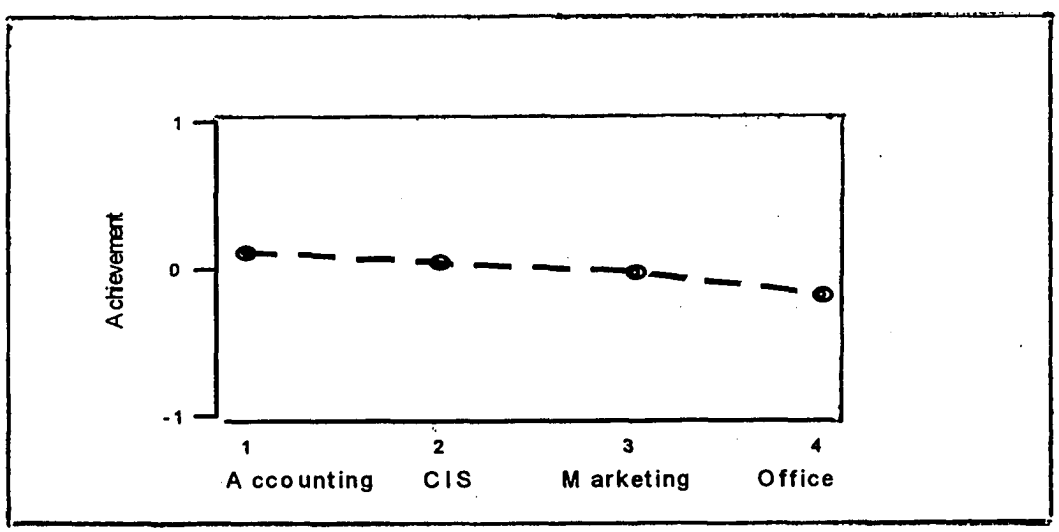


Figure 5. Mean Factor Scores for Achievement by Academic Area.

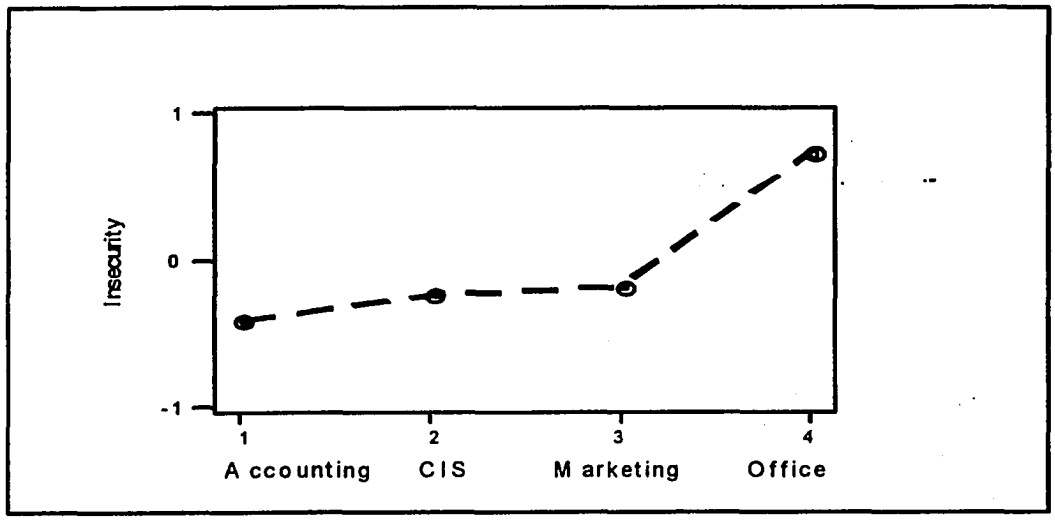


Figure 6. Mean Factor Scores for Insecurity by Academic Area.

Finally, the dimension of Insecurity manifests itself quite strongly in the instructors from the Office department. This may reflect the nature of professionals working in the office occupations area, i.e., these professionals are trained to provide quality assistance to other people and, in doing so, need to verify and be reassured that the work they are doing meets the expectations of these other people.

Factor Scores by Academic Area for Above-Average and Below-Average Instructors

To examine the third hypothesis that highly effective teachers have different personality profiles than not so highly effective teachers, the instructors for each academic area were divided into two groups based on the teaching effectiveness mean for that academic area. Those instructors rated higher than the departmental mean were placed in the Above-Average group and those instructors rated lower than the

departmental mean were placed in the Below-Average group. Factor score means for the five personality dimensions were computed for the Above-Average and Below-Average groups in each of the four academic areas. These means are reported in Table 7.

For each academic area, a general MANOVA using Pillai's test was performed in which the five personality dimensions were treated as the dependent variables and effectiveness group (above-average or below-average) was treated as the factor variable. These tests revealed significant interaction effects for the areas of Accounting where $F(5,21)=5.050$, $p<.01$, CIS where $F(5,18)=5.465$, $p<.01$, and Office Occupations where $F(5,22)=6.626$, $p<.01$. Results for the area of Marketing were insignificant.

To determine which were the discriminating personality dimensions, univariate (ANOVA) tests were performed between the above-average and below-average effectiveness groups on the personality factors for the Accounting, CIS, and Office departments. For the Accounting department, there were significant main effects for Positive Approach ($p<.05$) and Extroversion ($p<.001$). For CIS, there were significant main effects for Positive Approach ($p<.05$), Extroversion ($p<.05$), and Systematic ($p<.01$). For Office, there were significant main effects for Extroversion ($p<.01$), Systematic ($p<.05$), Achievement ($p<.05$), and Insecurity ($p<.05$).

Figures 7 through 10 graphically represent, by academic area, the personality differences between instructors rated as above average and below average with respect

to teaching effectiveness. The similarity in the graph patterns between the Above-Average and Below-Average groups for each academic area should be noted.

Table 7

Mean Personality Factor Scores of Above- and Below-Average Effectiveness for Instructors by Academic Area

	Accounting		CIS		Marketing		Office	
Personality Dimension	High N=15	Low N=12	High N=14	Low N=10	High N=13	Low N=10	High N=13	Low N=15
	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$
Positive approach	.045	-0.45	0.64	-0.25	-0.25	0.58	-0.24	-0.12
Extroversion	0.60	-0.53	-0.28	-1.27	1.09	0.73	0.11	-0.60
Systematic	0.13	-0.17	0.40	-0.92	0.11	-0.33	0.58	-0.13
Achievement oriented	0.21	0.03	0.18	-0.12	0.14	-0.19	0.21	-0.49
Insecurity	-0.33	-0.52	-0.10	-0.41	-0.27	-0.06	1.19	0.34

In general, the Below-Average pattern is a lesser "shadow" of the Above-Average pattern in that all but one Below-Average marks is simply lower than the corresponding Above-Average mark, i.e., the graph lines do not crisscross each other. This appears to reinforce the second hypothesis that departmental personality profiles are unique given that both highly-rated and lowly-rated rated instructors are perceived as having relatively the same personality strengths and weaknesses.

The third hypotheses that highly rated instructors display different personality characteristics than do lesser rated instructors, would tend to be supported based upon the results obtained for the areas of Accounting, CIS, and Office. Students in these three academic areas identified certain personality dimensions that distinguish above-average from below-average instructors.

The insignificant results in the Marketing area, where the graphs for the Above-Average and Below-Average groups are almost identical, provide an interesting incongruity. In contrast to the results from the other three areas, indications in the Marketing area are that, based upon student perceptions, the personality of a Marketing instructor has no relationship to that instructor's level of teaching effectiveness.

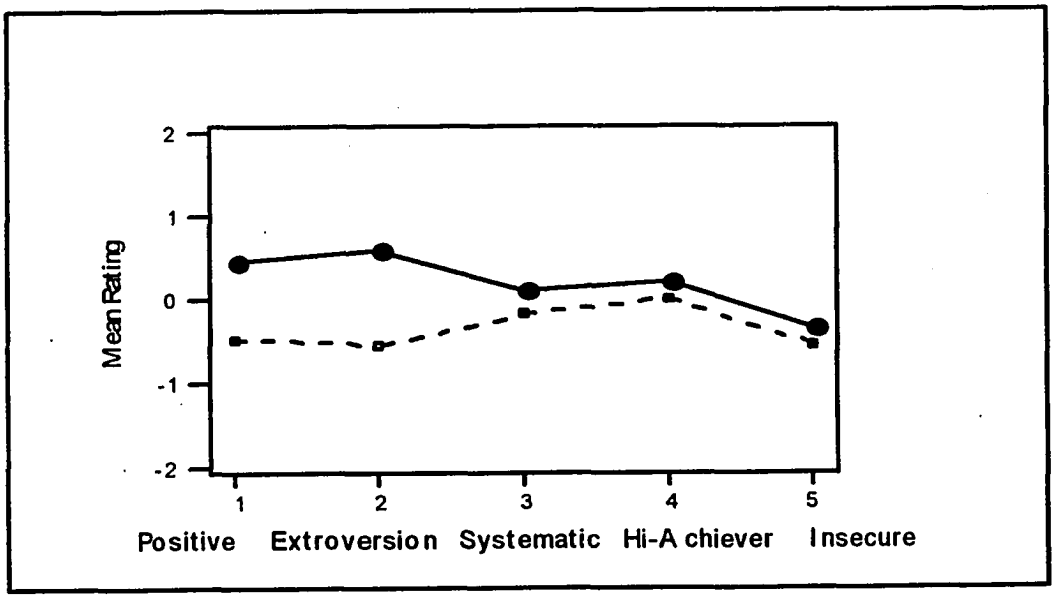


Figure 7. Mean Personality Factor Scores for Above- and Below-Average Accounting Instructors.

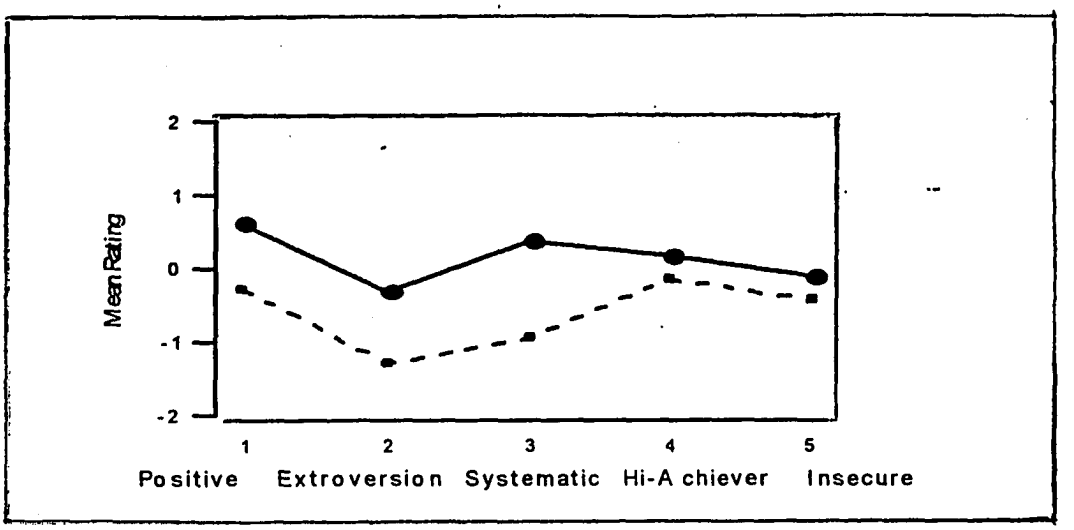


Figure 8. Mean Personality Factor Scores for Above- and Below-Average CIS Instructors.

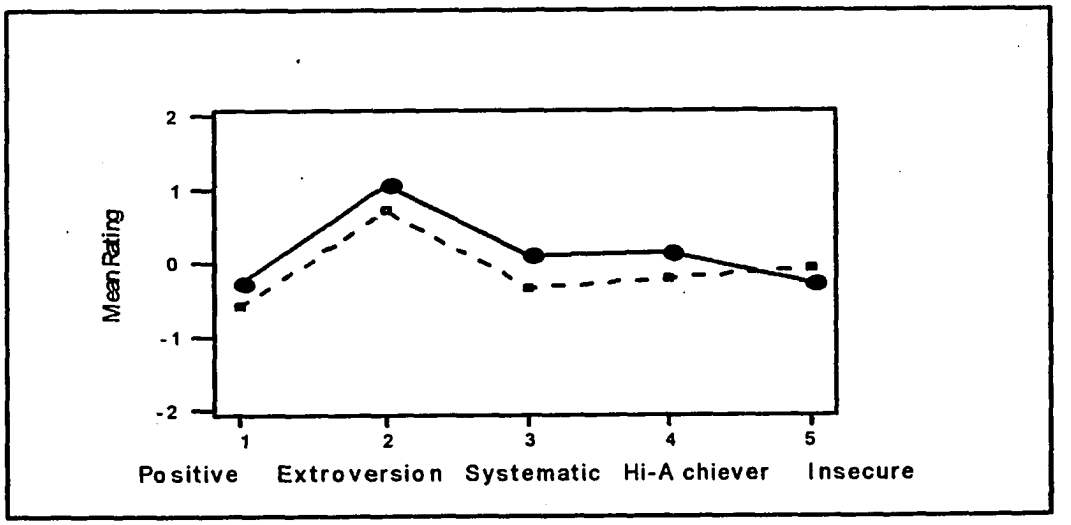


Figure 9. Mean Personality Factor Scores for Above- and Below-Average Marketing Instructors.

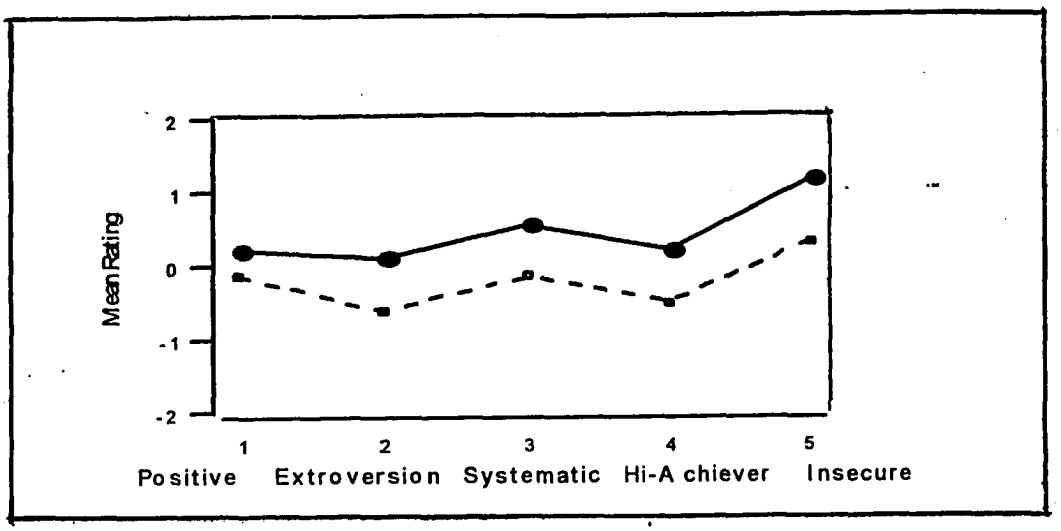


Figure 10. Mean Personality Factor Scores for Above- and Below-Average Office Instructors.

Summary

Chapter IV has described the manipulations performed on the research data, provided a rationale how these manipulations relate to the research questions, and presented the results as tables and figures.

The first salient point that emerged was the definite relationship of personality to teaching effectiveness; of the 29 personality traits, 26 traits (90%) had significant correlations with overall teaching ability. In particular, students associated effective teaching with a person they perceived as sociable, fun-loving, intelligent, objective, and showing leadership. The three traits whose correlations with teaching ability were not significant were those of meek, approval-seeking, and authoritarian.

Results for the individual academic areas were no less notable with 76 of a possible 116 personality-effectiveness correlations being significant: (a) Accounting had 23 of 29 significant correlations; (b) CIS had 21 of 29 significant correlations; (c) Marketing had 11 of 29 significant correlations; and, (d) Office Occupations had 20 of 29 significant correlations. The variety, diversity, and randomness of these significant departmental correlations are noteworthy. Only the traits of harm-avoiding and approval-seeking were not significantly correlated for any of the departments. The traits of meek, enduring, attention-seeking, aesthetically-sensitive, and authoritarian had significant correlations in only one department. The correlations for the nine traits of sociable, dominant, supporting, anxious, intelligent, liberal, leadership, objective, and extroverted were significant for all departments.

Factor analysis of student ratings for the 29 personality traits revealed five personality dimensions: (1) Positive Approach, (2) Extroversion, (3) Systematic, (4) Achievement Oriented, and (5) Insecurity. For all four academic areas, students rated their instructors as virtually equal on the dimensions of Systematic and Achievement Oriented. In comparison to the other areas, Marketing instructors were rated noticeably lower on the dimension of Positive Approach. However, Marketing instructors were perceived as highly extroverted in contrast to CIS instructors who were perceived as highly introverted; Accounting and Office instructors fell in the middle with respect to Extroversion. Finally, Office Occupations instructors were considered as significantly more insecure than their colleagues in other areas.

Personality comparisons between instructors rated as above-average versus below-average with respect to teaching effectiveness revealed significant differences in all but the Marketing department. In all three of the other departments, Extroversion was a predominant trait for highly effective teachers. Other predominant personality traits by department included: (a) Positive Approach for Accounting, (b) Positive Approach and Systematic for CIS, and (c) Systematic, Achievement, and Insecurity for Office Occupations.

The final chapter will review the objectives of this research and summarize and discuss the implications of these findings. Recommendations and rationale for further research will also be expressed.

CHAPTER V

SUMMARY AND IMPLICATIONS

Introduction

The purpose of this dissertation was to address issues regarding the relationship between student perceptions of instructor personality and instructor teaching effectiveness within the context of a technical college. Research was specifically designed and conducted to use student ratings in answering the following questions:

1. Is there a relationship between the personality of a technical college instructor and that instructor's teaching ability? If so, what personality traits are associated with effective teaching?

2. Does the personality profiles of effective technical college instructors differ between academic areas? If so, what are the discriminating personality factors?

3. Does personality distinguish above-average from below-average technical college instructors? If so, what personality dimensions are important in a highly effective teacher?

This chapter will review the design and methodology of the research and discuss the degree to which the findings of the study resolved the above stated questions. Further discussion will attempt to place these results and their implications

in perspective with respect to extant research. Finally, recommendations for additional research will be offered.

Summary of the Study

A cross-sectional survey research design was employed to answer the research questions by collecting opinions from students who were attending technical colleges in the state of Wisconsin. Based upon geographical regions, five colleges were randomly selected from the 16 colleges that comprise Wisconsin's technical college system. Instructors teaching in Accounting, Computer Information Systems (CIS), Marketing, and Office Occupations were asked to distribute a two-part survey to the students in their classes. The survey asked the students to rate their instructor on 29 personality traits and 18 teaching behaviors. Statistical procedures involving the use of Pearson product-moment correlation coefficients, factor analysis, and analysis of variance were used to examine relationships between instructor personality and the three areas of teaching overall, academic discipline, and highly effective instruction.

Results of the statistical analysis confirmed all three hypotheses. Highly significant correlations (r's in the .70s, $p<.001$) were found to exist between overall teaching ability and personality traits of sociable, fun-loving, intelligent, objective, and showing leadership. Moderately significant correlations (r's in the .50s and .60s, $p<.01$) also were identified for the traits of changeable, supporting, extroverted, nonanxious, ambitious, intellectually curious, and seeks definitiveness. In total, 26 of the 29 traits displayed significant ($p<.05$) correlations with teaching. These results

clearly support the existence of a relationship between instructor personality and teaching competence.

The correlations for each of the academic areas resulted in a variety of salient personality traits that presented a complexity of relationships. To simplify the comparison of profiles across academic disciplines, the ratings for the 29 personality traits were subjected to a factor analysis that derived five personality factors or dimensions for technical college instructors: (1) Positive Approach, (2) Extroversion, (3) Systematic, (4) Achievement Oriented, and (5) Insecurity. Instructor personality ratings were recalculated based on these five dimensions and averaged by academic area. Analysis of variance was used to examine personality differences and similarities across the four departments.

The dimensions of Systematic and Achievement Oriented were consistently regarded in teachers from all four academic areas. Marketing instructors were rated somewhat lower on Positive Approach than instructors from the other three areas. Definite distinctions were evident with respect to Extroversion where Computer instructors were rated lower than either Accounting or Office instructors who, in turn, were rated lower than Marketing instructors. Instructors from the Office Occupations area were scored extremely high on Insecurity in comparison to instructors from other departments. In summary, the most discriminated personality dimensions between academic areas were determined to be Extroversion and Insecurity.

The instructors for each academic area were divided into above-average and below-average groups based on the corresponding teaching effectiveness mean for that

area. Analysis of variance was again used to identify any differences in the personality dimensions between the two groups for each academic area. Highly effective Accounting teachers were rated significantly ($p<.001$) higher on the dimensions of Extroversion and Positive Approach than were their less effective counterparts. Highly effective Computer teachers were rated significantly ($p<.05$) higher on Extroversion, Positive Approach, and Systematic. There were no significant differences between the effectiveness groups in Marketing. Highly effective Office teachers were rated significantly ($p<.05$) higher on Extroversion, Systematic, Achievement, and Insecurity.

Discussion of Findings

The results of this study indicate that technical college students strongly associate effective teaching with instructor personality. In general, technical college teachers are characterized as optimistic, extroverted, methodical, and high achievers. These predominant traits closely resemble those identified in other studies. Sherman and Blackburn (1975) found effective teachers to be dynamic, pragmatic, amicable, and intellectual. Marsh (1983) used terms such as leadership, extroversion, objectivity, and low anxiety in describing competent instructors. Tomasco (1980) portrayed effective classroom educators as industrious, friendly, perfectionistic, non-authoritarian, and humble. Rushton, Murray, and Paunonen (1983) could associate extroversion, leadership, liberalism, and cheerfulness with quality instruction. Overall, these findings should seem reasonable or not surprising especially when compared

with what would be the antithesis, i.e., would one expect a successful teacher to be perceived as pessimistic, introverted, sloppy, and lazy?

Results of this study also indicate that there are notable differences in the personality profiles of effective teachers who teach in academic areas. Though direct comparisons to the subject areas of other studies cannot be made, these findings are consistent with those of Sherman and Blackburn (1975) who reported personality variations between humanities, natural science, and social science instructors, Marsh and Overall (1981) who reported a difference in the ratings for accounting, economics, and finance instructors, and, finally, Murray, Rushton, and Paunonen (1990) who reported distinct instructor profiles for those teaching introductory, elective, and advanced types of courses.

Specific observations precipitated by this study regarding the personality idiosyncrasies by academic area should be noted. Accounting teachers displayed neither high nor low ratings on any of the five personality dimensions that might be construed to mean that Accounting teachers have no personality; a major discipline of Accounting is to remain emotionally neutral and focus on the numbers, not the people, associated with a situation. Computer teachers were also somewhat neutral on all five personality dimensions except Extroversion where they received the lowest rating; this strong tendency toward introversion reflects the nature of this field where one works primarily with computers instead of with people. Extroversion was also the distinguishing characteristic for Marketing instructors but in a highly positive direction; certainly, to be successful in the world of Marketing requires one to be able

to establish a rapport with other people by being outgoing, friendly, and sociable. Instructors in the Office area were conspicuous by their elevated rating on the dimension of Insecurity; considering that people in this profession specialize in helping others, expecting them to seek reassurance and verification that the work they are doing is correct seems natural. In summary, the differentiating characteristics for each academic area suggest success in the corresponding occupational area. The results of the study, therefore, provide justification for seeking and promoting these personality traits in instructors who teach in these academic areas to provide students with an appropriate behavioral model.

Another observation from the analysis of the academic personalities was that the ratings for Positive Approach, Systematic, and Achievement were consistent for all departments. This would suggest that these characteristics are valued in all instructors regardless of discipline and, therefore, should be encouraged, nurtured, and reinforced in those entering and working in the teaching profession.

The final set of findings also identified significant personality differences between highly effective and not so highly effective teachers. Highly effective Accounting, Computer, and Office instructors were rated higher on all five personality dimensions than were their less effective counterparts. These results might encourage the observation that instructors receiving higher personality ratings also received higher effectiveness ratings. Certainly this would indicate that student ratings may have been strongly influenced by a "halo" effect, i.e., students liked and were attracted

to the teacher as a person and therefore rated him or her higher as an instructor (Borg & Gall, 1989).

The presence of a halo effect is quite likely, but, as Costin, Greenough, and Menges (1971) concluded, the degree to which it may have biased the results is arguable. Three of the five personality dimensions, Positive Approach, Extroversion, and Achievement Oriented, are characteristics that would be associated with someone considered as popular or charismatic. Higher ratings on these dimensions would support a halo effect but, it should be noted, would also be according to effective teaching. Higher ratings on the other two personality dimensions, Systematic and Insecurity, would not seem congruent with the profile of a popular or charismatic person. However, these dimensions were definitely associated with the profile of highly effective teachers. If the student ratings of teaching effectiveness were merely the reflection of a popularity contest, then it seems that above-average teachers should not be rated higher on Systematic and Insecurity than below-average teachers.

In summary, the findings of this study are consistent with extant research on the relationship between instructional effectiveness and teacher personality. Namely, personality does correlate with effectiveness. Personality differences do exist between academic disciplines and between highly effective and not so highly effective teachers

Recommendations for Further Research

This study focused on the main academic areas within one of the five major divisions of the Wisconsin Technical College System, i.e., Business and Marketing.

One area for future research would be to see if similar results would be obtained using one or several academic disciplines from the other divisions, i.e., Health Occupations, Trades and Industry, Protective Services, and Agriculture. It would be particularly interesting if factor analysis of the personality traits would derive the same basic dimensions or factors. If so, evidence would begin to accumulate in support of the existence of a general personality profile for an effective technical college instructor.

More extensive research is called for in studying the personality differences between highly effective instructors and their less effective counterparts within academic area. Samples in this study were not large enough to do anything but split the instructors from each department into two groups based on their relationship to the departmental effectiveness mean. A larger sample of instructors from one discipline would be statistically necessary to allow especially high and low effectiveness groups to be defined and compared, e.g., those one standard deviation above and those one standard deviation below the mean.

Reflection

Most educators view their job as a professional obligation by which they have been entrusted with an opportunity to have an impact upon the lives of others. As these opportunities are relatively brief, insight into conditions that will maximize their investment in time and effort is important. This research focused on the human condition by investigating the personality traits which students associate with effective teaching. It was felt that the quality of education greatly depends on the quality of

the relationship between teacher and student. As noted by Niblett (1954), "It is difficult to overestimate the importance of really personal contacts in education, for they are the link by which the individual is joined as by an umbilical cord to his social heritage. The more real intimate and personal the contact, the greater the power of education made possible" (p. 72).

Appendix A

Cover Letter to Business and Marketing Deans

2740 West Mason Street
Green Bay, WI 54307-9042
September 22, 1994

Mr./Ms. Business & Marketing Dean
Campus Street Address
City, State, Zip Code

Dear Dean,

Four years ago I started a doctoral program in Educational Leadership through Western Michigan University. I've completed the course work and am at the point where I need to conduct a research study for my dissertation.

Teaching effectiveness has always interested me and, upon reviewing research on this topic, I found numerous studies that examined the personality traits of highly effective teachers. All of these studies, however, were conducted at four-year universities. Therefore, I decided to replicate this research within the context of a technical college. I divided the Wisconsin Technical College System into five geographical regions and Wisconsin Indianhead Technical College was selected from the northwest region.

WITC's participation in this study would involve two instructors from each of your accounting, computer information systems, marketing, and office technology departments who would be asked to distribute a 47-question survey to the students in three of their classes. Students would rate their instructor on eighteen teaching factors and twenty-nine personality characteristics. The survey would take about fifteen minutes to complete.

Using data from all five colleges, the personality profile of a highly effective WTCS instructor would be developed. Separate department profiles would also be derived.

The names of all participants would be kept strictly confidential and are not required for the statistical analysis. It is important, however, to be able to analyze surveys by course for which a coding system has been developed. Due to the design of the study , neither individual instructor nor separate college results would be available.

Enclosed are sample questions from the survey for you to review. I will be contacting you in about two weeks to see if WITC would be willing to participate. If so, I would then need your assistance to randomly select eight instructors and contact them regarding their willingness to participate. Ideally, the survey should be administered sometime during the week before Thanksgiving, i.e. November 14-18.

Thank you for your time and consideration.

Sincerely,

Fred Manley

Appendix B

Personality Survey

Please indicate the degree to which your instructor displays the following behaviors.

Never 1 — Rarely 2 — Sometimes 3 — Often 4 — Always 5

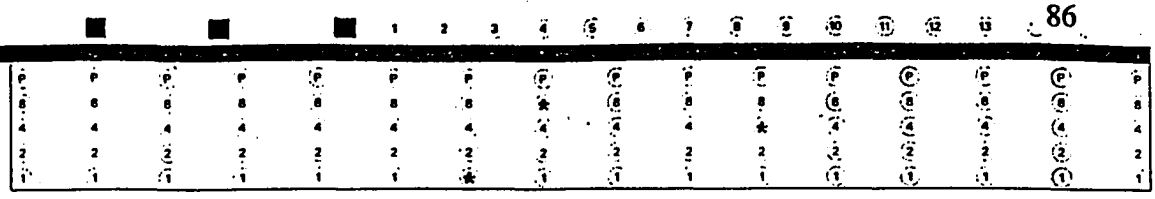
1.	Meek, modest, mild-mannered, soft-spoken	1	2	3	4	5
2.	Ambitious; strives to accomplish difficult tasks	1	2	3	4	5
3.	Friendly, sociable, warmhearted	1	2	3	4	5
4.	Aggressive, pushy, argumentative, scrappy	1	2	3	4	5
5.	Independent, self-reliant, self-sufficient	1	2	3	4	5
6.	Flexible, adaptable; adjusts to change	1	2	3	4	5
7.	Does not like things left up in the air; definitive	1	2	3	4	5
8.	Defensive, guarded, protective	1	2	3	4	5
9.	Forceful, dominant, controlling	1	2	3	4	5
10.	Determined, stubborn, persistent	1	2	3	4	5
11.	Dramatic, colorful, flamboyant	1	2	3	4	5
12.	Careful, cautious; avoids problems and stress	1	2	3	4	5
13.	Spontaneous, impulsive, impetuous	1	2	3	4	5
14.	Sympathetic, compassionate, understanding	1	2	3	4	5
15.	Neat, organized, tidy, orderly	1	2	3	4	5
16.	Easy-going, lighthearted, cheerful	1	2	3	4	5
17.	Sensitive to sights, sounds, tastes, and other experiences	1	2	3	4	5
18.	Concerned about what other people think of him or her	1	2	3	4	5
19.	Seeks the help, advice, and assistance of others	1	2	3	4	5
20.	Intellectually curious; enjoys mental problems and puzzles	1	2	3	4	5
21.	Tense, nervous, uneasy	1	2	3	4	5
22.	Bright, quick, clever, sharp-witted	1	2	3	4	5
23.	Progressive, modern, liberal; in tune with the times	1	2	3	4	5
24.	Shows leadership; takes initiative	1	2	3	4	5
25.	Just, fair, impartial	1	2	3	4	5
26.	Meticulous, perfectionistic; pays attention to details	1	2	3	4	5
27.	Strict, rigid, disciplined; sticks to the rules	1	2	3	4	5
28.	Outgoing, extroverted; enjoys being around people	1	2	3	4	5
29.	Worried, moody, temperamental	1	2	3	4	5
		1	2	3	4	5

PLEASE COMPLETE BOTH SIDES.

THANK YOU!

Appendix C

Teaching Effectiveness Survey



Please rate this course on the following items.

	Poor 1	Fair 2	Average 3	Good 4	Excellent 5
1. Explanations are clear and easy to understand	1	2	3	4	5
2. Presentations are well prepared and organized	1	2	3	4	5
3. Instructor stimulates student interest in the subject matter	1	2	3	4	5
4. Student participation and discussion are encouraged	1	2	3	4	5
5. Assignments are reasonable in length and difficulty	1	2	3	4	5
6. Instructor has a thorough knowledge of the subject matter	1	2	3	4	5
7. Grading is fair and impartial	1	2	3	4	5
8. Students are treated with respect and dignity	1	2	3	4	5
9. Instructor is enthusiastic about teaching	1	2	3	4	5
10. Course work is mentally challenging and rewarding	1	2	3	4	5
11. Examples and illustrations are meaningful and helpful	1	2	3	4	5
12. Students are made to feel comfortable about asking questions	1	2	3	4	5
13. Instructor is available outside of class for consultation	1	2	3	4	5
14. Students are complimented for correct answers and good work	1	2	3	4	5
15. Instructor senses student confusion and slows down or repeats	1	2	3	4	5
16. Assignments and course work are in line with course objectives	1	2	3	4	5
17. Overall, how much do you feel you are learning in this course	1	2	3	4	5
18. Overall, how would you rate your instructor's teaching ability	1	2	3	4	5

Please complete the following personal information about yourself.

1. Sex: 1=Female, 2=Male
2. Age: 1=under 20, 2=20-29, 3=30-39, 4=40-49, 5=50 and over
3. Race: 1=American Indian, 2=Asian, 3=Black, 4=Hispanic, 5=White

PLEASE
COMPLETE
BOTH
SIDES.
THANK YOU!

Appendix D

Human Subjects Institutional Review Board Approval

Human Subjects Institutional Review Board

Kalamazoo, Michigan
616 387-8293

WESTERN MICHIGAN UNIVERSITY

Date: November 8, 1993

To: Fred Manley

From: M. Michele Burnette, Chair

Re: HSIRB Project Number 93-11-14

This letter will serve as confirmation that your research project entitled "Classroom personalities of effective teachers within a technical college setting" has been **approved** under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: November 8, 1994

xc: Jenlink, Ed. Leadership

Human Subjects Institutional Review Board

Kalamazoo, Michigan
616 387-8293

WESTERN MICHIGAN UNIVERSITY

Date: January 23, 1995

To: Fred Manley

From: Richard Wright, Chair

Re: HSIRB Project Number 93-11-14

This letter will serve as confirmation that the change (new questionnaire) to your research project "Classroom personalities of effective teachers within a technical college setting" submited to the HSIRB office on January 4, 1995 in response to the HSIRB Approval Review Form has been approved by the Human Subjects Institutional Review Board. Furthermore, approval for the project has been extended an additional year. The conditions of this approval are specified in the Policies of Western Michigan University.

You must seek reapproval for any further changes in this design. You must also seek reapproval if the project extends beyond the termination date. In addition if there are any unanticipated adverse or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: Nov. 8, 1995

xc: Jenlink, EDLD

Appendix E

Directions for Administering the Survey

SURVEY INSTRUCTIONS

The three sets of surveys you have been given are for Office Tech courses.

If you don't teach three Office Tech courses or if the same students are in two of your courses, please feel free to pass along one of the survey packets to another Office Tech instructor.

If you do pass along one of the survey packets to another Office Tech instructor, please mark a big "X" on the back on the envelope.

Each envelope contains surveys coded for one, and only one, class.

If there aren't enough surveys in the envelope for the number of students in the class, do not borrow surveys from another envelope. Regrettably, some students may be left out.

Allow at least 15 minutes for the students to complete the surveys.

Please try to administer the surveys during the week of November 14, 1994.

It's important your students be briefed on what they are being asked to do.

Please read or paraphrase the following information:

- **This class has been selected to participate in a state-wide research study being conducted at four other technical colleges in Wisconsin.**
- **Students are being asked to complete a two-part survey.**
- **Student participation is totally voluntary.**
- **All answers will be kept anonymous and confidential.**
- **When all surveys have been handed in, the instructor will "Peel and Seal" the envelope and then drop it in a mail box.**
- **Please answer all questions.**

Thank you!

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