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Andrews University

School of Education

STUDENT EVALUATIONS OF TEACHERS, STUDENT RATINGS OF TEACHER BEHAVIORS, AND THEIR RELATIONSHIP TO STUDENT ACHIEVEMENT: A CROSS ETHNIC COMPARISON

A Dissertation

Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Trudy Ann Holmes

July 1995

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STUDENT EVALUATIONS OF TEACHERS, STUDENT RATINGS OF TEACHER BEHAVIORS, AND THEIR RELATIONSHIP TO STUDENT ACHIEVEMENT: A CROSS ETHNIC COMPARISON

A dissertation
presented in partial fulfillment
of the requirements for the degree
Doctor of Philosophy

by

Trudy Ann Holmes

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07-20-1995
Date

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DEDICATION

This volume is dedicated in memory of my brother David whose life, even now, continues to help me find meaning and purpose for my own, and to God Who gave me the strength and determination to complete it.

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ABSTRACT

STUDENT EVALUATIONS OF TEACHERS, STUDENT RATINGS OF TEACHER BEHAVIORS, AND THEIR RELATIONSHIP TO STUDENT ACHIEVEMENT: A CROSS ETHNIC COMPARISON

By

Trudy Ann Holmes

Chair: Jimmy Kijai

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ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: STUDENT EVALUATIONS OF TEACHERS, STUDENT RATINGS OF TEACHER BEHAVIORS, AND THEIR RELATIONSHIP TO STUDENT ACHIEVEMENT: A CROSS ETHNIC COMPARISON

Name of researcher: Trudy Ann Holmes

Name and degree of faculty chair: Jimmy Kijai, Ph.D.

Date completed: July 1995

Problem

This study was conducted to determine (1) whether student evaluations of teachers and ratings of teacher behaviors are related to the ethnicity of the students, (2) the relationship between overall student evaluations of teachers, classes, and ratings of teacher behaviors, and (3) the relationship between student evaluations of teachers, ratings of teacher behaviors, and student achievement.

Method

Two teacher evaluation instruments were administered to students in undergraduate classes at a Christian college and a Christian university. The Student Evaluation of Educational Quality (SEEQ) was used as a high-inference evaluation form and the Teacher Behavior Inventory (TBI) was used as a low-inference rating form. The sample included 414

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students from one college with a multicultural population and 67 students from one college with a homogeneous ethnic population.

Results

In both the college and the university, no relationship was found between ethnicity and student evaluations of teachers. In the multiethnic setting, differences were found between the ratings of teacher behaviors by Caucasian students and the students from the remaining ethnic groups ($p < .05$) . The Caucasian students tended to rate teachers lower in the areas of structuring and interaction, and higher in the areas of interest and pacing than the students from the other ethnic groups represented. Student ratings of teacher behaviors were significantly related to students' overall evaluation of teachers and classes. The behaviors that were significantly related to the evaluations differed for each ethnic group. Student evaluations of teachers and ratings of teacher behaviors were significantly, though weakly, related to achievement. The areas of evaluations and ratings that were related to achievement were different for each ethnic group.

Conclusions

Students in general tend to give teachers positive evaluations and there were no significant differences among evaluations of teachers done by students from different ethnic groups. However, students from different ethnic groups perceive teacher behaviors differently and give teachers overall evaluations based on different behaviors. Different teacher behaviors are also weakly related to achievement of college students from different ethnic groups. Teachers may be able to improve teaching by learning what behaviors work well with different groups and include a variety of methods in the classroom.

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CHAPTER I

INTRODUCTION

In recent years the improvement of instruction at all levels of education has been a major concern to educators. Directly linked to the concern about improving instruction is an interest in discovering what specific teacher behaviors are related to increased success of some teachers with all groups of students, including those from various ethnic backgrounds.

The evaluation of actual teaching is one way of investigating teacher success and effectiveness with students. In higher education, student evaluation of teachers is the most widely used method of assessment of teachers' performance. This method is also used for research on elements of successful teaching on the college/university level. The use of a singular measure of teacher evaluation has been criticized strongly (Franklin & Theall, 1990), but whether used by itself or in combination with other measures, the student evaluations of teachers have yielded information that has been useful to faculty development efforts in many schools.

When viewed from this perspective, student evaluation measures appear to be valuable potential sources of information about differences that characterize students from various ethnic groups, and which impact the educational setting. Such information could prove useful for efforts in improvement of instruction at the college/university level. This study was undertaken with the intent to use students' feedback to identify some of the differences between college/university students from various ethnic backgrounds.

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Evaluations of Teachers and Teacher Behaviors in the Classroom

The relationship between the classroom behaviors of teachers and effective teaching has been a subject of research for a number of years. However, much more attention has been given to teachers at the primary and secondary levels while attention to teaching at the college/university level has been more recent and has not attracted as much attention. Teacher behaviors have been studied under such categories as classroom management, classroom climate, instruction, differential treatment of students, teacher expectations of students, class size, and teacher communication (Cherry, 1987/1988; Chiang, 1991; Henderson, 1992/1993; Nussbaum, 1992; Walker, 1987/1988). The classroom behaviors investigated were found to be related to most educational outcomes including student achievement and motivation.

Teacher behaviors form an integral part of the education process. The behaviors displayed by the teacher in the classroom are probably the greatest determinants of the impact instruction will have on students (Chiang, 1991). While some research has focused on which teacher behaviors in the classroom are more likely to result in more favorable evaluations of teachers (Murray, 1983) and higher achievement on the part of students (Nussbaum, 1992), fewer studies were found that investigate possible differences in student responses to identified teacher behaviors. Individual differences in students have an impact on the way they perceive teacher behaviors in the classroom, and those behaviors most favored by some may not be preferred by others. One of the differences between students that may affect student perception of teacher behavior is cultural/ethnic background (Wehrly, 1988).

As the world in general, and the United States in particular, becomes more cosmopolitan, the need for effective multicultural awareness and skills in communication is increasing rapidly. The number of minority students in higher education is increasing. At the

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same time, many who serve such populations are not aware of the subtle differences that exist in communication and other interaction between the majority and various minorities. Such differences could affect students' performance in classes, their level of comfort and feeling of acceptance, and their level of motivation. What the minority student expects to experience in a particular college class may be influenced by cultural values and/or previous experiences in a different setting. When these expectations are not known by the teacher, the teacher is unaware of how he or she may boost interest and motivation in the classroom. According to Jenkins and Bainer (1990), "many faculty members are not aware of the attitudes and behaviors they exhibit which are offensive to or ineffective with minority students" (p. 1).

There is an increasing body of literature that addresses these issues. However, more research is needed to answer the questions that teachers have about what techniques work best with students from diverse ethnic groups.

Student Evaluation of Teachers

Evaluation of teachers by students, particularly at the college level, has been the focus of much investigation and commentary for decades. Student evaluations of teachers represent a valuable source of input in assessing what works with students. They are also widely used for purposes of accountability, consideration for promotion, and administrative decision making. Student evaluations of teachers singularly, and in conjunction with other procedures, have proven to be useful for helping teachers improve their presentations and classroom effectiveness (Murray, 1987; Wilson, 1986).

Student evaluations of teachers are important sources of information about teaching because the students are with the teacher throughout the entire class and, unlike a visiting observer, they are acquainted with all the typical classroom practices of the teacher. Students are first-hand sources of information on the impact that teachers' presentations have had on

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them, and the evaluation procedures allow them to give their reactions. This first-hand involvement in a class qualifies the student to make some evaluation of the teaching process (Aleamoni, 1981). In addition, it is unlikely that an external individual would take the perspectives of all the students in the class, or observe all teaching behaviors that affect individual students. Since students are different, perspectives will be different. Feedback from students can yield information that is more representative of the true effect of the teacher's presentation on them.

Where culture and/or ethnicity is concerned, one may observe that within-group differences may be as responsible for variety in preferences as between-group differences. However, differences produced by the cultural environment affect the perspectives, expectations, and communication patterns of individuals who are products of that environment, and these features are shared by most of those within the same or similar context (Banks, 1988). Although there probably is no right or wrong way that will work for all students at all times, creating awareness among instructors that differences do exist, and of the types of differences that exist, will assist them in preparing to accommodate the differences of others in future situations.

Statement of the Problem

This study was conducted to examine the relationships between ethnicity, student evaluations of teachers, and student ratings of specific teacher behaviors. In addition the relationship between student evaluations of teachers and ratings of teacher behaviors and student achievement was also examined. Specifically, the following research questions were investigated:

1. Is there a relationship between student evaluations of teachers and student ethnicity?
2. Are ratings of specific teacher behaviors related to ethnicity?

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3. Is there a relationship between student ratings of specific teacher behaviors and overall student evaluations of teachers and classes?
4. Is there a relationship between student evaluations of teachers, ratings of specific teacher behaviors, and student achievement in class?

Rationale

In providing a rationale for this study, two questions are addressed. The first question asks why ethnicity might be considered to be a factor affecting the perceptions of students in class. To provide an answer to that question, definitions of both culture and ethnicity are provided to outline the effect that ethnicity may have on individuals via culture.

According to De Vos and Romanucci-Ross (1975), "an ethnic group is a self-perceived group of people who hold in common a set of traditions not shared by the others with whom they are in contact" (p. 9). Ethnic groups identify with one another on the basis of such aspects as country of origin, common ancestry, race, religion, language, values, genetically inherited features, and behavior patterns. While differences in behavior exist between individuals in any group, the common beliefs, values, and behavior patterns shared by members of different ethnic groups influence their interaction with each other and others outside of their own group.

Hofstede (1980) defined culture as "the interactive aggregate of common characteristics that influence a human group's response to its environment"; in other words how a group of people perceives the world, formulates beliefs, evaluates objects, ideas, and experiences, and participate in common behaviors. Culture can be conceptualized as a blueprint guiding the ways individuals within a group communicate, handle time and space, express emotions, and approach work and play (Biehler & Snowman, 1993). Bullivant (1987) states that people live in or belong to social groups and culture is "a social group's design for surviving and

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adapting to its environment" (p. 6). This definition of culture allows the term to be used to identify the format of interaction in different types of groups including sexual identity groups, disability groups, professional groups, and religious groups, as well as ethnic groups. In this context, the term will be used only in relation to ethnicity.

Members of an ethnic group usually share very similar cultural experiences, and ethnic groups are distinguished by identifying cultural characteristics as well as other characteristics stated earlier. Involvement and participation in the social dimension of the ethnic group results in the continued passing on of the group's culture to its members (Atkinson, Morten, & Sue, 1993). Culture provides the information base that the members of the group will use as they translate knowledge, ideas, and thoughts into behaviors (Bullivant, 1987). Differences, resulting from variety in cultural experiences, that affect students and the process of education include verbal and nonverbal communication, social value patterns, learning styles, and modes adopted for study (Biehler & Snowman, 1993; Swisher, 1992).

The second question that is addressed asks why it is currently important to do research on ethnic differences in the classroom. Recent years have witnessed rapid growth in the populations of various ethnic minorities in this country and schools at all levels are faced with the challenge of providing each individual with an equal opportunity for education, which includes determining how best to communicate and organize the education process (Jenkins & Bainer, 1990; Wehrly, 1988). In addition to minorities that reside in the U.S., there is also an increasing number of International students who attend school in this country because of limited educational resources in their countries of origin. They form a part of the student population which may be different in terms of ethnicity and culture.

There are a number of voices that are being raised in concern about students from ethnic minorities. One important reason for this is poorer than average performance, in educational settings at all levels, by some ethnic minorities (Wehrly, 1988). Other reasons include (1) a

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moral duty to make up for denial of opportunities to some ethnic groups in the past, (2) enrichment of scholarship through the admission of multiple viewpoints, and (3) increasing social and political pressure by minority groups that their needs and interests be addressed (Border & Van Note Chism, 1992).

In an effort to address the concerns of minority students, the voices concerned point to the need for teachers to learn about the impact that ethnic/cultural differences have on the learner. Ainsworth (1986) suggests that particular attention needs to be directed to developing instructional techniques that will reflect cultural pluralism and recognition of learner differences. The atmosphere of the institution needs to be accepting and supportive for students to work toward achieving their potential. Creating such an atmosphere includes the development of understanding of cultural differences and their impact on behavior and learning styles.

One of the challenges for teachers that has been outlined is learning effective teaching behaviors for use in classes with students from many different ethnic (and cultural) groups. Gay (1992) points out that "the 'what' and 'how' of teacher talk in the classroom need to be changed to reflect sensitivity to the cultural backgrounds of different students," (Gay, 1992, p. 47). Ladson-Billings (1992) points out that learning styles research in the area is open to criticism and that while studies on the success of specific teaching strategies for particular groups are increasing, there is not yet a large enough body of sound detailed research.

In reference to higher education in particular, Anderson and Adams (1992) state that, "one of the most significant challenges that university instructors face is to be tolerant and perceptive enough to recognize learning differences among their students" (Anderson & Adams, 1992, p. 19). They note that although controversy surrounds the concept that there are stylistic preferences in learning that characterize entire groups, research across various disciplines has shown that people who share common cultural backgrounds display similar

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patterns in intellectual activities. They encourage teachers to broaden their repertoire of teaching skills and become flexible to accommodate the differences.

In light of the concerns indicated above, the identification of teacher behaviors that can help college teachers improve their instructional practices for the benefit of students from all origins appears basic to improving instructional services. Studies with such a focus make an important contribution to improving education for minorities and assisting them to improve their performance.

One other factor in this rationale has to do with the lack of research concerning the population that was represented in this study. This population was made up of students in small two Christian colleges. There are a couple of factors that may differentiate such populations from students in colleges and universities in general. First, previous research has suggested that students in small colleges have even higher expectations of teachers with regard to certain teacher behaviors than those in larger institutions (Hugenberg, 1983). Although no literature has been found concerning expectations of minority college students in small religious colleges, the possibility exists that such students do have higher expectations that faculty will display a higher degree of understanding and acceptance through classroom behaviors. Since smaller classes increase contact between teachers and students, minority students may expect teachers to be more aware of their differences and more open to accommodating them. In a religious educational facility where such themes as brotherhood, tolerance, Christian love, and acceptance are part of the philosophy of education and activities promoted on campus, higher expectations of teacher behaviors by students may be even more likely. On the other hand, the integration of Christian philosophy into the behavior of both teachers and students may lessen the impact of cultural differences because tolerance and acceptance are promoted. In light of these factors, research at Christian colleges may provide

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valuable information relating to a population about which there is presently less research than there is for the general college/university population.

Significance of the Study

An investigation about student ratings of specific teacher behaviors and their relationship to student evaluations of teachers and student achievement could provide insight into which teaching behaviors most affect students' judgments about teachers and their performance in class. Including information on students' ethnic backgrounds in such an investigation could also indicate whether differences exist between ethnic groups on the teaching behaviors judged on evaluations, and those that impact achievement. With this information it may be possible to identify behaviors that could be more effective with various groups and may help teachers to better interpret feedback in the form of student evaluations. Such knowledge would be very useful in grooming teachers to work with mixed or different cultural populations.

No other studies were found that examined all the variables included in this study. By carrying out this investigation, it is hoped that this study will add to the available information and also encourage further investigation concerning the topics that are addressed in this study.

More specifically, this study was undertaken with the intent to provide valuable information for those involved in teaching and improvement of instruction in small Christian educational institutions. There is a particular need in these institutions because of the increasing international composition of church membership, the emphasis that is placed on the benefits of Christian education, and the lack of research on this topic in Christian education.

Since research has indicated that student evaluations that provide more specific behavioral information are most useful to teachers in assisting them in improving their performance (McKeachie, 1987; Wilson, 1986), then information gathered from this study may render student evaluation information more interpretable for teachers by linking them to

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students' perceptions of teacher behaviors. It is hoped that in the absence of specific preparation in teaching skills for college and university teachers, the findings of this study will provide one resource for such teachers as they attempt to serve others and achieve excellence in their profession.

Delimitations

1. The findings of this study may be generalizable only to faculty and student relations in small religious colleges that are similar in structure to the ones used in this study.
2. There are other factors such as age, gender, class size, and reason for taking the class that may contribute to differences in ratings between ethnic groups. These variables are not addressed in this study.

Limitations

The following limitations have been recognized:

1. Since the number of subjects representing some cultural group is not large, preferences expressed by those group members may not be indicative of the population in that group.
2. Due to the small samples of subjects in individual classes, between class comparisons of ratings and evaluations, which would highlight teacher differences, are not addressed.
3. Due to the method of selection used, there may not be many differences in the behaviors of the teachers included in the sample.

Definition of Terms

In this study the following frequently used terms are defined as indicated below:

Cultural minorities: Individuals whose cultural and ethnic origins are different to the majority of the citizens of the U.S.

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Ethnic background: A background shared by a specific ethnic grouping that includes similarities in mode of thought, behavior, and interaction, and a common ancestry and geographical place of origin.

High-inference behaviors: Behaviors about which inferences must be made in order to measure them for purposes of evaluation--in other words, behaviors that are not specific and are difficult to measure objectively. Such behaviors are usually presented in standard student evaluation forms.

International students: Students from other countries who are not citizens or legal residents of the U.S. and who have legal status in this country as students.

Low inference teacher behaviors: Specific, observable actions carried out by the teacher when in the classroom interacting with students and during the process of instruction (Murray, 1983).

Assumptions

The following assumptions are being made:

1. Since all students are enrolled at the college level, students of all cultural orientations will have comparable comprehension levels with regards to the items on the evaluation instrument and therefore will provide comparable responses.
2. Students will provide responses that they genuinely believe to be correct to the items on the instruments.

Organization of the Study

This study is presented in five chapters.

Chapter 1 presents the introduction, the statement of the problem, the research questions, the perspective, the significance of the study, the limitations and delimitations of the study, and the definition of terms used in the text.

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Chapter 2 reviews literature on student evaluations of teachers, teacher behaviors in the classroom, and findings concerning multicultural differences in the classroom.

Chapter 3 describes the methodology, including the population and sample, instruments, pilot study results, research questions, procedures in carrying out the study, and statistical analysis.

Chapter 4 presents the findings of the study.

Chapter 5 presents discussion and interpretation of the findings, summarizes the results, and suggests implication for further research.

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CHAPTER II

REVIEW OF RELATED LITERATURE

Overview

The review of literature presents discussion on student evaluations of teachers including literature on the purpose of student evaluations and teachers' responses to student evaluation of teaching. Due to the controversy surrounding student evaluations of teachers, research findings indicating both the benefits and shortcomings of the method of evaluation are also presented. A large body of literature on student evaluation of teachers was encountered. However, meta analyses of most studies were not found, although one meta analysis (Cohen, 1982) and large literature reviews (Aleamoni, 1987; Preece, 1990) are mentioned here. Literature featuring validity and reliability issues related to student evaluation surveys, student achievement as related to student evaluations, and use of student evaluation feedback for faculty development is also reviewed.

Research on teacher behaviors in the classroom, particularly at the college level, is discussed, as well as studies highlighting teacher behaviors related to ethnic differences. Multicultural literature that focuses on student differences and the ways in which ethnicity may affect their perspectives of the learning environment as well as the impact the learning enviroment may have on them is discussed. Discussion on the use of observation in research is also included because of the use of an observational-type survey instrument.

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Student Evaluation of Teaching

Evaluating Teachers

> Most theories of human learning assume that feedback is a necessary condition for improving performance. Evaluation data regarding a faculty member's teaching and related activities represents a useful form of feedback. If employed adequately, such feedback may lead to the improvement of teaching methods and related activities; an increase in personal and student satisfaction with teaching; personal growth and development as a teacher; and opportunities for advancement within the system. (Grasha, 1977, p. 11)

Doyle (1983) begins his review of the history of teacher evaluation in 350 A.D. The recognition of the need for teacher accountability and the right of the student to receive adequate instruction with which he or she is satisfied has been a focus of much attention in research and discussion, particularly since the middle of the 20th century. Evaluating teachers at all levels of the educational system and ensuring that they are prepared to do a good job are receiving an increasing amount of attention.

Millman (1981) states that,

> teaching is not a solitary activity affecting no one. On the contrary, the lives of many students are altered in far-reaching and significant ways by the instructors with whom they interact. Teaching is too important to too many people to be conducted without a critical inquiry into its worth. (Millman, 1981, p. 12).

He continues by listing purposes for evaluation that include improving teacher performance, aiding administrative decisions, guiding students in course selections, and promoting research on teaching (see also Cranton & Smith, 1986). Grasha (1977) lists other possible outcomes of teacher evaluation on college and university campuses such as "provoking campus-wide consideration of the qualities that affect teaching and learning" (p. 11), attracting interested persons into the profession, encouraging participation between students and teachers, raising the level of instruction when both students and teachers become involved, and stimulation of institutions to consider their overall educational goals and curriculum values.

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Evaluation of teachers can be divided into formative evaluation that is aimed at the improvement in teaching, and summative evaluation that facilitates administrative decision making. The tools that are being used in the evaluation process include peer evaluation, observer evaluation, student evaluation, and student achievement. The many tools that are used in evaluation are decided on within the context of the objectives of each evaluation, and no one tool has all the qualities desired to make it the perfect tool (Millman, 1981). In this study, being able to use and interpret student evaluations as feedback for improvement of instruction is the focus.

Student Evaluation of Teachers

Research on student evaluation of teachers has been carried out at all levels of schooling, but for the purpose of this study, focus is placed on the college and university level. Aleamoni (1981; see also Murray & Smith, 1989) reports that student evaluations are increasingly being used for both formative and summative evaluation. Although student evaluations are limited in that they present the students' perceptions of the teacher's effectiveness, they are the only source of information on teaching effectiveness or accountability on most college and university campuses.

Aleamoni (1981) gives the following arguments as the rationale for using student ratings as one method of evaluating teachers:

1. Besides teachers, students are the main source of information about a number of class-related events including the accomplishment of goals, teacher/student rapport, communication in the class, and teacher/student problems.
2. Students are the logical evaluators since they are directly and extensively exposed to the teachers.

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3. Student evaluation provides a means of communication between the students and the teachers, particularly in large schools where other communication may not be feasible.
4. Student evaluations increase the likelihood that excellence will be recognized and rewarded.

Perry (1985) also supports students ability to evaluate teachers stating that the number of years students spend in the educational system and the number of hours of instruction they have received allow them to develop a concept of what instruction should be like, which they use to evaluate instruction.

Although such evaluation is much used and recognized as important, its use has been highly criticized. Critics have charged that student evaluation is biased (Needham, 1982; Scherr & Scherr, 1990; Wigington, Tollefson, & Rodriguez, 1989) and affected by a number of extraneous variables--some more outstanding ones being subject class size, subject interest, workload/difficulty and expected grade in the class (Perkins, Guerin, & Schleh, 1990; Perry, 1985; Scherr & Scherr, 1990).

The use of student ratings of teachers was negatively affected when the results of the "Dr. Fox" experiments by Ware and Williams in 1975 were made known (Murray, 1992). Their findings indicated that student ratings of the teacher and performance on multiple-choice recall tests were higher for the high-enthusiasm, high-information lectures than for the nonenthusiastic, medium- and low-information lectures. However, student ratings also displayed significant difference between high and low information under low-enthusiasm presentations while this difference was not evident for high-enthusiasm presentations. This apparent lack of relationship between ratings and information coverage led to the conclusion that students can be victims of "seduction" in the classroom and will respond with high ratings for those teachers who teach little but do so enthusiastically. Follow-up analysis on the findings with confirming results was done by Williams and Ware (1977). Williams and Ware

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(1977) do state that their conclusions were reached only after two successive lectures and that students may respond positively because they have not had time to critically assess the content over time.

Perry, Abrami, and Leventhal (1979) attempted to replicate the study by Ware and Williams but claimed that their findings did not confirm the previous study. From the results of their study they concluded that only at high expressiveness did ratings move toward the goal that many hold for student evaluations, since content affected both ratings and achievement similarly at that level. In contrast to the findings by Ware and Williams, Slater reporting in 1981 (Murray, 1992) found that teacher enthusiasm positively influenced ratings of teachers as well as student performance on achievement measures and student motivation for further learning. Perry and Magnusson (1987) also found that teachers' enthusiastic behaviors had a positive effect on student achievement as well as student sense of personal control over the classroom situation under certain conditions.

There have been other elements in the learning situation that have been related to negative conclusions about student evaluations. Morano (1985), having conducted a study including four colleges and 79 classes, concluded that the kinds of teaching techniques used by teachers have a powerful effect on student ratings, depending on the subject matter being taught. Wigington et al. (1989) concluded from their study that instructor reputation and class type, level, and size were all variables that affected the outcomes of student evaluations of teachers. Before them Perry et al. (1979) concluded from their study that while both reputation and in-class experience were reflected in the student evaluations, the effect of the teacher reputation was significant and a source of bias in the evaluations. Cranton and Smith (1986) stated that student ratings of instruction gave complex and inconsistent results--differences because of size were found in some departments and not in others. Ratings increased with students' level in college, and there were large variations in the way students

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perceived instruction and its effectiveness. For this reason, they suggested that when student ratings are used for summative evaluations, data should be observed over time.

Feldman (1984) studied the relationship between class size and student evaluations and found a weak relationship between larger classes and lower scores, particularly in the areas of communication, presentation of subject matter, and interpersonal interaction between teachers and students. Toby's (1988) observations led him to conclude that some teachers should not teach large classes because they get lower ratings when they do so, while some improve over time to the point where they get stable evaluations.

After reviewing research spanning more than 50 years, Aleamoni (1987) outlines a number of concerns that faculty have expressed against student evaluation of teaching:

1. Students cannot make consistent judgments because of their immaturity, lack of experience, and capriciousness.
2. Student-rating schemes are popularity contests. Warm, friendly, humorous, and easy-grading teachers emerge as the winners.
3. Students cannot make accurate judgments until they have completed the course, and possibly their college education, for some time.
4. Rating forms are unreliable and invalid.
5. Several extraneous variables or conditions could affect student ratings.
6. Grades received or expected relate to both the course and the instructor.
7. Student ratings do not improve instruction.
8. Faculty thought that colleagues with good publication records and experience were the only ones qualified to assess their performance.

Viewing student evaluations of teachers in a more favorable light, Aleamoni (1981, 1987) pointed out that his review of research indicated that student judgments tend to be stable, that the relationship between publication and ratings of colleagues was extremely low

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but the relationship between colleague rating and student rating was quite high, that students did not use humor and personality to assess other teaching skills, and that there was a high relationship between evaluations of graduated students who had previously taken a subject and those taking the subject subsequently. He also pointed out that there are a number of reliable instruments available, and there are no clear trends that extraneous variables influence evaluation except students' major areas and the status of the course--required or elective. He concluded that there are advantages and disadvantages to the use of student ratings, and the disadvantages result primarily from the interpretation and use of the data.

A study with business school students' evaluations by Arnett, Arnold, and Cochran (1989) found that although there was a strong relationship between class/grade expectations and evaluations. Class size did not affect evaluations, and the perceived difficulty of the class had no effect on the ratings; in fact, students expected some classes to be more demanding. Hudson (1989) found minimal support for the conclusion that upper-level students gave higher ratings but found a stronger relationship between students' expectations of high grades and higher ratings, although they found no statistical support that instructors who give inflated grades got higher ratings. He noted also that there were other factors that could have contributed to the differences in evaluations of higher-level and lower-level students, besides teacher effectiveness. Upper classmen have more experience in evaluating and deciphering course requirements than do freshmen and sophomores. The lower-level students are more likely to become frustrated because they do not understand what is being required of them and are unsure about how to prepare for and take examinations. Another study, examining evaluation of clinical instruction (Anderson et al., 1991) found no differences in the ratings between students who had scored higher on average than their classmates.

Tollefson, Chen, and Kleinsasser (1989) examined another variable believed to bring about bias in student evaluations--similarity of attitude between teacher and student. They

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sought to discover whether students were attracted to teachers who hold similar views to themselves. The findings indicated that variance in the ratings explained by student/teacher attitude similarity was too small to be considered a biasing factor. It was concluded that differences among teacher attitudes, instead of similarity between students' attitudes and perceived teacher attitudes, explained differences in the ratings.

Although findings in the literature are inconsistent in the conclusions made about student evaluation of teachers, most of the literature indicates that they are consistent measures that provide valuable information, and their outcomes are in agreement with other methods of teacher evaluation.

Teacher Evaluation Surveys--Validity and Reliability Issues

A large number of teacher evaluation instruments are currently in use. Many colleges and universities have instruments that were particularly designed for internal objectives. Some departments also have their own instruments. Some colleges and universities have a number of optional instruments from which departments and teachers may choose and make their own additions. There are teacher-evaluation instruments that are made generically for use in any tertiary institution. With that many instruments in use it is not possible to make statements of validity and reliability that would represent them all. There are even some that are not checked for statistical soundness before use (Seldin, 1984). Information presented here gives an overall view of the general statistical qualities of the instruments that have been used in research or reviewed in the literature.

Reliability

Most studies report that student evaluations are reliable and consistent (Aleamoni, 1987; Cross, 1988; Marsh, 1984; Preece, 1990). Marsh (1987) reports that given a sufficient

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number of students, reliability of student evaluations positively compares with "the best objective tests" (p. 6). In one longitudinal study where the same students who had evaluated teachers in certain classes evaluated the same teachers some years later on those same classes, the correlation between the two evaluations was .83 and median ratings were close. Marsh (1987) also determined that ratings given for the one teacher teaching the same course on two different occasions resulted in a correlation of .72 and correlations between ratings of the same instructor teaching two different courses was .61. At the same time, correlations between ratings of two sections of the same course taught by two different instructors was -.05.

Marsh and Bailey (1993) did profile analysis on student evaluations of teachers covering a 13-year span and evaluations from all classes taught by the teachers. They concluded that teachers appear to have distinct profiles of strengths and weaknesses that are generalizable and that students appear to be able to discriminate those strengths and weaknesses, at least when many student ratings are involved in analysis. In addition, profiles associated with different teachers were distinct, suggesting that the profiles obtained by teachers over the time considered were consistent.

Validity

Since student evaluations are thought to be a measure of teacher effectiveness, validity testing must determine whether they in fact do measure teacher effectiveness. This is difficult to determine because of the debate over what constitutes effective teaching. Construct validity was the type of validity most mentioned in the literature reviewed. The construct validation approach requires student evaluations to be "substantially correlated with a variety of other indicators of effective teaching" and "less correlated with other variables that are not logically related to effective teaching" (Marsh, 1987, p. 8). Preece (1990) concluded that the following

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questions needed to be answered in order to establish validity: Are the ratings biased? Do the ratings agree with other relevant groups? and Do students rate highest those from whom they learn the most?

According to Marsh (1987),

> student ratings are significantly and consistently related to a number of varied criteria including the ratings of former students, student achievement in multisection validity studies, faculty self-evaluations of their own teaching effectiveness, and, perhaps the observations of trained observers on specific processes such as teacher clarity. This provides support of the construct validity of the ratings. (p. 11)

There were other researchers who did not agree totally with Marsh's conclusions. Literature covered earlier in the chapter mentions a number of researchers who have found biases that they think corrupt the validity of student evaluations. While debate continues about the possibility of bias, general trends seem to indicate that student evaluations are being found to be more valid than not. Preece's (1990) review found that age, sex, level of study, personality of the student, class size, subject matter, and major or elective course status may have but slight impact on ratings while students' expectations of the class appear to have more of an influence. Arubayi's review (1987) also found that some measure of validity has been established for student ratings.

Howard, Conway, and Maxwell (1985) stated that "it appears that asking whether factors can influence evaluation methods represents a misguided research strategy. . . . One cannot determine the construct validity of a method of measuring teaching effectiveness by determining whether the method can be influenced by extraneous factors" (p. 188). Like Marsh, they suggested the use of multiple methods to validate each other and using nonrelevant variables to discriminate. Their "most important finding . . . is that former student and student ratings evidence substantially greater validity coefficients of teaching effectiveness than do self-report, colleague, and trained observer ratings" (p. 195).

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In a review of research on both the reliability and validity of student evaluations, Hinton (1993) concludes that student evaluations, if considered as an objective test, do not meet "necessary standards" for reliability and validity. He indicates that they are student perceptions, not facts, and provide information about the students instead of the faculty. Hinton suggests caution in using the results of student evaluations for personnel decisions. However, as Hinton concludes that student evaluations provide information about students' perceptions, the conclusion can also be made that teachers can use that information to gain insight into how to relate better to those students and to instruct them.

Student Evaluation of Teachers and Student Achievement

Student achievement when viewed in relation to student evaluations of teachers has been looked at as a measure of validity and as a confounding variable. Student achievement, when measured by teacher-assigned grades, has been suggested as a confounding variable when students rate teachers in reaction to grades received. Arnett et al. (1989) found a strong relation between class/grade expectations and student evaluations. Since the measure was grade expectations and not actual grades, it is difficult to determine the relationship between the two variables in that study.

Student achievement, when viewed as an outcome of teacher efforts in the classroom, is used to verify the validity of student evaluations. Marsh (1987) reports that student achievement in multisection courses was positively related to student evaluations of teachers. Overall and Marsh (1982) used student achievement along with instructor self-evaluations and improved student attitudes toward the subject as measures of validity and found student achievement to reflect the outcomes of the student evaluations. Lamberth and Kosteski's (1982) findings, though criticized, found high correlations between student achievement and student assessment of teaching assistants. Cohen's (1982) meta-analysis of research literature

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found that teachers whose students did well on achievement measures tended to receive higher instructional ratings than those whose students did poorly. Some dimensions of teacher evaluations such as Rapport and Interaction did not correlate with achievement as well as did other dimensions such as Skill and Structure.

Using Student Evaluation of Teachers to Improve Performance

The final outcome of formative evaluation should be improvement in the performance of those teachers who have been evaluated in order for the practice to be considered useful and successful. Stevens (1987) suggests that the factors influencing improvement in teaching are related to the instructor first and then external conditions within the institution next. The teacher must first desire to change and then be motivated to change. The teacher may also need to acquire skills and information in order to change. The institution will need to provide incentives and rewards to teachers to encourage change and then provide resources for the teachers to facilitate that change.

Murray (1987) indicated that instructors are more interested in the diagnostic feedback that can be obtained from evaluations than in collecting evaluations that provide information for personnel decisions. His review of studies indicated that while student ratings alone gave some improvement, ratings used in combination with consultation had an effect on teacher performance and subsequent student ratings. He found also that student ratings of specific teaching behaviors were viewed by faculty as the most useful of ratings (Murray, 1992). In his review, the impact of student feedback and follow-up consultation was found to persist for as long as 10 years.

In relation to providing teachers with specific information, Marsh and Bailey (1993, see also Franklin & Theall, 1990; Marsh, 1991) emphasize the usefulness of multidimensional scales when attempting to use student evaluations in the formative process.

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Scores on the dimensions give teachers more direct information concerning what the students perceived as being more positive or negative than a single evaluation score would.

Successful use of consultants as well as student evaluation feedback to assist in the improvement of teaching was reported by Wilson (1986). He found that 52% of the instructors who worked with consultants had better evaluations the second time, while others in a comparison group with no consultation experienced no change. It was also noted that suggestions that were most concrete, specific, and behavioral resulted in more significant change. In a study by Coffman (1991), an alternate method of receiving student feedback called the Small Group Diagnosis and work with a consultant led to overwhelmingly positive feedback from the teachers and students. Tiberius et al. (1989) examined student evaluations in a clinical class setting and found that feedback derived from student ratings alone had no sustained effect on teaching and no change in subsequent student ratings. On the other hand, dramatic change was evidenced with teachers who developed a collaborative interaction with the students.

Teacher Behaviors in the Classroom

A large body of literature on teachers' classroom behaviors has been produced during the last 20 years (Nussbaum, 1992). This review does not attempt to cover all the literature and is limited by relevance to this study. The first section of the review includes literature showing a chronological development of the identification of teacher behaviors as significant in the classroom. Following that, individual studies on teacher behaviors are reviewed. Although the focus here is on the college level, studies at that level are few, therefore studies from other levels have been included.

In their review of research on teacher performance criteria, Rosenshine and Furst (1971) commenced by stating that, at the time, very little was known about the relationship

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between classroom behavior and students' gains. Their review discussed the major results of the then-recent studies, which attempted to relate observed teacher classroom behaviors to measures of student achievement. Such studies are labelled process-product and have since dominated educational research on teacher effectiveness. They differentiated between low-inference behaviors, which are specific, denotable, relatively objective behaviors; and high-inference behaviors, which include behaviors that must be inferred by the observer, such as warmth and enthusiasm. Their review revealed five behaviors that had showed high relationships with student achievement: clarity, variability, enthusiasm, task orientation, and student opportunity to learn. There were six less significant behaviors: use of student ideas, use of structuring comments, use of multiple levels of discourse, probing, perceived difficulty of the course, and a negative relationship with use of criticism.

The research reviewed by Rosenshine and Furst was carried out at the elementary-school and secondary-school levels. Review of subsequent research reveals that the vast majority of research on teacher behaviors has been done at these levels. Brophy and Good's (1986) more recent review of teacher behaviors and student achievement included the same school levels. They divided the significant behaviors identified into the following categories: quantity and pacing of instruction, whole-class versus small-groups versus individualized instruction, giving information, questioning students, reacting to students' responses, and handling seatwork and homework assignments. Within most categories were a number of teacher behaviors that have been shown to affect the student outcomes. The review indicated that positive teacher expectations, structuring, and good classroom communication skills are important teacher behaviors.

Nussbaum (1992) reviewed studies that were in general education literature and communication education literature. The behaviors linked to student achievement and ratings of teacher effectiveness that were identified in the education literature were frequency and

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intensity of praise, the frequency and type of questioning, the duration of wait time after questioning, and various indicators of teacher enthusiasm. Again, all these studies were carried out at the elementary and secondary levels.

Studies in communication literature (Nussbaum, 1992) were done at all levels from elementary to college and university classes. Findings were more diverse, since student achievement was not the only measure of outcomes. Communication skills including explicit explaining, other verbal behaviors, facial expression, and tone of voice were found to be important factors in teacher effectiveness. Physical distance or immediacy was found to affect student evaluation, student learning, and motivation. Verbal behaviors such as humor, self-disclosure, and narrative activity were found to have mixed results in different studies. Friendly appearance on the part of the teacher and relaxed interaction between teacher and students seemed to produce overall positive feedback from students as well as higher achievement.

Zales's (1990) review of effective teaching behaviors yielded a four-stage teaching cycle of Planning, Class Climate, Management Skills, and the Teaching Act. She summarized the behaviors as follows:

> The effective teacher plans carefully so that he can use all available time for instruction. Then, he teaches with as few interruptions as possible to the cognitive flow. He manages students' behavior with specific rules, makes procedures automatic by using efficient instructional routines, and structures lessons into activity segments. Students know what to do and what is expected, so the class functions almost automatically. Explicitly stated objectives orient the learners, and lessons related to their interest get them involved. The effective teacher promotes student engagement by providing feedback through careful monitoring, questioning strategies, and diagnosis of student errors. As the instructional and behavioral leader, the effective teacher sets and maintains high expectations, and high levels of student success result (Zales, 1989/1990, Abstract).

Yurkewicz's (1988) studies of high-school science classes found that student perceptions of certain teacher behaviors were related to science anxiety, which was negatively correlated to achievement. Cherry (1987/1988) investigated students' perceptions of teacher

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behaviors toward the students and their relationship to student achievement. This study focused on differential actions of teachers toward students of high and low achievement in elementary school. The conclusion made in the study was that students perceive teachers as giving more negative feedback and direction to students who are low achievers. Students in the high-differential group scored significantly higher than low-differential students. In the study by Chiang (1991) of gifted students and their teachers, teacher personality types that received higher ratings were in the categories of: extroversion, sensing, thinking, and judgment. Personality types were assessed by the Myers-Briggs Type Indicator. The behaviors that distinguished these teachers included: speaking clearly, hand and arm gestures, energy and excitement, using concrete examples, and presenting thought-provoking ideas.

In studies with secondary students, Smith (1982b) investigated the effects of the low-inference behavior Kinetic structure or commonality on student achievement. He found that it significantly affected not only achievement but student perception of lesson effectiveness. Kinetic structure of lessons has to do with lesson organization, and is indicated by repetition of concepts, linking associated concepts and presenting a few new ideas to keep interest.

In the area of college English, teachers with the high and low scores on the Complexity Scale measure were identified and their classes observed. Findings indicated that teachers with the highest scores on the scale tended to move their student into higher levels of cognition, find alternative methods of presenting information, and provide positive reinforcement. Characteristics of teachers with high complexity profiles include:

1. reflects a grasp of the subject matter
2. reflects a valid systematic structure of the subject matter
3. reflects freedom from the textbook
4. reflects a sound method for teaching concept attainment
5. minimizes threats to learning

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6. maximizes attractions to learning and personal growth
7. approaches the scheme of work in new and unusual ways
8. plans reflect faith in the students' ability to learn
9. seeks information from students.

In a study at a Brazilian university, teacher behaviors and attributes most frequently and highly rated by students included willingness to explain the subject matter during the lesson, demonstration of assured understanding of the subject matter, facility in explaining the ideas, liking his/her profession, knowing how to dialogue with students, clarity in explanation, consistency in evaluating students work, and respecting students' opinions. Factor analysis of student responses yielded six factors representing teacher effectiveness. Factors were student participation, classroom organization and management, teacher clarity, acceptance of students, punctuality, and systematization (Feldens & Duncan, 1986).

Kallison (1986) measured the effects of teacher behaviors in lesson organization on student achievement in undergraduate students. He found that explicit organization behaviors such as giving an outline of the lesson, use of transitional statements, and giving summaries of the lesson had a significant effect on achievement. Smith (1982a) investigated the effects of two low-inference clarity variables, vagueness and mazes on the performance of college students. Vagueness terms include statements with ambiguous designation, approximation, possibility, and indeterminate quantification. Mazes are units of discourse that do not make semantic sense such as false starts, halts in speech, and tangles of words. High frequencies of these behaviors were found to inhibit student achievement and cause students to perceive the lesson as being ineffective.

Gorham (1988) found that both verbal and nonverbal immediacy behaviors of teachers significantly correlated with affective learning and perceptions of cognitive learning of undergraduate students. Verbal behaviors that were significant included humor, praise, self-

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disclosure, asking for students' input, encouraging students to request assistance out of class, and inclusive speech by the teacher such as "our class" instead of "my class." Nonverbal behavior included smiling, gesturing with the hands, eye contact, movement around the room, and relaxed body position. In larger classes, smiling, relaxed body position, movement around the room, gesturing, teacher self-disclosure, inclusive speech, and using students' names increased in importance. It was concluded that in larger classes behaviors more likely to reduce psychological distance were more important to producing immediacy.

Christophel (1990) reported on the findings of two studies, which indicated that students' perceptions of teacher immediacy and students' state motivation levels were positively correlated. Student perceptions of teacher immediacy behaviors were positively correlated with student learning on most levels investigated, and student perceptions of their own trait and state motivation were positively correlated to learning. In this study nonverbal immediacy behaviors had higher predictive value than verbal immediacy behaviors. The author concluded that immediacy modified motivation, which led to increases in learning. The concept of immediacy involves behaviors that seek to decrease psychological and physical distance between people. Verbal immediacy includes humor and use of inclusive language, and nonverbal immediacy includes eye contact, reduced distance, touch, and smiling.

After reviewing literature on teachers' nonverbal behaviors in the college classroom, Thibodeaux (1985) concluded that nonverbal cues affect the relationship quality between teacher and student; that the more positive the teacher feedback to students, the more positive the students' perception of the teacher; and teacher/student solidarity, communicator style, and self-disclosure are significantly related to perceived teacher effectiveness. A pilot study on developing an instrument to measure classroom climate and assess students' and teachers' skills in decoding nonverbal facial cues yielded inconclusive results.

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In a study to determine students' perceptions of teacher behaviors as motivating and demotivating factors in college classes, Gorham and Christophel (1992) studied lists of motivators and demotivators freely written by 308 college students prior to and following their being prompted to consider the contribution of teacher behaviors to motivation level. With the assumption that motivation is one of the most important elements contributing to learning, the researchers found that teacher behaviors accounted for approximately 44% of both motivators and demotivators in both lists. Negative teacher behaviors were perceived as more central to demotivation than were positive behaviors perceived to motivation. Behaviors that were identified as motivators included providing opportunities for students to participate, receiving feedback from the teacher, sense of humor, satisfaction with grading, and assignments. Teacher competence and knowledge were also motivators that were linked to teacher behaviors. Demotivating behaviors included the teacher's attitude toward students, teacher's physical appearance, teacher's boring or confusing presentations, no sense of humor, and irresponsibility. Other motivating factors besides teacher behaviors were context and structure of the course.

Many of the studies that were done in college settings were different from the others, in that the teacher behaviors were compared to student evaluations or student perceptions of the teacher, while on the other levels they were compared mostly to student achievement. The differences between college or university levels and lower levels also extend to the behaviors found to have the most impact. Lower levels seem to place more emphasis on structuring behaviors, and upper-level students seem to value interpersonal actions more. Clarity and enthusiasm appeared somewhat consistently as a significant behavior across all levels.

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Teacher Behaviors and Cultural Differences

Jenkins and Bainer (1990) pointed out that educators know that they have a responsibility to provide equitable treatment for all students. However, many teachers do not know which attitudes, behaviors, expectations, and teaching strategies may be misunderstood by minority students and have a negative impact on their learning experience. The following behaviors are part of a list which they included:

1. Avoiding eye contact with minority students while making eye contact with majority students.
2. Ignoring minority students while recognizing majority students. This behavior includes ignoring comments by minorities or not showing any recognition of their contribution.
3. Calling directly on majority students but not on minority students.
4. Interrupting minority students more when they do respond.
5. Waiting longer for and responding more extensively to the comments of majority students. Also using a tone that communicates more interest with majority students and a patronizing or impatient tone with minorities.
6. Offering little guidance and criticism of the work minority students produce.

Students stated that these behaviors discouraged them from participating in classes, from seeking help when not in class, and undermined their confidence. Jenkins and Bainer also applied research on differential behaviors by teachers toward students to the case of minority students. They indicated that teachers are often unaware of the attitudes that tend to lead to differential treatment and expectations. Learned stereotypical views of minorities sometimes contribute to these attitudes. There also often exists a disparity between the needs perceived by the professor and those perceived and experienced by the students. As a result, instructors are often ineffective in motivating students to achieve.

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Wehrly (1988) suggests that the responsibility is placed on faculty to show interest in the students they serve. She observed there is often little incentive to work with minority students and that does not encourage action. However, ethnically different students face challenges such as inadequate reading skills, being compelled to give up their own culture for the dominant one, racism and prejudice, and difficulties in making verbal input in classes. Therefore, they need special attention. In addition, Ainsworth (1986) pointed out that course planning needs to take the learner into account. An understanding of cultural differences and their impact on behavior and learning styles needs to be developed, and particular attention needs to be paid to development of instructional techniques.

Bassano (1985) studied the expectations and attitudes of adult foreign students toward their instruction in English as a second language. Results revealed that teachers thought of themselves as innovative and egalitarian and had lower expectations than the students had concerning their development of language fluency. While the students had adapted to the methods used by their teachers, they indicated that they would have preferred more formal leadership in the classroom and they had higher expectations of their own achievement. Such differences in expectations would have the teachers asking for less from the students, expecting less in terms of achievement than the students expect, and could contribute to confusion or lack of confidence on the part of students.

Gillespie (1988) studied the relationship of aspects of classroom interaction to the ethnicity and teaching effectiveness of teaching assistants from three ethnic backgrounds. She concluded that nonverbal interaction may reflect ethnicity and teaching effectiveness more than other factors such as style or discourse type. The teaching assistant's position in the room, posture, gaze, and orientation appeared to be related to ethnicity and classroom success. In addition, some nonverbal behaviors indicated the presence of subgroups based on regional origins and time spent in the U.S.

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In Walker's (1987/1988) study of the relationship between the use of selected teaching behaviors by teachers of academically talented Black students and the academic achievement of those students, 10 of 18 behaviors included were found to be significantly related to student achievement. The relationships were all negative. The behaviors included six questioning or responding behaviors and three behaviors that involve affect or classroom climate. The questioning behaviors were: (1) amplifies and discusses student responses; (2) nurtures creativity and discovery; (3) seeks, accepts, and uses student ideas as part of teaching procedures; (4) motivates students to ask questions; (5) uses questions that lead students to analyze, synthesize, and think critically; accepts varied student viewpoints and/or asks students to extend answers or ideas. The behaviors involving affect or classroom climate were: (1) is consistent and empathetic in the treatment of students, (2) practices good human relations, (3) and exhibits overall positive approach. Walker concluded that these findings were consistent with process-product research done earlier with lower socio-economic status students at the primary level where a more teacher-centered, structured approach had more postive effects on students achievement than the learner-centered approach that was being investigated in her study. The students in the study were in grade 6 and above. Caution was suggested in considering these findings because of short observation times used in the study. The findings suggest that some teaching behaviors considered to promote learning may have a different effect on students from some different cultural orientation.

In view of the support in educational research that teacher expectations affect children's performance, Smith (1989) examined whether teachers hold different expectations for children with different characteristics, including race, and how the expectations differed. The results indicated that teacher expectations for Black males were consistently low, whether they had high or low socio-economic status. Expectations for middle-class and upper-class Black females were high, however as they were for Whites at all levels. There were consistently

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lower expectations of lower-class Blacks and Hispanics than lower class Whites. Smith concluded that social class, first, and race, second, were associated with teacher expectations and gender was an intervening variable with some groups. Teacher expectations are communicated to students through teacher behaviors and thus affect their responses directly.

To investigate the extent that teacher nonverbal and verbal immediacy behaviors are related to teacher clarity for White, Latino, and Asian American ethnic groups, Powell and Harville (1990) carried out research using 311 students enrolled in required communications courses at California State University, Los Angeles. They also sought to discover the extent to which teacher verbal immediacy, nonverbal immediacy, and teacher clarity related to students' attitude toward class, likelihood of engaging in the behaviors taught in class, willingness to enroll in a course of similar content, and attitudes toward the instructor.

The results overall indicated that verbal and nonverbal immediacy were related to teacher clarity. Verbal and nonverbal immediacy played a greater role in the judgment of clarity for Latinos and Asians than Whites. Across groups, clarity had the highest correlation with judgments about the class and willingness to engage in the behaviors taught in the class. Nonverbal immediacy had the highest correlations with willingness to enroll in a course of similar content for Latinos and Asian Americans, and non-verbal immediacy had a high correlation with the evaluation of the instructor for Asian Americans. Other cultural differences were also found in the relationships among verbal and nonverbal immediacy and clarity.

The authors concluded that the results show behaviors like teacher immediacy may function differently for students from different cultural communities. They suggest that the role of culture in the measurement of nonverbal immediacy be further examined as well as the way student culture influences the patterns and expectations of effective instructional communication.

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Powell and Collier (1990) investigated the relationship between students' views of teacher immediacy, teacher effectiveness, and course utility using 95 subjects representing Anglo American, Latino, African American and Asian American students. Subjects were assessed twice during the term. The results indicated that for Anglo Americans immediacy and effectiveness were strongly related throughout the course although usefulness of the course declined as the term progressed. Immediacy behaviors were important during the first assessment for Latino students and positively related to both teacher effectiveness and course utility. However, judgments of teacher effectiveness significantly dropped over time. For the African American subjects, the relationship between immediacy and the other two variables was low. This increased for the second assessment. The researchers suggested that "teacher immediacy may help the teacher build a positive relationship with the [Black] student which in turn influences judgments about teaching effectiveness and course utility" (p. 346). The findings for the Asian American group were stable. A consistent relationship was found between immediacy and effectiveness and effectiveness and course utility.

Powell and Collier (1990) concluded that

> immediacy serves different functions for students from different ethnic backgrounds at different times in the course. In the beginning of the course, immediacy may serve a role modeling and anxiety reducing function for Asian-Americans while it may serve as a beginning point for trust development for African-Americans. Latinos may expect that immediacy be continued at high frequencies throughout the course of the quarter. Asian-Americans may view teaching effectiveness as more important later in the course when their achievement goals become more salient. (p. 347)

In order to discover whether immediacy positively contributes to affective, cognitive, and behavioral learning for White, Asian, Hispanic, and Black students, Sanders and Wiseman (1990) studied data obtained from 952 volunteer college students from two Western universities. Their analysis led to the conclusion that teacher immediacy behaviors enhance the students' perceived cognitive, affective, and behavioral learning in the multicultural classroom. However, some differences between ethnic groups emerged. Immediacy was

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more highly related to affective learning than to behavioral learning for White, Asian, and Hispanic students. Immediacy was more highly related to affective learning for Hispanic students than for Asian or Black students. It was also more related to affective learning than cognitive learning for Hispanic students. Some immediacy behaviors including, encourages students to talk, uses humor, has discussions with students outside class, solicits alternative viewpoints, praises student work, does not use a dull voice, and smiles with students, were positively associated with cognitive learning for all groups. Cognitive learning was not related to maintaining eye contact, discussing student topics, and suggesting that students telephone the teacher for Black students. Referring to the class as "our class" was not significantly related to cognitive learning for Asians and asking about assignments was not strongly related for Hispanics.

Unique behaviors that were significantly related to cognitive learning included gestures and tense body position for White students and visual immediacy cues that focused on personal attention to students for Hispanics. In addition, encouraging students to talk and using humor were particularly significant for Black students and willingness to have discussion outside of class was particularly significant for Asian students.

Behaviors that were significantly related to affective learning for all groups included using humor, asking students about assignments, soliciting viewpoints from students, praising student work, maintaining eye contact, and smiling at students. Moving around the classroom was significant for Hispanic students and standing close to students for Whites, while not standing behind the podium and relaxed body position were significant for both. Gesturing and calling students by name were significant for White and Asian students, while using personal examples was important to Blacks and Hispanics. Discussing student topics and issues unrelated to class was significant in the cases of Asian and Hispanic students.

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A number of differences in relationship with behavioral learning were also discovered. Sanders and Wiseman (1990) suggest some explanations: immediacy behaviors that are relational are important to Hispanic students who value the relational element of communication and also feel that it is the job of the teacher to determine course methodologies. Black students tend to "emphasize topical involvement and goal fulfillment in communication" (p. 350), and Asians are less likely to engage in immediate communication behaviors and prefer communicating in a less public environment.

Ethnic/Cultural Differences Affecting the Learning Environment

Cultural patterns within ethnic groups, as well as language and lifestyle, result in differences in communication patterns, learning styles, and other areas that are important to educational success (Powell & Collier, 1990). These factors may therefore influence what impact teacher behaviors have on students from different groups. Information on cultural or ethnic patterns in the classroom must be used with caution, however, since individual differences do alter such norms and expecting the same behaviors from individuals from the same ethnic background is stereotyping. If teachers are aware of ethnic/cultural differences, they may better understand how to work with students. They also need to be mindful of cultural differences modified by individual differences that may place barriers to successful interaction in the classroom.

A number of characteristics identifiable with particular ethnic groups, and applicable in learning settings, are discussed by Baruth and Manning (1992). Native Americans tend to speak softly and at a slower rate than Anglo Americans, avoid the speaker or listener, interject less, give delayed responses, and use fewer encouraging signs while listening. Native American learners are more group oriented and are not competitive, but patient with each other. They tend to encourage sharing and value privacy and non interference. Baruth

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and Manning (1992) also indicate that Native American learners prefer to use visual, perceptual, or spatial information for learning instead of verbal information. They tend to use images in memory processing instead of verbal associations and tend to process information holistically (see also Anderson & Adams, 1992). Native Americans are also characterized as versed in understanding non-verbal communication.

African Americans also tend to sometimes avoid direct eye contact with a speaker, and to view subjects in terms of the whole picture. They tend to interrupt speakers with encouraging remarks instead of merely nodding or quietly interjecting at times. They are said to prefer inferential reasoning over deductive or inductive reasoning and to use approximations when referring to space, time, or numbers instead of sticking to accuracy. African Americans are also very proficient in non-verbal communication and tend to be more interested in people and their activities than in things. African American students' use of emotional and physical involvement in the learning setting, as well as cognitive involvement, contrasts to the majority norm of cognitive involvement taking place only within a structured and orderly environment (Baruth & Manning, 1992; Nieto, 1992). African Americans use of dialect is often devalued instead of accepted and this often contributes to low performance and low sense of self-worth (Baruth & Manning, 1992). Cheng (1990) describes African American communication style as highly affective, using many interjections, using expression through considerable body language, and making use of words that have little meaning on their own and rely on the context meaning. "Adoption of systematic use of nuance of intonation and body language, such as eye movements and positioning; preference of oral-aural modalities for learning communication; sensitivity to others' nonverbal cues" (p. 273) are also included.

The ethnic group labelled Asian American comes from a number of different countries with their own traditions and cultures. However, there are common characteristics that have

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been identified among the group that would affect the learning environment. The Asian background supports an attitude of conformity to the dominant culture, of quiet obedience and respect. Group interests and family interests are valued over the individual's desires, and among adolescents, family takes priority over peers. Asian students work well in a well-structured environment where definite goals are indicated and reinforcement is provided. They are more reluctant to respond aloud in a class setting and depend a great deal on teacher approval and direction. Asian students are very concerned with orderliness and obedience. They learn by observation, memorization, and pattern practice, which conflicts with the American emphasis on critical thinking and discovery in a more relaxed atmosphere (Baruth & Manning, 1992; Cheng, 1990).

Hispanic students are described (Baruth & Manning, 1992) as not wanting to be set apart from their own group as excelling or different--valuing group identity over personal recognition. They are regarded as valuing personal attention and contact, and tend to communicate using closeness and touch over eye contact. They have firm distinctions between sexes and roles and responsibility to family, and helping others supersedes responsibility to self (Anderson & Adams, 1992). Among Hispanic groups, there is a strong commitment to dignity, respect, and machismo (Baruth & Manning, 1992, Nieto, 1992). The primary language, Spanish, is very important to Hispanics. Hispanic students receive high motivation by social reinforcement in the classroom, "a type of reinforcement the Anglo teacher may not provide or allow fellow class members [to] provide" (Hesler, 1987, p. 5).

According to Hesler (1987) Anglo and Jewish American students use an analytic style with language that has elaborate syntactic code and in which learning takes place by focusing on a stimulus and sustaining attention over long periods of time. Details are important and learning is impersonal. Students from cultures where this style is not used experience difficulties in classes where the instruction caters to it. Hispanics, African Americans, Asian

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Americans and Native Americans tend to use a relational style in which the language may have a restricted syntactic code. Learning entails looking for global characteristics and meaning is determined by situation. Learning takes on a personal view and the learning is feeling and people oriented.

The culture of the majority--White middle-class America--reflects characteristics that encourage students to be competitive, individualistic, and use verbal skills frequently. Traditional learning methods have encouraged sequential learning (small incremental steps) and analysis by parts. American culture also encourages a future orientation (Cushner, McClelland, & Safford, 1992).

Cushner et al. (1992) discussed verbal and nonverbal communication across cultures. They highlight the difference between the majority American mode of speaking that involves "getting to the point," which is different from some cultures in which diversions from the issue at hand may be customary in establishing rapport or interpersonal contact. When speakers are unaware of the differences, one person may become annoyed by unnecessary digressions, while the other may be turned off by a cold, uninterested person. There are many tiny physical cues that differentiate group nonverbal interaction. Avoiding eye contact is a gesture of respect among African Americans, Native Americans, and Hispanics while Caucasian Americans use direct eye contact when listening. While a relaxed position is accepted in the U.S., this may be considered rude in other places. Touch is very important for Hispanics and Eastern-European Jews and has been shown to affect achievement in Hispanic children.

While punctuality and recognition of specific time is emphasized and valued in American society, time does not control people in some Asian, African, and Hispanic cultures. In these cultures being late is sometimes expected or seen as respectful. Allocations of personal space when interacting with others also differs--what may be establishing a

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comfortable zone for a Hispanic will probably be an invasion of space for a Caucasian. In the learning situation, social groups that encourage independence and autonomy and have a more open social structure tend to socialize group members toward a field-independent cognitive style, while social groups that encourage conformity and have a more rigid social structure tend to socialize group members toward field-dependence. Field-dependent learners tend to be more feeling oriented.

Cultural differences related to ethnicity may be modified by cultural differences related to socio-economic status. Baker (1984) presents a list of general characteristics of lower socio-economic minority children. She points out that the "counter-culture" in which these children develop makes them a population with distinct features that teachers need to be aware of and prepared to work with. This culture is based on survival behaviors and continues to thrive because it aids survival. Some of the characteristics include strong group loyalty, intolerance for other groups and distrust of outsiders, short attention spans, a preference for physical activity over contemplation, and learning more through experience, listening, and speaking than through reading and writing.

A number of characteristics that are products of cultural training (in particular, ethnic environments) have been identified. These characteristics are prevalent enough among group members and outstanding enough to distinguish them from the majority culture. The list may not be exhaustive but the characteristics are an indication of the existing differences that result in some classroom behaviors of teachers being more successful with some groups than with others.

Observation as a Method of Evaluation

> Classroom observation can (also) be a valuable tool for research and for program evaluation. In the context of research, the dynamics of the classroom, of teaching and learning, cannot be fully understood without the validation that classroom observation yields. (Evertson & Holley, 1981, p. 90)

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In using observation as research, the researcher is the primary tool and is influenced by personal goals, biases, frame of reference, and abilities. An observation instrument is usually used in educational research. Such a tool further constrains what will be observed, recorded, described, and analyzed, therefore the observational process is mediated on both the observer and instrument levels. Observations of real events are always mediated by representational mechanisms arranged in a particular context, and absolute independence of this is not possible (Evertson & Green, 1986). In other words, when observation is done, what is seen and the point of view from which it is seen and interpreted are affected by elements within the observer such as point of view, background learning and experience, and philosophy.

In addition, Evertson and Green (1986) note that there are a diversity of ways and representational systems used in educational research. That is inevitable since the researchers must select a focus and tools, and any tool provides only one representation of reality. They state that there is strength in the use of multiple perspectives of the same or similar settings. Since selectivity is part of the observational process, researchers need to provide the information contributing to the selectivity to give a clearer picture of the what, where, when, how, and purposes of their activities. This would allow for replication and provide a basis for determining whether studies are equivalent or whether variations observed in results were due to different procedures used in studies. Reality cannot be directly apprehended but researchers should make sure descriptions are as accurate as possible within the representational process used.

Observational methods are used within contexts that have a bearing on the outcomes that are described or analyzed. The context within which the observation is being done may be embedded in broader levels of context, such as historical context related to the setting of the school, or historical context related to events taking place in the school. The context is

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also determined by the theory behind the research, the beliefs of the researcher, as well as the tools and methods used in the process.

Evertson and Green (1986) list the following sources of error in observational research: (1) central tendency where the observer tends toward the midpoint, (2) leniency or generosity of the observer, (3) logical errors, (4) failure to acknowledge self, (5) classification of observations, (6) generalization of unique behavior, (7) nested interests and values of the observer, (8) failure to consider perspective of the observed, (9) unrepresentative sampling, (10) reactions of the observed, (11) failure to account for situation or context, (12) poorly designed observation systems, (13) lack of consideration for the speed of relevant action, (14) lack of consideration for the simultaneity of relevant action, lack of consideration of goal-directed or purposive nature of human activity, (15) and failure to ensure against observer drift. In order to deal with such reliability issues Frick and Semmel (1978) suggest that observer agreement with each other and with criterion should be determined before data is collected. Agreement between class results is also a possibility. Evertson and Green also note differences between ensuring reliability in categorical observation (using rating, checklist etc.) and descriptive or narrative observation.

With regard to criteria for judging reliability, Evertson and Green (1986) state that no single set exists as a general guide. Instead, there are specific criteria proposed for different systems to ensure "rigor associated with a particular approach, and to provide a framework for informed decision making for design and implementation" (p. 185). In general, however, the researcher must answer the questions on who, what, when, where, how and why they observe. Interrelation between the responses to these questions needs to be shown and the effect of each on the other. In answering these questions, information about the theoretical perspectives taken by the researchers will also need to be provided.

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Herbert and Attridge (1975) provide the following criteria for obtaining validity in observational research. Items on research instruments should be (1) clearly defined (consistent with their use in theory where applicable), (2) exhaustive and representative of the dimensions of the behavior under study, (3) mutually exclusive, and (4) require as low degree of inference as possible. The problems of context must be recognized and the context under which the instrument is used explained, while methods of reducing the effect of context on observation should also be explained to facilitate replicability. The effect observers have on the observational setting should be explained. The types of reliability assessed should be reported along with how they were obtained, and a list of all instruments should be accompanied by methods to test their validity.

In this study, the subjects are the observers and investigating differences present in the observers and context are part of the intent of the study, therefore some of the requirements outlined here cannot be adequately addressed. However, effort has been made to maintain standards of reliability and validity to the greatest degree possible.

Chapter Summary

The review of literature in this chapter first presented discussion and findings related to student evaluations of teachers. Although there continues to be mixed consensus in the research about some issues involved in student evaluations, there is strong support for them in much of the literature. Student evaluations have been found to be useful feedback to teachers, resulting in the creation of awareness of student perspectives and improvement in performance. In order for them to provide useful information, however, they need to be specific and multidimensional. Results are also most useful for teachers when accompanied by some form of consultation. Literature indicates that they are reliable and valid and relate to student achievement.

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Teacher behaviors have been found to be a vital component of effectiveness in the classroom. Studies for the past 2 decades have been carried out across all levels of education, but particularly at the elementary and secondary levels. These studies indicate specific behaviors that are more likely to have positive outcomes based on student response and achievement. A number of studies have identified attitudes and behaviors exhibited in classrooms that students of minority cultural orientations perceive as having an effect on their participation in classes, performance in courses, and decisions to take similar courses.

With this awareness, teachers are being encouraged to acquire knowledge about communication patterns and learning styles within cultures in order to better adjust their presentations to meet the needs and to better understand the reactions they receive from students of different ethnic and cultural backgrounds. A number of group-specific characteristics have been identified and presented that indicate significant differences in behavior between ethnic groups and may result in teacher behaviors being perceived differently by students from various ethnic groups.

Finally, in the light of the use of an instrument that requires observation on the part of the respondents, discussion of observational research and the factors that are needed to establish the value of findings from such research were reviewed.

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CHAPTER III

METHODOLOGY

Introduction

The purpose of this descriptive study was to determine whether students from different ethnic backgrounds make significantly different evaluations of teachers and have significantly different perceptions of teacher behaviors. This study also sought to determine the relationship between the teacher evaluations and low-inference teacher behaviors, and whether the student evaluations were related to student achievement. In this chapter the design, sample, instrumentation, procedure and analysis and treatment of data are presented.

Design

This study used the survey method of research in which two questionnaires, the Student Evaluation of Educational Quality and the Teacher Behavior Inventory, were administered to students in undergraduate classes at two institutions of higher education.

Population and Sample

The subjects for this study were students enrolled in undergraduate classes at two church-affiliated colleges in the U.S. The largest proportion of the sample came from a college that has a student representation from a number of cultural backgrounds both from within the United States and internationally. The school boasts an environment rich in cultural diversity including students and faculty members from different ethnic backgrounds.

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The remaining portion of the sample came from a college where the student body is almost entirely of one ethnic origin. That college by policy accepts students regardless of ethnic origin, but, being a historically black college, most of the students there belong to a single ethnic group. The student body at this college also includes some international students. Most faculty members are also of similar ethnic origin as the students.

A sample from a college where most of the students are from one ethnic group has been included in this study for the following reasons: (1) as a comparison group to determine whether differences found between ethnic groups in the multicultural sample would be found between students of international and national origin in the homogeneous ethnic sample; (2) to determine whether there are differences between the findings of the total samples in both settings; (3) to compare the findings for the ethnic group in the homogeneous setting with the findings for the same ethnic group in the multicultural setting for differences. In the case of reason 1. similarity in findings may suggest that the findings were being influenced by other factors in addition to ethnicity. The number of students in the comparative sample is small, therefore outcomes will be interpreted with caution. The use of this comparison group does not eliminate the possibility that outcomes of the study may be affected by variables other than ethnic background, such as class size, location of the school, age, and gender of the students.

Both colleges that are included in the sample are run by the same religious denomination. The college from which the diverse sample was obtained grants graduate as well as undergraduate degrees. Between the school years 1989-90 and 1993-1994, at least 17% of the student population were international students during each year. Those students represented approximately 80 countries. Many of the international students have come to the U.S. with the specific aim of further study. Many more minority students, however, are U.S. residents or citizens who have become a part of the U.S. minority population and whose

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expectations and patterns of communication have been tempered by living in the U.S. Recent statistics (Office of Institutional Research, 1993) show that over the last 4 school years at least 15% of the student population has been African American, the Asian population has increased consistently to more than 7% and the Hispanic population to 6% of the student body. The Native American population is very low at .05%.

Both colleges are small with undergraduate student enrollments of between 1,000 and 2,000 students. In one college the student population, when adding graduate students, increases to approximately 3,000. Since both colleges are private, tuition and fees may have some effect on the social status of students who enroll. It is possible that the number of students from low-income families represented in the sample may be low. However, information on socio-economic status of the students in the sample was not obtained.

The sample for this study included only students enrolled in undergraduate classes. All classes were chosen from the Schools of Arts and Sciences and Education, specifically in the areas that do not include business and natural sciences. These areas have been chosen because they have a common base in the humanities and do not include possible confounding variables such as laboratory instruction or technical mathematical instruction. According to Cashin (1990), students rate different types of courses differently, hence the effort to include courses that are more likely to have a similar type of instruction methods.

Sample Size

Classes for this study were selected from relevant departments on the basis of size. In the sample from the first college, the largest classes were selected except where the instructors declined to participate. All classes met the criteria of more than 20 students enrolled. In the sample from the second college, classes with more than 20 people were the first target, but the minimum size was dropped to 10 because of difficulties experienced in getting teachers to

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participate. Although a large sample was desired from the second school, the need to include large classes was not as great as with the other school because representation from different ethnic groups was not an issue. In the end, the sample was quite small due to the level of cooperation.

A total of 20 classes participated in the first college's sample. When all the data were obtained, and those with large amounts of missing data removed, there were a total of 414 subjects from 20 classes. However, for some of the classes, the number of subjects responding dropped well below 20. In others of the classes, the total exceeded 20 by as many as 36 subjects. The number of students from each ethnic minority represented in the sample closely reflected the percentage found in the population: African American = 12%, Asian American = 10%, Hispanic = 6%, Native American = .02%, and International students = 16%.

In the second college's sample, a total of nine classes participated, but only six had enough of the data provided to be included in the study. The total sample size was 67. Number of respondents per class ranged from 7 to more than 20.

Instrumentation

Two instruments were used in this study, one for measuring students' perceptions of teacher behaviors and one for measuring student evaluation of teachers.

Teacher Behavior Inventory (TBI)--Murray

The TBI was developed by Murray (1983) using specific low-inference behaviors as criteria for evaluating students' perceptions of teacher effectiveness in the classroom. The objective was to create an instrument that would reveal not only the dimensions underlying students perceptions' of effective teaching but the specific behaviors that led to those conclusions.

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The original instrument that was used in the Murray (1983) study had 60 behaviors on which to rate the teachers. To test the instrument, teachers were observed by trained observers who sat unobtrusively in classes. Each teacher was observed for three 1-hour periods by between six and eight observers. Each teacher was observed for a total of 18 to 24 hours. The teachers were grouped as high, medium and low using the results of previous years' student evaluation data.

Interrater reliability was computed for each item, 57 of which obtained coefficients of between .51 and .97. The three items that fell below .51 were excluded from the analysis. Analysis on the 57 items indicated that the three teacher groups (high, medium, and low) differed significantly. Follow-up univariate analysis of variance showed that of the 57 items, 26 differed significantly among the high, medium, and low groups. Factor analysis of the data resulted in nine factor divisions: clarity, enthusiasm, interaction, task orientation, rapport, organization, use of media, pacing, and speech. The clarity factor accounted for most of the variance, followed by enthusiasm and interaction. Murray concluded that instructors who receive high ratings from students do in fact teach differently than instructors receiving average or poor ratings.

Erdle and Murray (1986) used trained observers to assess the frequency of 95 classroom teaching behaviors shown by 124 teachers to determine the relationship with students' ratings over a 3-year period. The teaching behaviors found to correlate with student ratings of effectiveness in this study supported earlier research with the TBI. These included behaviors in the dimensions of rapport, interest, organization, speech clarity, pacing, interaction, and emphasis. The results indicated only minor differences between discipline areas in the direction and magnitude of correlations between the specific classroom behaviors and perceived teaching effectiveness. The discipline areas included arts and humanities, social

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sciences, and natural sciences. This would seem to support campus-wide use of such rating forms.

Although substantial differences were found in the frequency with which teachers from different disciplines exhibited certain behaviors, Erdle and Murray concluded that the elements of effective teaching do not vary markedly between departments. They suggested that inherent differences in the subject matter being taught affect the frequency of certain behaviors, or some behaviors "are more easily exhibited in some content areas than in others" (Erdle & Murray, 1986, p. 125).

Erdle, Murray, and Rushton (1985) used the TBI in their study investigating whether classroom teaching behavior mediates the relationship between personality and college teaching effectiveness. On this occasion, the 95-item version of the instrument was used, and it was filled out by observers who visited the classes. There were a minimum of three observers per class. When interrater reliability was tested, 46 of the 95 behaviors were not used because coefficients were below .50. Other instruments used in the study were a personality research form filled in by faculty members about the subjects (colleagues), and end-of-course student evaluations of instructors to measure teaching effectiveness. Path analyses revealed that approximately 50% of the relationship between personality and teaching effectiveness was mediated by classroom behavior. The finding suggested that teacher personality influences students' perceptions of teaching effectiveness through the classroom behaviors displayed by teachers.

Murray and Smith (1989) reports the use of the TBI in a study investigating the successfulness of teacher-behavior feedback for formative purposes. The 60-item format was used, and students rated each item on a 5-point scale to indicate whether the behavior needed to be increased or decreased in frequency in order for instructional improvement to take place. The responses from the students were pooled for each class, and means and standard

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deviations were given to teachers with instructions for interpretation. For this study, the feedback from the TBI was used as the treatment in a pretest-posttest study in which previously used teacher evaluation forms were used as pretest and posttest measures. The outcomes indicated a significantly higher improvement in the experimental group teachers over the control group. Murray and Smith (1989) concluded that student feedback on low-inference teaching behaviors has "strong potential as a means of improving postsecondary teaching effectiveness" (p. 8).

As demonstrated in the studies reviewed, the Teacher Behavior Inventory (TBI) can be filled out either by a visiting observer in a class or by the students of the class. In this study, the 60-item edition was used. Eight dimensions are included: clarity, enthusiasm (interest), interaction, organization (structuring), pacing, disclosure, speech, and rapport. In this study, this instrument was included because it measures low-inference behaviors, in contrast to higher inference behaviors that are measured by the other evaluation instrument, the SEEQ. This instrument provided information about students' perceptions of specific teacher behaviors, instead of having them provide high inference responses that require students to make conclusions about groups of behaviors. Scales from both the TBI and the SEEQ that were labelled with the same name had different items included in them. The possibility of identifying what specific teacher behaviors might contribute to responses on the higher inference measures was anticipated.

The responses for this instrument were recorded in a Likert-type scale ranging from Almost Never to Almost Always. The responses were scored from 1 to 5, Almost Never scoring 1 and Almost Always scoring 5. This instrument was created for use at the college/university level. A copy of the instrument is found in Appendix B.

Table 1 presents the reliability coefficient for the TBI from both samples. The coefficient provided is for the raw variable scores. The reliability coefficient for the Pacing

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Table 1

Coefficient Alpha for the TBI

Scale	No. of Items	TBI College 1 (n = 414)	TBI College 2 (n = 67)
Clarity	11	.8532	.8175
Interest	11	.7915	.7257
Interaction	9	.7678	.7945
Structuring	7	.8261	.8779
Pacing	5	.5604	.5343
Disclosure	6	.8055	.8986
Speech	6	.7273	.6288
Rapport	5	.8353	.9194

scale was lower than all the other coefficients in both samples. The coefficients for the Speech scale were also low in the second sample. However, all coefficients were above .5 and therefore all scales were used in the analysis.

Student Evaluation of Educational Quality (SEEQ)--Marsh

The SEEQ is designed to represent a multidimensional rating of instruction. Marsh (1991) argues emphatically for the use of multidimensional ratings since the process of teaching is multidimensional. The items for the SEEQ were obtained from a large item-pool containing items indicated in the literature, in existing rating forms, open-ended comments by students, and from interviews with students and faculty. Students were then asked to rate the importance of the tems, and faculty were asked to judge the usefulness of the items as feedback. The form was developed to measure nine factors or dimensions that had been identified using factor analysis. The dimensions were: Learning/value, Instructor enthusiasm,

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Organization, Individual rapport, Group interaction, Breadth of coverage, Examinations/grading, Assignments/readings, and Workload/difficulty. The dimensions are supported by more than 40 exploratory factor analyses (Marsh & Bailey, 1993) that demonstrate the generalizability of the SEEQ factor structure across different levels of teaching and across academic disciplines. The data were obtained from 1,000,000 student evaluations administered in 50,000 courses in one large private U.S. university between the years 1976-1990.

Marsh (1987) states that the reliability of the class average response depends upon the number of students rating the class and lists the reliability of SEEQ factors as: (1) .95 for 50 students/class, (2) .90 for 25 students/class, (3) .74 for 10 students/class, (4) .60 for 5 students/class, and (5) .23 for 1 student/class. Reliability coefficients for this study are listed in Table 2.

In the initial studies, instructors were asked to evaluate their own teaching effectiveness on the same SEEQ form as completed by their students. Factor analyses of student ratings and self-evaluations each identified the same SEEQ factors.

International application of the SEEQ was studied at tertiary institutions in Australia, Papua New Guinea, and Spain (Marsh, 1986). Findings indicated similar factors for each group, and the items judged to be most important were also similar in each group. This suggests that the SEEQ has the qualities expected for use with students from varying cultural origins.

Profile analysis by Marsh and Bailey (1993) using feedback on SEEQ forms indicates that there are large and systematic differences in SEEQ profiles obtained by different instructors and that the instructor effect is much larger than the effect of the other variables taken into account, including course level. This suggests that there is consistency and validity in what is being measured by this instrument, and that "students are apparently able to

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discriminate their instructors' strengths and weaknesses, at least when ratings are aggregated over many students" (p.11).

The SEEQ consists of 31 items regarding the course and its presentation and 10 additional items related to the student with a total of 41. Six of the last set of questions were used, and four were omitted because they did not relate to the research project. The instrument also has a section for open-ended comments at the end where students are asked to comment on the important characteristics of the instructor/course that have been most valuable to their learning experience and those characteristics of the instructor/course that they think need to be improved. These items were not used because of difficulties negotiating adequate class time for students to complete them.

The primary 31 items are divided into nine dimensions: learning, enthusiasm, organization, group interaction, individual rapport, breadth, examinations and assignments and two overall items. Responses for all items were scored 1 to 5 ranging from very poor to very good with a mid-point of moderate or average. On this scale students also filled out additional items providing demographic information: sex, year in school, major, age group, and ethnicity. Each subject in the sample filled out one of these forms. A copy of this instrument can be found in Appendix B.

Although the SEEQ is a multidimensional evaluation measure, the items included do not refer to specific teacher behaviors. Instead the items are high inference and require judgment of groups of teacher behaviors by students. Most evaluation forms use this format, which is more concise. The information they provide indicates conclusions that students make about teacher methods, performance, and class impact, but do not indicate what specific behaviors caused them to come to their conclusions. Some items included referred to particular behaviors such as use of humor, but students were asked to judge how well the teacher did instead of rate the frequency of the behavior as is the case with the TBI.

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Table 2 presents the reliability Coefficient Alpha for the SEEQ from both samples. The reliability coefficients for the SEEQ were high in both samples.

Pilot Study

A pilot study was carried out prior to the collection of data for the study. The purpose of the pilot study was to compare the ratings of instructors on the TBI by the researcher conducting the study to ratings on the TBI done by students in two classes. This procedure was carried out because most studies reviewed in relation to the TBI used visiting observers as raters for the instrument. A comparison was being done to see whether students' ratings (using raw scores) differed greatly from my ratings as an independent external observer. That is, were the student ratings in general similar for each item to the ratings I did? The assumption was that similar responses by both parties suggested similar elements of behavior were being used as criteria for judging.

Table 2

Coefficient Alpha for the SEEQ

Scale	No. of Items	TBI College 1 (n = 414)	TBI College 2 (n = 67)
Learning	4	.7975	.8436
Enthusiasm	4	.8807	.9014
Organization	4	.8022	.8495
Group Interaction	4	.9164	.8883
Indvidual Rapport	4	.9048	.8687
Breadth	4	.8074	.8151
Exams & Assignments	4	.8416	.9184

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Two classes were chosen. I observed both teachers of these courses for three class periods each using the TBI. Classes were selected from the same department and were both undergraduate classes. The classes were selected because the teachers expressed willingness to participate in the study. The students in the classes were each asked to complete a TBI form at the beginning of one class period. They were told it was simply a survey for research purposes and would not affect them or their teacher in any way.

The responses from each class were pooled and a mean was obtained for each item. The responses which I made for each class were also pooled and means obtained for each item. The means and standard deviations for each item from the class and from my observation were compared simply by visual checking. In this manner it was determined that, in both classes, the means for about half the items scored by the students were within 1 point of the means obtained from my ratings: 27 items for one class and 30 for the other. Table 3 outlines the results. Trends for the means from the classes and observer were compared and found to be similar.

Table 3

Differences Between Observer and Student Mean Scores for Items on the TBI

Size of Difference	No. of Items in Class 1	No. of Items in Class 2
1-point or less	27	30
1.01 - 1.5	7	6
1.51 - 2.00	4	2
> 2	5	2
Incomplete observations	16	19

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I was unable to consistently score 16 of the items in one class and 19 in the other. In those cases, I found it difficult to make an assessment of those items during my time of observation. Included in this group were items that may not be carried out on a daily basis but may be considered done at times when relevant such as: "advises students as to how to prepare for tests or exams" or "states objectives of the course as a whole." The similar trends observed for the means led me to assume that both were looking at similar elements of behavior to make assessments of teacher behaviors.

Procedure

Data were collected during the spring quarter of the 1993-94 school year. The method of selection of classes has been previously covered. All teachers of classes who expressed willingness to participate were asked to sign a permission form (see Appendix C) during the 2nd to the 4th week of the quarter. The form briefly outlined the purpose of the study, what the students would be asked to contribute to the study, and what they, the instructors, would be expected to provide. Student identification numbers were used in order to facilitate collation of materials. Both teachers and students were made aware that identification numbers would be discarded after the data were coded and recorded.

The data were collected over a period of 4 weeks. All classes were visited twice. The first time the students were asked to fill out the SEEQ and the second time the TBI. On two occasions the instruments were administered in reverse. Before filling out any of the instruments, students were required to fill in a consent form (see Appendix C) containing information similar to that on the teacher consent form. The period between the administration of the first and second instruments differed for each class. This was due to scheduling and time constraints. Teachers were allowed to choose the times when they thought their schedules could best accommodate the administration of the instruments. The

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length of time between the administration of both instruments varied between 1 and 3 weeks. The collection of data began during the 5th week of the 9-week quarter. The order in which the instruments were used was chosen because of time constraints. The SEEQ proved to be most appropriate for first use because it was shorter. Students were required to sign the consent form just before completing the first questionnaire.

A problem was encountered related to students' class attendance. Approximately 25% of students present to complete one questionnaire were not in class when the other was given. This occurred even when students were told in advance about both questionnaires. In this group are included those students who responded on the first instrument but were not there for the second and students who had not completed the first questionnaire but filled in the second even though they were told that everyone in the study would need to do both. There was also overlapping of students in classes, that is, some students were in more than one class from which data were being collected. Some of these students were willing to participate twice or even three times while others chose to participate only once. The number of overlapping students is not known, therefore the impact on the size or makeup of the sample is not known. Each student rated each teacher only once on each instrument, therefore data from the one person on two different teachers in two separate classes was considered to be valuable input for the data.

At the end of the quarter, while the final examinations were taking place, each teacher was sent a list of the ID numbers of the students in their class who participated and was asked to fill in the final score or percentage mark of the students that would be used to assign the final grade. The scores were converted to percentages and entered with the data from each student. The score was used to indicate students' achievement in class. Identification numbers were removed from data for input. This process was to ensure the protection of each subject who participated in the study.

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Treatment of Data

Each item on the SEEQ received one of five responses labelled 1-5, where 1 was very poor, 5 was very good, and 3 was moderate. There were seven dimensions on this instrument. Each persons' responses were entered into the data and a scaled score was determined for each individual based on the composite of items on each dimension. Items that were included to collect demographic information were coded differently (see Appendix B). In the sample from the first college the ethnic groups Native American and Other were not used because of small sample size.

Each item in the TBI was given responses labelled from 1-5, where 1 was almost never, 5 was almost always and 3 was often. There were eight subscales on this instrument, and scaled scores for each individual were calculated using the same procedure as for the SEEQ. Eleven items were reverse scored because they were stated in negative terms making 1 or almost never a positive response. Those items were numbers 3, 16, 20, 22, 24, 39, 40, 41, 50, 54, and 55.

Percentage points that were entered for each subject's achievement in class were converted to *T* scores which are standard scores and allow for comparisons between scores derived from different scales. The procedure involved converting percentage scores to *z* scores, and *z* scores to *T* scores using the following formula: $T = 10X + 50$, where X = each subject's *z* score (Hinkle, Wiersma & Jurs, 1994).

Analysis of Data

Descriptive statistics (e.g., means, standard deviations) were obtained from the data for all the classes. Descriptive data were also compiled for ethnic groups. The groupings that were obtained were African American, Asian American, Caucasian American, Hispanic, and

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International students. The International student group had many small sub-groupings, but they were combined to make one in analysis.

Scaled scores for each of the dimensions that were indicated on the instruments were computed. Therefore each subject had seven scaled scores for the SEEQ, one each for learning, enthusiasm, organization, group interaction, individual rapport, breadth, and examinations and assignments. Each subject had eight scaled scores for the TBI, one each for clarity, enthusiasm, interaction, organization, pacing, disclosure, speech, and rapport. Both instruments have scales labelled enthusiasm and organization. In order to prevent confusion, those scales in the TBI were relabelled as follows: enthusiasm = interest and organization = structuring.

There was variation in the sample size for some scales because data from some subjects were missing various single responses. The value of alpha was set at .05 for all tests of significance.

Each research question is listed below along with a statement of the analysis used.

1. Is there a relationship between student evaluations of teachers and ethnicity?

Multivariate analysis of variance (MANOVA) was performed on the data from the entire sample from both colleges. No significant differences were indicated.

2. Are ratings of specific teacher behaviors related to ethnicity?

Multivariate analysis of variance was performed on the data from the entire sample from both colleges. Discriminant analysis was run to identify specific areas of difference, since significant differences was found between subgroups.

3. Is there a relationship between student ratings of specific teacher behaviors and overall student evaluations of teachers and classes?

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To determine the relationship between specific teacher behaviors and overall class and teacher evaluations, stepwise multiple regression analysis was performed. Tests were controlled for ethnicity.

4. Is there a significant relationship between student evaluations of teachers, ratings of specific teacher behaviors, and student achievement in class?

For this question, students performance in class was used for the dependent variable achievement. This was represented by the *T* scores. Stepwise multiple regression analysis was done to determine which dimensions of the student evaluations and which ratings of teacher behaviors best predicted achievement. Tests were done by ethnic groupings.

Chapter Summary

This chapter presented an explanation of the design of the study, a description of the population and sample, the procedure used to select the sample, and the sample size. The two instruments used in the study, the TBI and the SEEQ, were described and reliability coefficients obtained in this study were presented. Findings from the pilot study that preceded this study were presented and conclusions stated. The chapter also outlined the procedures followed for the administration of the instruments and collection of data. Finally, the research questions were stated along with descriptions of the statistical analysis that was used.

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CHAPTER IV

ANALYSIS OF DATA

This study was undertaken to determine whether students from different ethnic backgrounds make significantly different evaluations of teachers and have significantly different ratings of teacher behaviors. In addition, investigation was made to determine (1) the relationship between the student ratings of teacher behaviors and student overall evaluations of teachers and classes, and (2) whether the student evaluations and ratings of teacher behaviors were related to student achievement. The data collected came from two samples consisting of college students enrolled in undergraduate classes in two colleges, one a multiethnic setting and one a limited ethnic setting with students coming almost solely from one ethnic background. This chapter presents the description of the sample and the results of the analysis done in response to the research questions.

Demographic Data of Sample

First College

In all, 557 students participated in the study. Of that number, 114 were removed from the sample because of large amounts of missing data. Many of these subjects had not completed one of the instruments, hence providing only partial information. These subjects were excluded from further analysis; therefore the final sample consisted of 414 subjects from 20 classes. Ethnic make-up of the sample was divided as follows: 225 (54.3%) Caucasian Americans, 65 (15.7%) International students, 50 (12.1%) African Americans, 42 (10.1%)

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Asian Americans, and 24 (6.0%) Hispanics. The two smallest groups, Native American with 2 subjects and Other with 6 subjects, were not used in determining class data or subsequent analysis because of their small number.

There were 271 females and 135 males in the sample. Table 4 provides information on the breakdown of the sample by year in college. Graduate students were included in the sample because they were members of the classes involved. The *n* for the sample sometimes varies because of missing data. Most of the students (46.4%) were taking the classes because they were general-requirement subjects or because they were major-requirement subjects (33.3%).

Table 4

Description of Sample by Year in College: First College

Year	*N*	%
Freshmen	107	26.4%
Sophomores	120	29.6%
Juniors	79	19.5%
Seniors	84	20.7%
Graduates	12	3.0%
Total	410	99.2%

Details of the data concerning class size and description by ethnicity can be found in Table 5. Class size varied from 10 to 54. There were nine classes with 20 or more students and six classes with between 15 and 19 students. Eleven classes had representatives from all five of the ethnic groups that were used in analysis. One class had subjects representing only two ethnic groups. The remaining eight had representatives from three or more groups.

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Table 5

Distribution of Ethnic Groups by Class: First College

Class	African American	Asian American	Caucasian American	Hispanic American	International	Total
1	4	3	11	2	3	23
2	1	2	7	1	4	15
3	4	1	6	1	4	16
4	5	1	11	-	4	21
5	2	-	11	-	1	14
6	2	2	14	3	5	26
7	1	2	13	1	3	20
8	2	2	11	2	-	17
9	5	1	18	3	6	33
10	-	1	15	-	5	21
11	2	5	17	1	7	32
12	3	4	5	2	3	17
13	-	3	7	-	-	10
14	3	1	9	-	3	16
15	-	1	7	-	3	11
16	2	1	14	1	2	20
17	1	2	11	2	1	17
18	2	1	6	-	4	13
19	1	-	6	-	3	10
20	10	9	26	5	4	54
Total	50	42	225	24	65	406

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Five of the classes were behavioral science classes. Four were English or communications classes, four were classes in religion, and three were from the history and geography area. Of the remaining four classes, one was an education class, one a teaching methods class, one a food and nutrition class, and one was categorized as general. Fourteen of the teachers were Caucasian American. Four others were European Caucasians who now reside in the U.S. Of the remaining two instructors, one was Hispanic and one was African American. Five of the teachers were women.

Second College

The sample from the second college consisted of 67 subjects. One hundred and twenty-nine subjects participated in the study, but because of incomplete data one class as well as other individual subjects had to be deleted from the data. In addition, permission given for one of the classes to participate was withdrawn. Fifty-one subjects (78.5%) of the sample were African American. Fourteen subjects (21.5%) were International students of African descent. Of the remaining two subjects, one listed him/herself as Caucasian American, one as Other. Therefore, 65 of the 67 subjects were used in the analysis of data concerning ethnic differences.

There were 37 females and 25 males in the sample. Data concerning gender were missing for three subjects. Data on year in college are presented in Table 6. The reasons most cited for taking the class were major requirement (33.8%) and general requirement (35.8%).

Data concerning the ethnic make-up of each class are provided in Table 7. Nine classes were originally included in the sample but only six were finally included. Three of the classes were from the English department, two from religion and one from psychology. All of the teachers in the sample were African American or of African descent.

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Table 6

Description of Sample by Year in College: Second College

Year	*N*	%
Freshmen	13	20.0%
Sophomores	11	16.9%
Juniors	20	30.8%
Seniors	19	29.2%
Total	63	96.9%

Table 7

Distribution of Ethnic by Class: Second College

	Class					
Ethnicity	1	2	3	4	5	6
African American	7	9	6	5	6	18
International	1	6	1	2	0	4
Total	8	15	7	9	6	22

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Presentation of Analysis for Research Questions

In this section the analyses related to the research questions are presented.

Question 1

Is there a relationship between student evaluation of teachers and ethnicity?

First College

Table 8 presents the means and standard deviations for each scale of the Student Evaluation of Educational Quality (SEEQ) for the first college. All means were approximately 4 ("Good") on the 5-point scale. These means indicate very positive evaluations of teachers by the entire group of students, suggesting that, on the whole, students assessed classes as stimulating, and instructors as being organized, friendly, covering relevant material, and encouraging appropriate interaction in the classes.

In Table 9 means and standard deviations for the scales of the SEEQ are presented by each ethnic group from the sample. Means for all groups indicated favorable ratings. Means for the African American and Hispanic groups were generally slightly higher than the means for the other groups.

Multivariate analysis of variance (MANOVA) was performed on the data to determine whether there were significant differences between the evaluations of teachers by students from the five ethnic groups that were included. The results from the MANOVA using the scales of the SEEQ as dependent variables indicated that differences between groups were not significant (Wilks' lambda = 0.93064, $F = 1.02005$, $p = 0.436$).

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Table 8

Means and Standard Deviations for the Student Evaluation of Educational Quality (SEEQ) Scales: First College (n = 406)

Scales	Mean	Std. Dev.	Minimum	Maximum	No. of Items
Learning	3.807	0.815	1.00	5.0	4
Enthusiasm	3.986	0.882	1.25	5.0	4
Organization	3.808	0.834	1.00	5.0	4
Group Inter.	4.191	0.831	1.00	5.0	4
Indiv. Rapport	4.069	0.833	1.25	5.0	4
Breadth	3.950	0.708	1.75	5.0	4
Exams & Assign.	3.855	0.851	1.00	5.0	4

Second College

The means and standard deviations for the scales of the SEEQ as obtained at the second college are presented in Table 10. The means indicate that the ratings of the teachers were favorable, between 4 and 4.5, "good" and above. Students apparently thought that classes were very challenging, that they learned a lot, and that teachers did well in their presentations.

Table 11 presents the means and standard deviations from the second college by group. The subgroups involved are African American and International students of African descent.

MANOVA performed using the data from the second college found no significant differences between the two groups on the rating of teachers using the SEEQ (Hotellings t = 0.06959, F = 0.55673, p = 0.788).

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Table 9

Means and Standard Deviations for the SEEQ Scales by Ethnic Group: First College

Ethnicity	African American (n = 50)		Asian American (n = 42)		Caucasian American (n = 225)		Hispanic (n = 24)		International (n = 65)	
Scale	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Learning	3.930	0.831	3.695	0.801	3.778	0.818	4.198	0.630	3.735	0.833
Enthusiasm	4.020	0.852	3.923	0.881	3.990	0.914	4.319	0.657	3.870	0.855
Organization	4.045	0.712	3.589	1.027	3.789	0.827	4.052	0.590	3.742	0.847
Group Interaction	4.430	0.696	4.012	0.880	4.169	0.862	4.198	0.853	4.200	0.755
Individual Rapport	4.257	0.750	3.899	0.775	4.047	0.847	4.313	0.756	4.019	0.885
Breadth	4.082	0.591	3.893	0.665	3.948	0.741	4.063	0.685	3.846	0.708
Exams & Assign.	4.075	0.736	3.625	0.889	3.834	0.857	4.188	0.567	3.781	0.924

Table 10

Means and Standard Deviations for the Student Evaluation of Educational Quality (SEEQ) Scales--Second College (n = 64)

Scales	Mean	Std. Dev.	Minimum	Maximum	No. of Items
Learning	4.097	0.817	3.5	5.0	4
Enthusiasm	4.020	0.976	1.5	5.0	4
Organization	4.121	0.783	1.8	5.0	4
Group Inter.	4.508	0.747	2.0	5.0	4
Indiv. Rapport	4.152	0.737	2.3	5.0	4
Breadth	4.043	0.780	1.3	5.0	4
Exams & Assign.	4.000	0.933	1.3	5.0	4

Table 11

Means and Standard Deviations by Ethnic Group: Second College

Ethnicity	African American (n = 50)		International (n = 14)	
Scale	Mean	Std. Dev.	Mean	Std. Dev.
Learning	4.015	0.873	4.392	0.497
Enthusiasm	4.010	1.008	4.054	0.889
Organization	4.120	0.843	4.125	0.544
Group Interaction	4.455	0.801	4.696	0.482
Individual Rapport	4.140	0.770	4.196	0.629
Breadth	4.045	0.834	4.035	0.571
Exams and Assign.	3.975	0.997	4.107	0.677

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Summary for Question 1

A look at the means for all the groups from the first college showed that although ratings were favorable overall, African American and Hispanic groups had somewhat higher means than the other groups. However, the differences were not statistically significant. Means from the second college indicated very favorable ratings. Multivariate analysis of variance (MANOVA) was performed on the data from both colleges. No significant differences were found between the ratings of teachers on the SEEQ by students from different ethnic groups.

Question 2

Are ratings of specific teacher behaviors related to ethnic background?

First College

The means and standard deviations for each of the scales in the TBI are presented in Table 12. The means indicate that the ratings of frequency of desired teacher behaviors were favorable with most scales approximately 4 or "often." The means for ratings on structuring were approximately 3 or "sometimes," a lower rating than the other scales. On a whole, most students saw teachers as often making clear and enthusiastic presentations as well as disclosing relevant information about assignments.

The means and standard deviations of the TBI scales for each ethnic group are presented in Table 13. Means were favorable across the groups. One scale, structuring, had a mean below 3 points in the Caucasian group. For all the groups, speech had the highest means and structuring the lowest means.

Multivariate analysis of variance (MANOVA) was used to analyze the data in response to question 2. The results of the analysis indicated that there were significant differences between group ratings of specific teacher behaviors (Wilks' lambda = 0.87316, F =

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1.60372, $p = 0.018$). Discriminant analysis was then performed to determine the areas of significant difference. One canonical discriminant function was significant. Tables 14 and 15 present the statistics for the discriminant functions. Non-significant functions are included to provide perspective.

The discriminant function separates the Caucasian group from the other groups. Four scales in the function were found to distinguish the Caucasian group from the remaining four groups (see Figure 1). Following conventional practice, loadings of variables on the function that were less than 0.3 were not interpreted (Tabachnick & Fidell, 1989). As a group, the Caucasians tended to rate the teachers higher on interest and pacing behaviors and lower on interaction and structuring behaviors than all the other groups. The differences between the remaining groups were smaller, with the Asian American group being closest in proximity to the Caucasian American group and the International group most distant. A look at the group means, however, indicates that ratings by the African American group on pacing were not lower than the Caucasian ratings. The values for the canonical discriminant function

Table 12

Means and Standard Deviations for the Teacher Behavior Inventory (TBI) Scales: First College (n = 387)

Scales	Mean	Std. Dev.	Minimum	Maximum	No. of Items
Clarity	3.981	0.647	2.09	5.0	10
Interest	3.821	0.635	1.81	5.0	11
Interaction	3.643	0.643	1.67	5.0	9
Structuring	3.140	0.814	1.00	5.0	7
Pacing	3.640	0.659	1.60	5.0	5
Disclosure	3.729	0.881	1.00	5.0	6
Speech	4.154	0.687	1.80	5.0	6
Rapport	3.769	0.890	1.20	5.0	5

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Table 13

Means and Standard Deviations for the TBI Scales by Ethnic Group: First College

Ethnicity	African American (n = 50)		Asian American (n = 42)		Caucasian American (n = 225)		Hispanic (n = 24)		International (n = 65)	
Scale	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Clarity	3.944	0.624	3.748	0.581	3.727	0.636	3.852	0.683	3.837	0.720
Interest	3.845	0.637	3.802	0.670	3.858	0.621	3.803	0.842	3.694	0.570
Interaction	3.725	0.613	3.735	0.681	3.595	0.646	3.657	0.645	3.681	0.638
Structuring	3.420	0.752	3.211	0.886	2.993	0.800	3.387	0.701	3.303	0.805
Pacing	3.735	0.607	3.470	0.641	3.678	0.655	3.642	0.821	3.549	0.648
Disclosure	3.877	0.887	3.698	0.907	3.650	0.877	4.090	0.769	3.782	0.886
Speech	4.182	0.677	4.080	0.684	4.176	0.687	4.176	0.728	4.098	0.698
Rapport	3.965	0.810	3.624	0.959	3.705	0.886	4.018	0.768	3.858	0.930

Table 14

Statistics for First Canonical Discriminant Function (n = 387)

Function	Eigenvalue	Canonical Correlation	Percentage of Variance	Chisquare	Significance (p)
1	0.088	0.284	62.83	50.933	0.0181
2	0.030	0.170	21.17	19.308	0.5654
3	0.012	0.110	8.82	8.351	0.7572
4	0.010	0.100	7.17	3.746	0.5865

Table 15

Standardized Canonical Discriminant Function Coefficients

Scales	Coefficients
Clarity	0.12334
Interest	-0.75449
Interaction	0.43748
Structuring	0.70903
Pacing	-0.38670
Disclosure	0.22084
Speech	-0.15513
Rapport	0.15239

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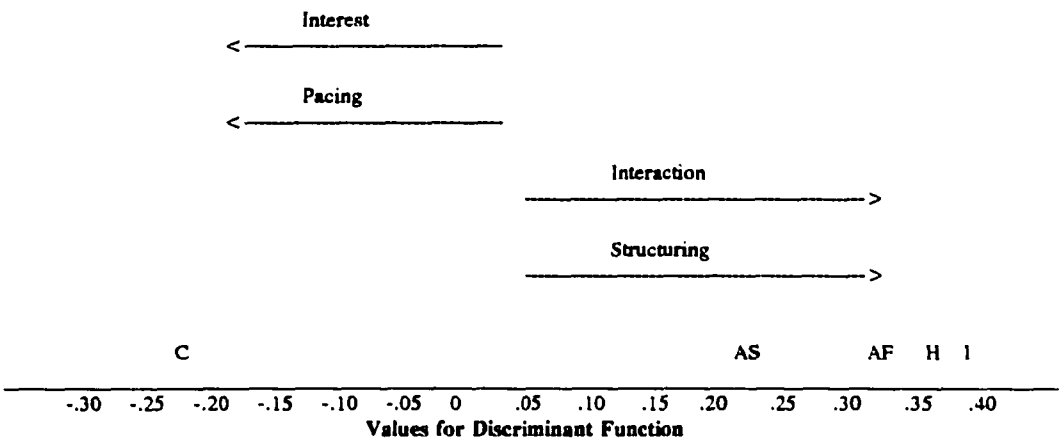

Legend: Positions of:

AF = African American
AS = Asian American
C = Caucasian
H = Hispanic
I = International

Figure 1. Relationships between the TBI scales loading .3 and above on the significant discriminant function and ethnic groups.

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evaluated at the group means were: AF = 0.33847, AS = 0.23078, C = -0.25803, H = 0.36470, and I = 0.38001.

Second College

Table 16 presents the means and standard deviations for the scales of the TBI. Ratings are favorable overall, with means falling approximately between 3.5 and 4 to the positive end of the 5-point scale. Students rated teachers as often performing behaviors that provided clarity and direction, solicited attention, and encouraged class interaction.

Table 17 presents the means and standard deviations from the second college by ethnic group. MANOVA procedures were performed on the TBI data from the second college but no significant effects were found (Hotellings t = .11206, F = .77038, p = .630).

Table 16

Means and Standard Deviations for the Teacher Behavior Inventory (TBI): Second College (n = 64)

Scales	Mean	Std. Dev.	Minimum	Maximum	No. of Items
Clarity	3.667	0.739	1.4	5.0	11
Interest	3.661	0.683	2.0	4.9	11
Interaction	3.740	0.736	1.5	5.0	9
Structuring	3.456	0.936	1.4	5.0	7
Pacing	3.502	0.827	1.8	5.0	5
Disclosure	3.754	0.981	1.5	5.0	6
Speech	4.031	0.809	2.0	5.0	6
Rapport	3.836	0.890	1.0	5.0	5

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Table 17

Means and Standard Deviations by Ethnic Group: Second College

Ethnicity	African American (n = 50)		International (n = 14)	
Scale	Mean	Std. Dev.	Mean	Std. Dev.
Clarity	3.684	0.717	3.607	0.836
Interest	3.704	0.639	3.513	0.831
Interaction	3.741	0.726	3.738	0.802
Structuring	3.471	0.967	3.396	0.839
Pacing	3.480	0.800	3.585	0.954
Disclosure	3.803	1.011	3.564	0.869
Speech	4.045	0.773	3.974	0.964
Rapport	3.805	0.936	3.927	0.683

Summary for Question 2

The means for the ratings were favorable with means located approximately between 3 and 4, which were positive ratings of the frequency of the behaviors measured.

The analysis done revealed a significant difference between the Caucasian students' ratings and the ratings of teacher behaviors done by the other ethnic groups. The Caucasians were more likely to rate teachers higher on behaviors related to interest/enthusiasm and pacing while rating them lower on behaviors dealing with interaction and structuring. These scales could be identified as distinguishing features between Caucasian student ratings and those of other students. There was one exception. The means for the African American group indicated that their ratings on pacing were in fact not lower than the Caucasian group. No differences were found between the groups at the second school.

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Question 3

Is there a relationship between students' ratings of specific teacher behaviors and overall student evaluations of teachers and classes?

The procedure used to investigate the answer to this question was as follows: the two overall items on the SEEQ were used as dependent variables and the scales on the TBI were used as the independent variables. Evaluations on both overall class and overall teacher were expected to be highly correlated. However, it was assumed that students would reflect on such factors as content, meaningfulness, and interaction when rating overall class and on such factors as rapport, speech, and pacing when rating overall teacher. Stepwise regression analysis was performed to determine which teacher-behavior variables best predicted scores on the overall class and teacher items.

First College

Stepwise regression analysis was performed on the data from the entire sample and for each ethnic group. Table 18 presents the means, standard deviations, and correlation matrix for the variables entered in the stepwise analysis for the entire group. Correlation between overall class and teacher was 0.7634 and was significant at $p < .001$. This was a fairly high significant correlation between the overall teacher and class evaluations. Correlations between the behaviors on the TBI and the overall scales were all significant at $p < .001$, but all of the correlation coefficients were below 0.6, a moderate level of correlation.

Tables 19 and 20 present the statistics for the stepwise regression analysis using the scales from the TBI as the independent variables and the SEEQ overall class variable as the dependent. Three steps were taken in which the scales clarity, speech, and rapport were entered. These three variables accounted for 31.7% of the total variance. Clarity alone accounted for 24.8% of the total variance.

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Table 18

Means, Standard Deviations, and Correlation Matrix for the TBI Scales and Overall SEEQ Scales: First College

Scales	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8	Overall Class
(1) Clarity	387	3.781	0.647	1.000								
(2) Interest	387	3.821	0.635	0.573–	1.000							
(3) Interaction	387	3.643	0.643	0.599–	0.645–	1.000						
(4) Structuring	387	3.140	0.814	0.615–	0.320–	0.414–	1.000					
(5) Pacing	387	3.640	0.659	0.564–	0.402–	0.396–	0.333–	1.000				
(6) Disclosure	387	3.729	0.881	0.581–	0.529–	0.525–	0.524–	0.373–	1.000			
(7) Speech	387	4.154	0.687	0.369–	0.386–	0.306–	0.329–	0.489–	0.284–	1.000		
(8) Rapport	387	3.769	0.890	0.569–	0.498–	0.556–	0.513–	0.432–	0.505–	0.409–	1.000	
Overall Class	387	3.739	1.054	0.498–	0.389–	0.352–	0.372–	0.412–	0.368–	0.409–	0.417–	1.000
Overall Teacher	387	3.980	1.071	0.547–	0.462–	0.436–	0.381–	0.459–	0.377–	0.396–	0.527–	0.763–

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 19

Stepwise Regression Results: SEEQ Overall Class and TBI Scales for the First College (n = 387)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Clarity	0.248	0.248	127.013	0.0000
2	Speech	0.059	0.307	84.968	0.0000
3	Rapport	0.010	0.317	59.342	0.0000

Table 20

Regression Model: SEEQ Overall Class and TBI Scales for First College (n = 387)

Variable	b	Beta	t	Probability (p)
Clarity	0.550	0.340	6.507	0.0000
Speech	0.354	0.231	4.902	0.0000
Rapport	0.154	0.129	2.432	0.0155
Constant	-0.409			

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Tables 21 and 22 present the statistics for the stepwise regression analysis using the scales from the TBI as the independent variables and the SEEQ overall teacher variable as the dependent. Five steps were taken in this analysis with the variables clarity, rapport, speech, pacing, and enthusiasm entered, in that order. Although most of the TBI scales were significantly correlated with the overall teacher variable, the first scale entered accounted for most of the variance in the model. Clarity accounted for 29.9% of the variance in a model that explained 40.7% of the total variance. Interest accounted for less than 1% of the total variance. Interaction had a high correlation with overall teacher but was not entered in the analyses due to intercorrelation.

The means and standard deviations by ethnicity for the SEEQ overall scales are presented in the Table 23. Means were all favorable, the lowest being 3.595. Table 24 presents the correlation matrix for SEEQ overall class and teacher as dependent variables and the TBI scales as the independent variables for the African American group. Correlation between overall class and overall teacher was 0.7074 ($p < .001$).

Table 21

Stepwise Regression Results: SEEQ Overall Teacher and TBI Scales for the First College ($n = 387$)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Clarity	0.299	0.299	164.170	0.0000
2	Rapport	0.069	0.368	111.832	0.0000
3	Speech	0.021	0.389	81.362	0.0000
4	Pacing	0.010	0.399	63.325	0.0000
5	Interest	0.008	0.407	52.366	0.0000

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Table 22

Regression Model: SEEQ Overall Teacher and TBI Scales for the First College (n = 387)

Variable	b	Beta	t	Probability (p)
Clarity	0.383	0.234	4.140	0.0000
Rapport	0.286	0.238	4.668	0.0000
Speech	0.163	0.105	2.225	0.0266
Pacing	0.201	0.125	2.419	0.0160
Interest	0.197	0.119	2.351	0.0192
Constant	-0.712			

Only one step was completed in the stepwise regression analysis for using SEEQ overall class and TBI scales for the African American group. Interest was entered on that step (R^2 = 0.527, F = 49.03, $p < 0.0001$, Y'= 1.070X + [-0.321]). Interest represents behaviors of the teacher that could be categorized as enthusiastic, appealing to student attention and interest. The model accounted for 52.7% of the total variance.

Interest was the only scale entered in the stepwise regression using SEEQ overall teacher and TBI scales for the African American group (R^2 = 0.552, F = 54.20, $p <$ 0.0001, Y'= 1.124X + [-0.292]). This model accounted for 55.2% of the total variance.

The correlation matrix for the SEEQ overall class and teacher scales and TBI scales for the Asian American group is presented in Table 25. The correlation coefficient for overall class and overall teacher was 0.8535 ($p < .001$).

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Table 23

Means and Standard Deviations for the SEEQ Overall Scales by Ethnic Group: First College

Ethnic Group	*N*	Overall Class Means	Standard Deviation	Overall Teacher Means	Standard Deviation
African American	50	3.860	0.948	4.060	1.071
Asian American	42	3.595	1.128	3.881	1.064
Caucasian	221	3.697	1.033	3.936	1.122
Hispanic	24	4.083	0.929	4.458	0.779
International	65	3.754	1.186	3.954	1.052

Table 24

Correlation Matrix Between SEEQ Overall Class and Teacher and TBI Scales for the African American Group (n = 46)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.667–	1.000						
(3) Interaction	0.586–	0.679–	1.000					
(4) Structuring	0.811–	0.527–	0.446–	1.000				
(5) Pacing	0.545–	0.540–	0.538–	0.447–	1.000			
(6) Disclosure	0.648–	0.660–	0.589–	0.630–	0.442–	1.000		
(7) Speech	0.219	0.318·	0.357·	0.290	0.347·	0.329·	1.000	
(8) Rapport	0.668–	0.550–	0.533–	0.533–	0.596–	0.513–	0.275	1.000
Overall Class	0.465–	0.726–	0.373·	0.357·	0.408·	0.415–	0.403·	0.442–
Overall Teacher	0.615–	0.743–	0.445–	0.439–	0.301·	0.413–	0.279	0.532–

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 25

Correlation Matrix Between SEEQ Overall Class and Teacher and TBI Scales for the Asian American Group (n = 41)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.559–	1.000						
(3) Interaction	0.484–	0.597–	1.000					
(4) Structuring	0.593–	0.448–	0.545–	1.000				
(5) Pacing	0.435–	0.339–	0.270	0.118	1.000			
(6) Disclosure	0.438–	0.600–	0.518–	0.633–	0.150	1.000		
(7) Speech	0.195	0.197	-0.028	0.225	0.495–	0.026	1.000	
(8) Rapport	0.226	0.352–	0.474–	0.576–	0.338·	0.487–	0.409–	1.000
Overall Class	0.414–	0.286	0.162	0.434–	0.411–	0.438–	0.412–	0.224
Overall Teacher	0.405–	0.220	0.253	0.347·	0.503–	0.339·	0.403–	0.259·

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Statistics for the steps taken in the regression analysis for the Asian American group are presented in Tables 26 and 27. Two steps were made in which disclosure and speech were entered respectively. Disclosure accounted for 19.2% of the total variance and speech 16%, creating a model that accounted for 35.2% of the total variance. Both variables accounted for almost equal amounts of the variance explained by the model. Structuring was almost as good a predictor of overall class as disclosure (r = 0.434) but was not part of the model becuase of intercorrelation.

The statistics for variables entered in the stepwise regression analysis of SEEQ overall teacher and TBI scales are presented in Tables 28 and 29. Two steps were made in which pacing and structuring were entered. Together they accounted for 33.8% of the total variance. Pacing alone accounted for 25.3% of that variance. None of the variables entered for overall class were entered for overall teacher. Clarity and speech were also good predictors not included in the model due to intercorrelation.

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Table 26

Stepwise Regression Results: SEEQ Overall Class and TBI Scales for the Asian American Group (n = 42)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Disclosure	0.192	0.192	9.253	0.0042
2	Speech	0.160	0.352	10.326	0.0003

Table 27

Regression Model: SEEQ Overall Class and TBI Scales for the Asian American Group (n = 42)

Variable	b	Beta	t	Probability (p)
Disclosure	0.521	0.427	3.272	0.0023
Speech	0.661	0.401	3.067	0.0040
Constant	-1.081			

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Table 28

Stepwise Regression Results: SEEQ Overall Teacher and TBI Scales for the Asian American Group (n = 41)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Pacing	0.253	0.253	13.24	0.0008
2	Structuring	0.085	0.338	9.69	0.0004

Table 29

Regression Model: SEEQ Overall Class and TBI Scales for the Asian American Group (n = 41)

Variable	b	Beta	t	Probability (p)
Pacing	0.768	0.469	3.528	0.0011
Structuring	0.346	0.292	2.198	0.0341
Constant	0.079			

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Table 30 presents the correlation matrix for the overall class scale from the SEEQ and all the TBI scales for the Caucasian American group. The correlation coefficient for overall class and overall teacher was 0.7637 ($p < .001$).

Tables 31 and 32 present the statistics for the variables entered in the regression analysis. Three steps were made and the variables clarity, speech, and rapport were entered respectively. The model explained 29.6% of the total variance. The first variable entered, clarity, accounted for 22.5% of that variance.

Tables 33 and 34 present the statistics for the variables entered in the stepwise regression analysis using SEEQ overall teacher and TBI scales for the Caucasian group. Four steps were completed in the analysis. The variable entered on the first step, rapport, accounted for 29.2% of the total variance. The remaining variables, pacing, interest, and clarity, together accounted for an additional 12.3% of the variance. The complete model accounted for 41.5% of the total variance.

Table 30

Correlation Matrix Between SEEQ Overall Class and Teacher and TBI Scales for the Caucasian American Group ($n = 221$)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.549–	1.000						
(3) Interaction	0.601–	0.668–	1.000					
(4) Structuring	0.583–	0.236–	0.320–	1.000				
(5) Pacing	0.620–	0.392–	0.378–	0.355–	1.000			
(6) Disclosure	0.563–	0.495–	0.496–	0.449–	0.373–	1.000		
(7) Speech	0.419–	0.408–	0.323–	0.378–	0.443–	0.241–	1.000	
(8) Rapport	0.582–	0.515–	0.577–	0.480–	0.441–	0.456–	0.392–	1.000
Overall Class	0.474–	0.377–	0.323–	0.340–	0.382–	0.285–	0.403–	0.427–
Overall Teacher	0.539–	0.483–	0.449–	0.355–	0.489–	0.331–	0.406–	0.540–

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 31

Stepwise Regression Results: SEEQ Overall Class and TBI Scales for the Caucasian American Group (n = 212)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Clarity	0.225	0.225	61.01	0.0000
2	Speech	0.051	0.276	39.78	0.0000
3	Rapport	0.020	0.296	29.19	0.0000

Table 32

Regression Model: SEEQ Overall Class and TBI Scales for the Caucasian American Group (n = 212)

Variable	b	Beta	t	Probability (p)
Clarity	0.452	0.280	3.779	0.0002
Speech	0.326	0.215	3.294	0.0012
Rapport	0.212	0.180	2.465	0.0145
Constant	-0.141			

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Table 33

Stepwise Regression Results: SEEQ Overall Teacher and TBI Scales for the Caucasian American Group (n = 212)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Rapport	0.292	0.292	86.61	0.0000
2	Pacing	0.078	0.370	61.38	0.0000
3	Interest	0.033	0.403	46.88	0.0000
4	Clarity	0.012	0.415	36.75	0.0000

Table 34

Regression Model: SEEQ Overall Teacher and TBI Scales for the Caucasian American Group (n = 212)

Variable	b	Beta	t	Probability (p)
Rapport	0.335	0.266	3.873	0.0001
Pacing	0.341	0.202	2.951	0.0035
Interest	0.317	0.178	2.680	0.0080
Clarity	0.280	0.161	2.045	0.0421
Constant	-0.818			

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Table 35 presents the correlation matrix for the SEEQ overall class scales and all the TBI scales for the Hispanic group. The correlation coefficient for overall class and overall teacher was 0.7262 ($p < .001$).

Only interaction was entered in the stepwise regression analysis using SEEQ overall class and TBI scales ($R^2 = 0.340$, $F = 10.31$, $p = .0044$). The model Y'= 0.822X + 1.049 accounted for 34% of the total variance. Other scales, disclosure, speech, and rapport were good predictors but were not included in the model becuase of intercorrelation.

One step was completed in the stepwise regression analysis using the SEEQ overall teacher and TBI scales. Pacing was entered and the model Y'= 0.532X + 2.449 accounted for 31.4% of the total variance ($R^2 = 0.314$, $F = 9.17$, $p = .0066$). There was no overlap in predictors for the dependent variables overall class and overall teacher for this group. Interaction and clarity had correlations almost as high as pacing but were not included in the model because of intercorrelation.

Table 36 presents the correlation matrix for the SEEQ overall class and scales and the TBI scales for the International group. The correlation coefficient between overall teacher and overall class was 0.7418 ($p < .001$).

Only clarity was entered in the stepwise regression analysis using SEEQ overall class and TBI scales ($R^2 = 0.428$, $F = 44.42$, $p < .0001$). The model Y'= 1.112X + (-0.561) accounted for 42.8% of the total variance. Tables 37 and 38 present the statistics for the variables entered in the regression analysis using SEEQ overall teacher and TBI scales. Two steps were made. On the first step, rapport was entered explaining 45.7% of the total variance. On the second step, clarity was entered, explaining an additional 8.5% of the total variance. The complete model accounted for 54.2% of the total variance.

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Table 35

Correlation Matrix Between SEEQ Overall Class and Teacher and TBI Scales for the Hispanic Group (n = 22)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.435•	1.000						
(3) Interaction	0.701–	0.732–	1.000					
(4) Structuring	0.550–	0.330	0.509•	1.000				
(5) Pacing	0.763–	0.392	0.701–	0.555–	1.000			
(6) Disclosure	0.730–	0.519–	0.652–	0.578–	0.750–	1.000		
(7) Speech	0.409	0.452•	0.664–	0.276	0.683–	0.578–	1.000	
(8) Rapport	0.514–	0.575–	0.618–	0.226	0.391	0.587–	0.525–	1.000
Overall Class	0.492•	0.272	0.583–	0.405	0.520–	0.525–	0.526–	0.428•
Overall Teacher	0.509•	0.305	0.520–	0.306	0.561–	0.466•	0.441•	0.361

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 36

Correlation Matrix Between SEEQ Overall Class and Teacher and TBI Scales for the International Group (n = 59)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.724–	1.000						
(3) Interaction	0.681–	0.703–	1.000					
(4) Structuring	0.600–	0.460–	0.498–	1.000				
(5) Pacing	0.435–	0.428–	0.357•	0.263•	1.000			
(6) Disclosure	0.626–	0.582–	0.517–	0.533–	0.329•	1.000		
(7) Speech	0.426–	0.463–	0.363•	0.352•	0.632–	0.471–	1.000	
(8) Rapport	0.642–	0.574–	0.552–	0.567–	0.419–	0.606–	0.594–	1.000
Overall Class	0.662–	0.390•	0.473–	0.403•	0.448–	0.446–	0.385•	0.472–
Overall Teacher	0.658–	0.499–	0.493–	0.491–	0.435–	0.469–	0.469–	0.676–

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 37

Stepwise Regression Results: SEEQ Overall Teacher and TBI Scales for the International Group (n = 59)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Rapport	0.457	0.457	48.01	0.0000
2	Clarity	0.085	0.542	33.14	0.0000

Table 38

Regression Model: SEEQ Overall Teacher and TBI Scales for the International Group (n = 59)

Variable	b	Beta	t	Probability (p)
Rapport	0.501	0.432	3.661	0.0006
Clarity	0.568	0.380	3.220	0.0021
Constant	-0.203			

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Summary tables of the variables entered in the regression analyses for each group from the first college are presented in Tables 39 and 40. The variables that were significant for the entire group are most similar to those significant for the Caucasian group, likely because that group made up more than 50% of the sample. The significant variables for overall class were different from those for overall teacher for the Asian American and Hispanic groups, but overlapped for the African American, Caucasian, and International groups. While the factors that contribute to high ratings of both overall class and teacher appear similar, there seem to be differences for some groups. Some variables that were good predictors were not included in the regression models because of intercorrelation with the chosen predictors. They are also indicated in the summary tables.

For the Caucasian group, a larger number of variables were significantly related to both the overall class and overall teacher variables. While it appears that those students use a broader range of behaviors for their evaluations, a larger sample size may have contributed to the inclusion of more variables in the analysis. However, the variables last entered accounted for only small amounts of the total variance. Among the significant variables for the Caucasian group, clarity was the best predictor for overall class, while rapport was the best predictor for overall teacher. Students in this group appear to value clarity when focusing only on the class, but teacher rapport with individual students when assessing teachers.

Correlations between overall class and overall teacher were significant and moderately high for all groups. Interest was the only significant predictor for both dependent variables for the African American group. In both cases it accounted for more than half the total variance, suggesting that interest behaviors are very significant contributors to the perceptions African American students have of their teachers and their classes. Clarity was a significant predictor of both dependent variables for the International group. However, while clarity was

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Table 39

Summary Table for TBI Scales That Were Significant in the Regression Analysis With SEEQ Overall Class Scores: First College

Scales	Total Group	African American	Asian American	Caucasian American	Hispanic	Inter-national
Clarity	X			X		X
Interest		X				
Interaction					X	
Structuring			(X)			
Pacing	(X)					
Disclosure			X		(X)	
Speech	X		X	X	(X)	
Rapport	X			X	(X)	
R^2	0.317	0.527	0.352	0.296	0.340	0.428
F	59.342	49.03	10.326	29.19	10.31	44.42

Note: Predictors that had high correlations and were significant but were not included in the regression models are included denoted by the symbol (X).

the only predictor identified for class, rapport was a strong predictor related to ratings of the teacher.

Asian American students' ratings of the class related more to their assessments of disclosure and speech while their ratings of the teacher related more to structuring and pacing. Hispanic students' ratings of the class related most to student interaction facilitated during class, while their ratings of the teacher related more to pacing.

Second College

Stepwise regression analysis was performed on the sample data from the second college. Table 41 presents the means, standard deviations, and correlation matrix for the scales of the TBI and the overall class and teacher scales from the SEEQ. Correlations ranged between .2

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Table 40

Summary Table for TBI Scales That Were Significant in the Regression Analysis With SEEQ Overall Teacher Scores: First College

Scales	Total Group	African American	Asian American	Caucasian American	Hispanic	Inter-national
Clarity	X		(X)	X	(X)	X
Interest	X	X		X		
Interaction	(X)				(X)	
Structuring			X			
Pacing	X		X	X	X	
Disclosure						
Speech	X		(X)			
Rapport	X			X		X
R^2	0.4073	0.552	0.330	0.415	0.314	0.542
F	52.366	54.20	9.69	36.75	9.17	33.14

Note: Predictors that had high correlations and were significant but were not included in the regression models are included denoted by the symbol (X).

and .7. The correlation between overall class and overall teacher was significant and fairly high, $r = 0.7855$.

Tables 42 and 43 present the results of the stepwise analysis using the TBI scales as independent variables and the SEEQ overall class scale as the dependent variable. Two steps were made in that procedure. Clarity was entered on the first step and accounted for 50.2% of the total variance. The second variable entered was structuring which accounted for an additional 4.2% of the total variance. Interaction was also a good predictor of overall class in the correlation matrix, but was not added to the model due to intercorrelation.

Only one step was completed in the stepwise regression analysis for SEEQ overall teacher and the TBI scales. Clarity was the significant predictor of overall teacher ($R^2 = 0.480$, $F = 55.30$, $p < .0001$).

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Table 41

Means, Standard Deviations, and Correlation Matrix for TBI Scales and SEEQ Overall Scores: Second College

Scales	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8	Overall Class
(1) Clarity	62	3.667	0.739	1.000								
(2) Interest	62	3.662	0.683	0.704–	1.000							
(3) Interaction	62	3.740	0.736	0.833–	0.656–	1.000						
(4) Structuring	62	3.456	0.936	0.767–	0.546–	0.676–	1.000					
(5) Pacing	62	3.502	0.827	0.285·	0.395–	0.276·	0.079	1.000				
(6) Disclosure	62	3.754	0.980	0.753–	0.618–	0.680–	0.705–	0.349·	1.000			
(7) Speech	62	4.030	0.809	0.291·	0.505–	0.325	0.035	0.521–	0.302·	1.000		
(8) Rapport	62	3.835	0.890	0.580–	0.507–	0.558–	0.434–	0.356·	0.467–	0.260·	1.000	
Overall Class	62	4.031	1.054	0.708–	0.531–	0.704–	0.634–	0.345·	0.585–	0.216	0.421–	1.000
Overall Teacher	62	4.156	0.895	0.693–	0.503–	0.562–	0.551–	0.269–	0.603–	0.247	0.268·	0.785–

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 42

Stepwise Regression Results: SEEQ Overall Class and TBI Scales for the Second College (n = 62)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Clarity	0.502	0.502	60.424	0.0000
2	Structuring	0.042	0.544	35.245	0.0000

Table 43

Regression Model: SEEQ Overall Class and TBI Scales for the Second College (n = 62)

Variable	b	Beta	t	Probability (p)
Clarity	0.610	0.397	2.500	0.0152
Structuring	0.563	0.373	2.349	0.0222
Constant	-0.357			

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The model Y' = 0.927X + .704 accounted for 48% of the total variance. Thus clarity was also a good predictor of both dependent variables for this sample.

Table 44 presents the correlation matrix between the SEEQ overall class scale and the scales from the TBI for the African American portion of this sample. There was fairly high correlation between overall class and teacher variables ($r = 0.788$, $p > .001$).

Three steps were entered in the stepwise regression analysis using the TBI and SEEQ overall class variables (Tables 45 and 46). Interaction was entered on the first step and accounted for 57% of the total variance. On the second step, structuring was entered and accounted for an additional 4.5% of the total variance. Finally pacing was entered and increased variance accounted for by the model by 4.4%. The model accounted for 65.9% of the total variance. Clarity ($r = 0.747$) was almost as highly correlated with overall class as interaction but was not part of the regression model because of intercorrelation.

Table 44

Correlation Matrix Between SEEQ Overall Class and Teacher and TBI Scales for the African American Group ($n = 48$)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.740—	1.000						
(3) Interaction	0.849—	0.734—	1.000					
(4) Structuring	0.810—	0.536—	0.726—	1.000				
(5) Pacing	0.319·	0.367·	0.324·	0.039	1.000			
(6) Disclosure	0.777—	0.616—	0.726—	0.709—	0.349·	1.000		
(7) Speech	0.342·	0.587—	0.312·	0.030	0.554—	0.277	1.000	
(8) Rapport	0.573—	0.546—	0.542—	0.401·	0.437·	0.478—	0.372·	1.000
Overall Class	0.747—	0.551—	0.755—	0.693—	0.375—	0.614—	0.173	0.471—
Overall Teacher	0.724—	0.498—	0.619—	0.631—	0.270	0.606—	0.165	0.288·

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 45

Stepwise Regression Results: SEEQ Overall Class and TBI Scales for the African American Group (n = 48)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Interaction	0.570	0.570	60.99	0.0000
2	Structuring	0.045	0.615	35.88	0.0000
3	Pacing	0.044	0.659	28.40	0.0000

Table 46

Regression Model: SEEQ Overall Class and TBI Scales for the African American Group (n = 48)

Variable	b	Beta	t	Probability (p)
Interaction	0.597	0.386	2.723	0.0092
Structuring	0.474	0.404	3.013	0.0043
Pacing	0.329	0.235	2.407	0.0203
Constant	-1.024			

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One step was completed in the stepwise regression analysis using SEEQ overall teacher and TBI scales for the African American group. Clarity was entered and accounted for 52.4% of the variance ($R^2 = 0.5244$, $F = 50.64$, $p < .0001$, $Y' = 0.931X + 0.747$).

Table 47 presents the correlation matrix for the SEEQ overall class and overall teacher scales and all the TBI scales. Correlation between overall class and overall teacher was fairly high ($r = 0.779$, $p = .001$). No significant variables were found in the stepwise regression analysis. This may be due to the small number of students in this group.

A summary table for the significant predictors of the SEEQ overall class and teacher variables from the TBI scales is presented in Table 54. For both dependent variables, clarity was the strongest predictor when the entire group was used in the analysis. When rating overall class, structuring also contributed. However, when the African American group was isolated, clarity was not included in the regression model. Clarity remained a good predictor because of its high correlation with overall class but intercorrelation with other scales caused it not to be entered. Instead, behaviors that indicated classroom interaction were most significantly correlated to overall class. It appears that the presence of the International group affected the correlations between variables. Even though there were no significant variables for the International group, the predictor model for the African American group changed when the International group was added.

Summary for Question 3

Predictors for overall class and overall teacher overlapped for most of the groups, and correlations between those two variables were moderately high. Although different groups of variables were be related to overall teacher and class variables for each group from both colleges, the predictor identified most frequently for both dependent variables for the entire group from both schools was clarity.

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Table 47

Correlation Matrix Between SEEQ Overall Class and Teacher and TBI Scales for the International Group (n = 11)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.511	1.000						
(3) Interaction	0.756-	0.292	1.000					
(4) Structuring	0.360	0.600	0.179	1.000				
(5) Pacing	0.196	0.681-	0.020	0.428-	1.000			
(6) Disclosure	0.374	0.605	0.162	0.784	0.657-	1.000		
(7) Speech	-0.152	0.168	-0.290	-0.104	0.454	0.297	1.000	
(8) Rapport	0.672-	0.237	0.673-	0.482	0.061	0.388	-0.396	1.000
Overall Class	0.017	0.343	0.087	-0.210	0.282	-0.228	0.372	-0.256
Overall Teacher	0.180	0.266	0.106	-0.170	0.536	0.189	0.566	-0.041

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 48

Summary Table for TBI Scales Significant as Predictors of SEEQ Overall Class and Teacher Scores (n = 64)

TBI Scales & Overall Class	Total Groups	African American	Int.	TBI Scales & Overall Teacher	Total Groups	African American	Int.
Clarity	X			Clarity	X	X	
Interest				Interest			
Interaction		X		Interaction			
Structuring	X	X		Structuring			
Pacing		X		Pacing			
Disclosure				Disclosure			
Speech				Speech			
Rapport				Rapport			
R^2	0.544	0.659	-	R^2	0.480	0.524	-
F	35.245	28.40	-	F	55.301	50.64	-

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When describing particular groups, behaviors that demonstrated clarity appeared to be most important to International students. African American students in the first sample appeared to value interest-arousing behaviors the most, while African American students in the second sample appeared to value behaviors related to clarity, interaction, structuring, and pacing. Asian American students seemed most concerned with behaviors identified with structuring, pacing, disclosure, and speech. Caucasian students seemed most impacted by clarifying behaviors and, to a lesser degree, most of the other behaviors. The Hispanic students appeared to be impacted most by interaction and pacing behaviors.

The results suggest that African American students value enthusiasm and interest more in a multicultural setting than when they are in a more homogeneous situation. However, the outcome may have been affected by how well the individuals included in both small samples represented the African American population. Larger samples may have included a wider cross section of African Americans.

Question 4

Is there a relationship between student evaluations, specific teacher behaviors, and student achievement in class?

In order to answer this question, stepwise multiple regression analysis was performed using each scale from the SEEQ and TBI as an independent variable and the *T* scores calculated for each student as the dependent variable representing achievement in class. Analyses were done for the total groups as well as for each ethnic group.

First College

The means, standard deviations, and correlation matrix for the SEEQ scales and *T* scores are presented in Table 49. Only three of the correlation coefficients for the SEEQ scales and T scores are significant, and all the coefficients are very low. The largest

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correlation coefficient represents the relationship between the learning scale and the *T* scores, $r = 0.171$. The correlation matrix between TBI scales and *T* scores is presented in Table 50. The correlation coefficients between the scales and *T* scores are also low. Five coefficients were higher than 0.10: clarity, $r = 0.103$, interest, $r = 0.193$, interaction, $r = 0.120$, pacing, $r = 0.180$, and speech, $r = 0.133$.

One step was completed in the stepwise regression analysis using SEEQ scales and *T* scores. Learning was entered and accounted for only 2.9% of the total variance ($R^2 = 0.029$, $F = 11.875$, $p = .0006$, Y'= 2.115X + 41.932). Three steps were made in the analysis using the TBI scales. Statistics from the analysis are presented in Tables 51 and 52. Interest was entered first and accounted for 3.7% of the variance. Pacing and structuring were added, each accounting for approximately 1.0% of the total variance. The complete model accounted for only 6.6% of the total variance. Structuring was added to the model although it had a low negative correlation and was not significantly correlated to the *T* scores on its own. The findings suggest that in the presence of ratings of enthusiasm and pacing, structuring had a very small but significant correlation with students' achievement. That means that as student ratings on structuring increased, their achievement decreased. The negative beta for structuring indicates that it acted as a suppressor in the model. This slight suppression means that the net effect of structuring in the model is to suppress the variance of the other predictors, learning and pacing.

The correlation matrix for the African American group's SEEQ variables is presented in Table 53. Many of the correlation coefficients for the *T* scores and the scales were higher for this group than for the total sample. However, only two, learning and organization, were significant. Two steps were completed in the stepwise regression analysis (see Tables 54 and 55). Organization was entered on the first step and accounted for 16% of the total variance.

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Table 49

Means, Standard Deviations, and Correlation Matrix for SEEQ Scales and *T* Scores: First College

Scales	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8
(1) Learning	395	3.807	0.815	1.000							
(2) Enthusiasm	395	3.987	0.882	0.625–	1.000						
(3) Organization	395	3.808	0.834	0.654–	0.565–	1.000					
(4) Group Int.	395	4.191	0.831	0.467–	0.512–	0.405–	1.000				
(5) Ind. Rapport	395	4.068	0.833	0.552–	0.645–	0.582–	0.554–	1.000			
(6) Breadth	395	3.949	0.708	0.559–	0.536–	0.574–	0.454–	0.582–	1.000		
(7) Exams & Assign.	395	3.854	0.850	0.640–	0.562–	0.677–	0.457–	0.646–	0.561–	1.000	
(8) *T*	395	50.000	10.000	0.171–	0.086	0.096	0.116-	0.054	0.076	0.103-	1.000

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 50

Means, Standard Deviations, and Correlation Matrix for TBI Scales and *T* Scores: First College

Scales	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9
(1) Clarity	383	3.781	0.647	1.000								
(2) Interest	383	3.821	0.635	0.572–	1.000							
(3) Interaction	383	3.643	0.643	0.592–	0.643–	1.000						
(4) Structuring	383	3.140	0.814	0.608–	0.325–	0.396–	1.000					
(5) Pacing	383	3.640	0.659	0.567–	0.398–	0.390–	0.329–	1.000				
(6) Disclosure	383	3.729	0.881	0.587–	0.532–	0.530–	0.530–	0.384–	1.000			
(7) Speech	383	4.154	0.687	0.374–	0.389–	0.302–	0.329–	0.481–	0.291–	1.000		
(8) Rapport	383	3.769	0.890	0.569–	0.497–	0.559–	0.514–	0.433–	0.512–	0.410–	1.000	
(9) *T*	383	50.000	10.000	0.103·	0.193–	0.120·	-0.031	0.180–	0.072	0.133·	0.081	1.000

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 51

Stepwise Regression Results: TBI Scales and *T* Scores--First College (n = 383)

Step No.	Variable Entered	Change in R^2	Model R^2	*F* Ratio	Probability (p)
1	Interest	0.037	0.037	14.372	0.0002
2	Pacing	0.013	0.050	9.700	0.0001
3	Structuring	0.016	0.066	8.747	0.0000

Table 52

Regression Model: TBI Scales and *T* Scores--First College (n = 383)

Variable	b	Beta	*t*	Probability (p)
Interest	2.643	0.177	3.15	0.0018
Pacing	2.272	0.155	2.75	0.0062
Structuring	-1.648	-0.140	-2.56	0.0109
Constant	37.409			

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Table 53

Correlation Matrix Between SEEQ Scales and *T* Scores for the African American Group (*n* = 48)

Scales	1	2	3	4	5	6	7
(1) Learning	1.000						
(2) Enthusiasm	0.689–	1.000					
(3) Organiz.	0.698–	0.592–	1.000				
(4) Gr. Interac.	0.560–	0.602–	0.625–	1.000			
(5) Ind. Rap.	0.520–	0.644–	0.619–	0.784–	1.000		
(6) Breadth	0.626–	0.598–	0.710–	0.580–	0.623–	1.000	
(7) Exams & Assign.	0.679–	0.687–	0.615–	0.706–	0.665–	0.555–	1.000
T	0.296-	0.127	0.401-	0.003	0.030	0.165	0.275

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 54

Stepwise Regression Results: TBI Scales and *T* Scores for the African American Group (*n* = 48)

Step No.	Variable Entered	Change in R^2	Model R^2	*F* Ratio	Probability (*p*)
1	Organization	0.161	0.161	8.794	0.0048
2	Gr. Interact.	0.099	0.260	7.922	0.0011

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Group interaction was entered on the second step and accounted for an additional 10% of the total variance. However, on its own it had a very low correlation with achievement and was not significant (see Table 53). The negative beta for group interaction indicates that it acted as a suppressor in the model. Despite the increase in R^2, the addition of group interaction did not really improve the model. Instead, the net effect of group interaction in the model was to suppress the variance accounted for by organization. Learning was not a part of the model but its correlation with the *T* scores was the closest to organization on the correlation matrix and was significant. By itself it may be a good predictor but it probably was not added to the model because of intercorrelation.

The correlation matrix for TBI scales and *T* scores from the African American group is presented in Table 56. As is the case with the SEEQ, the correlation coefficients for the *T* scores and the scales are higher than the total sample. Correlation coefficients ranged from $r = 0.115$ to $r = 0.326$ and only three were statistically significant. Interaction was entered on the only step completed in the stepwise regression analysis ($R^2 = 0.106$, $F = 4.981$, $p = .0310$, $Y' = 5.028X + 27.220$). Speech and disclosure were also significantly correlated to the *T* scores but were not entered in the regression model.

The correlation matrix for the SEEQ scales and *T* scores for the Asian American group is presented in Table 57. The correlation coefficients are very low, and some are negatively correlated. None of the variables were significant predictors of *T* scores, therefore no steps were taken in the regression analysis. The correlation matrix for the TBI scales and *T* variables for the same group is presented in Table 58. These were also low and negative correlations found between the *T* scores and the TBI scales with correlation coeffients ranging from $r = 0.017$ to $r = 0.326$. Interest was the only significant correlation.

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Table 55

Regression Model: TBI Scales and *T* Scores for the African American Group (n = 48)

Variable	b	Beta	t	Probability (p)
Organization	9.079	0.653	3.98	0.0002
Gr. Interact.	-5.910	-0.405	-2.46	0.0176
Constant	35.370			0.0109

Table 56

Correlation Matrix Between TBI Scales and *T* Scores for the African American Group (n = 44)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.667–	1.000						
(3) Interaction	0.587–	0.658–	1.000					
(4) Structuring	0.833–	0.614–	0.510–	1.000				
(5) Pacing	0.571–	0.575–	0.566–	0.488–	1.000			
(6) Disclosure	0.633–	0.653–	0.577–	0.657–	0.470–	1.000		
(7) Speech	0.248	0.352·	0.388·	0.331·	0.343·	0.366·	1.000	
(8) Rapport	0.714–	0.564–	0.545–	0.634–	0.600–	0.548–	0.271	1.000
T	0.216	0.290	0.326·	0.115	0.190	0.297·	0.310·	0.254

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 57

Correlation Matrix Between SEEQ Scales and *T* Scores for the Asian American Group (n = 42)

Scales	1	2	3	4	5	6	7
(1) Learning	1.000						
(2) Enthusiasm	0.804—	1.000					
(3) Organiz.	0.709—	0.673—	1.000				
(4) Gr. Interac.	0.613—	0.596***	0.534—	1.000			
(5) Ind. Rap.	0.632—	0.489***	0.620—	0.702—	1.000		
(6) Breadth	0.792—	0.674***	0.656—	0.628—	0.573—	1.000	
(7) Exams & Assign.	0.661—	0.579***	0.712—	0.436-	0.532—	0.707—	1.000
T	0.162	0.254	-0.017	-0.024	0.001	-0.013	0.079

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 58

Correlation Matrix Between TBI Scales and *T* Scores for the Asian American Group (n = 39)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.540—	1.000						
(3) Interaction	0.386-	0.568—	1.000					
(4) Structuring	0.543—	0.406-	0.467-	1.000				
(5) Pacing	0.365-	0.295	0.141	0.018	1.000			
(6) Disclosure	0.460-	0.591—	0.563—	0.655—	0.144	1.000		
(7) Speech	0.185	0.179	-0.075	0.213	0.510—	0.013	1.000	
(8) Rapport	0.180	0.319-	0.449-	0.556—	0.303	0.484—	0.402-	1.000
T	0.017	0.326-	0.236	0.059	0.100	0.277	-0.080	0.119

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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One step was completed in the analysis with the TBI scales and *T* scores for the Asian American group. The only variable entered was interest ($R^2 = 0.106$, $F = 4.405$, $p = .0427$, $Y' = 5.262X + 28.146$), which accounted for 10.6% of the total variance.

Table 59 presents the correlation matrix for the SEEQ scales and the *T* scores for the Caucasian American group. The correlation coefficients indicating the relationship between the *T* scores and the SEEQ scales range from $r = 0.070$ to 0.207. Four scales were significantly correlated with *T* scores: learning, exams and assignments, group interaction, and organization. Only one step was completed in the stepwise regression analysis. Learning was entered on the first step and accounted for 4.3% of the total variance ($R^2 = 0.043$, $F = 9.605$, $p = .0022$, $Y' = 2.156X + 44.441$). In this group, achievement was most closely related to the scale indicating students' evaluations of how much they had learned from the class. However, exams and assignments and group interaction were also good predictors that may not have been included in the model because of intercorrelation.

The correlation matrix for the TBI scales and *T* scores for the Caucasian American group is presented in Table 60. There was one negative correlation between structuring and the *T* scores and the highest correlation was for interest, $r = 0.165$. There were three significant correlations for interest, pacing, and clarity. Only interest was entered in the stepwise regression analysis ($R^2 = 0.027$, $F = 5.796$, $p = .0169$, $Y' = 2.146X + 44.248$). Interest accounted for only 2.7% of the total variance. Pacing and clarity were also good predictors, but they may not have been included in the regression model due to the effect of intercorrelation.

The correlation matrix for the SEEQ scales and *T* scores for the Hispanic students is in Table 61. Five of the scales were negatively correlated with the *T* scores and none were significant. No variables were entered in the stepwise regression analysis. Table 62 presents the correlation matrix between TBI scales and *T* scores for the Hispanic students. The

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correlation coefficients ranged from r = 0.039 to r = 0.501. Only the highest correlation was significant.

One step was made in the regression analysis for this group. Speech was entered (R^2 = 0.251, F = 5.695, p = .0289, Y' = 9.700X + 3.023), accounting for 25.1% of the total variance. Ratings on speech had to do with the absence of stutters, mumbles, and other speech factors that could make understanding difficult. The findings suggest that speech accounts for almost one-quarter of the total variance in achievement for Hispanic students.

The correlation matrix for the SEEQ scales and *T* scores from the International group is in Table 63. Correlation coefficients between SEEQ scales and *T* scores were low ranging from r = 0.082 to r = 0.371. Two correlations were significant. One step was completed during the analysis. Group interaction was entered (R^2 = 0.138, F = 9.446, p = .0032, Y' = 5.088X + 26.231) and accounted for 13.8% of the total variance. Learning is also a significant predictor but may not have been entered in the model because of intercorrelation.

Table 59

Correlation Matrix Between SEEQ Scales and *T* Scores for the Caucasian American Group (n = 212)

Scales	1	2	3	4	5	6	7
(1) Learning	1.000						
(2) Enthusiasm	0.602–	1.000					
(3) Organiz.	0.613–	0.527–	1.000				
(4) Gr. Interac.	0.393–	0.509–	0.323–	1.000			
(5) Ind. Rap.	0.559–	0.679–	0.537–	0.478–	1.000		
(6) Breadth	0.511–	0.514–	0.544–	0.353–	0.566–	1.000	
(7) Exams & Assign.	0.631–	0.535–	0.680–	0.383–	0.639–	0.579–	1.000
T	0.207-	0.070	0.149-	0.156-	0.088	0.101	0.166–

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 60

Correlation Matrix Between TBI Scales and *T* Scores for the Caucasian American Group (n = 212)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.544—	1.000						
(3) Interaction	0.597—	0.665—	1.000					
(4) Structuring	0.581—	0.240—	0.312—	1.000				
(5) Pacing	0.611—	0.388—	0.369—	0.346—	1.000			
(6) Disclosure	0.568—	0.506—	0.503—	0.443—	0.372—	1.000		
(7) Speech	0.411—	0.408—	0.316—	0.370—	0.433—	0.238—	1.000	
(8) Rapport	0.576—	0.512—	0.582—	0.476—	0.442—	0.459—	0.392—	1.000
T	0.143·	0.165·	0.090	-0.029	0.159·	0.028	0.043	0.046

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 61

Correlation Matrix Between SEEQ Scales and *T* Scores for the Hispanic Group (n = 21)

Scales	1	2	3	4	5	6	7
(1) Learning	1.000						
(2) Enthusiasm	0.330	1.000					
(3) Organiz.	0.660—	0.448·	1.000				
(4) Gr. Interac.	0.325	0.438	0.367—	1.000			
(5) Ind. Rap.	0.689—	0.513·	0.733—	0.677—	1.000		
(6) Breadth	0.365	0.298	0.446·	0.741—	0.768—	1.000	
(7) Exams & Assign.	0.725—	0.433·	0.786—	0.535·	0.672—	0.489·	1.000
T	-0.184	0.114	-0.172	0.014	0.007	-0.089	-0.065

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 62

Correlation Matrix Between TBI Scales and *T* Scores for the Hispanic Group (n = 19)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.433	1.000						
(3) Interaction	0.776–	0.736–	1.000					
(3) Structuring	0.572-	0.305	0.474-	1.000				
(4) Pacing	0.808–	0.347	0.685–	0.547-	1.000			
(5) Disclosure	0.809–	0.500-	0.635-	0.543-	0.751–	1.000		
(6) Speech	0.499-	0.448	0.619-	0.232	0.684–	0.595-	1.000	
(7) Rapport	0.544-	0.602-	0.640-	0.166	0.425	0.583-	0.572-	1.000
T	0.209	0.046	0.269	0.039	0.216	0.027	0.501-	0.171

Note. Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 63

Correlation Matrix Between SEEQ Scales and *T* Scores for the International Group (n = 61)

Scales	1	2	3	4	5	6	7
(1) Learning	1.000						
(2) Enthusiasm	0.592–	1.000					
(3) Organiz.	0.692–	0.632–	1.000				
(4) Gr. Interac.	0.577–	0.451–	0.393–	1.000			
(5) Ind. Rap.	0.485–	0.639–	0.611–	0.570–	1.000		
(6) Breadth	0.520–	0.529–	0.533–	0.435–	0.544–	1.000	
(7) Exams & Assign.	0.587–	0.539–	0.614–	0.552–	0.664–	0.386-	1.000
T	0.294-	0.152	0.083	0.371-	0.224	0.163	0.082

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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The correlation matrix for the TBI scales and *T* scores for the International group is presented in Table 64. Correlation coefficients ranged between r = 0.135 and r = 0.350. Only the highest correlation, pacing, was significant. Only pacing was entered in the stepwise regression analysis (R^2 = 0.123, F = 7.402, p = .0088, Y' = 5.749X + 27.575). Pacing therefore accounted for 12.3% of the total variance.

Tables 65 and 66 provide an overview of the significant variables entered in the stepwise analyses with the *T* scores as the dependent variable. The SEEQ was significantly though not highly correlated to the outcomes on the *T* scores. For the entire group, the model containing the learning scale accounted for only 2.9% of the total variance. The regression model for the African American group was the strongest, accounting for 26% of the total variance for that group. The model for the Caucasian group accounted for only 4.3% of the total variance for that group. There were no significant predictors for the Asian American and Hispanic groups.

Correlations between the TBI and *T* scores were also low. The regression model for the entire sample accounted for only 6.6% of the total variance. The model for the Hispanic group was the strongest, accounting for 25.1% of the total variance for that group. The model for the Caucasian group, however, accounted for only 2.7% of the total variance for the group.

The summary tables include indications of scales that, while not part of the regression models for the respective groups, were individually good predictors of achievement. They were omitted from the models most likely because of intercorrelation with other scales in the models. Such scales were identified by correlations that were significant and close in value to those scales that were included in the regression models.

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Table 64

Correlation Matrix Between TBI Scales *T* Scores for the International Group (n = 55)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.741–	1.000						
(3) Interaction	0.675–	0.719–	1.000					
(4) Structuring	0.577–	0.479–	0.449–	1.000				
(5) Pacing	0.497–	0.443–	0.412-	0.294-	1.000			
(6) Disclosure	0.640–	0.585–	0.514–	0.578–	0.401-	1.000		
(7) Speech	0.454–	0.461–	0.374-	0.369-	0.620–	0.506–	1.000	
(8) Rapport	0.660–	0.567–	0.548–	0.579–	0.413-	0.626–	0.586–	1.000
T	0.183	0.188	0.172	0.135	0.350-	0.182	0.230	0.246

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 65

Summary Table for SEEQ Scales That Are Significant Predictors of *T* Scores: First College

Scales	Total Group	African American	Asian American	Caucasian American	Hispanic	International
Learning	X	(X)		X		(X)
Enthusiasm						
Organization		X				
Group Interaction		X		(X)		X
Ind. Rapport						
Breadth						
Exams & Assign.				(X)		
R^2	0.029	0.260	–	0.043	–	0.138
F	11.875	7.922	–	9.605	–	9.446

Note: Predictors that had high correlations and were significant but were not included in the regression models are included, denoted by the symbol (X).

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Table 66

Summary Table for TBI Scales That Are Significant Predictors of *T* Scores: First College

Scales	Total Group	African American	Asian American	Caucasian American	Hispanic	Inter-national
Clarity				(X)		
Interest	X		X	X		
Interaction		X				
Structuring	X					
Pacing	X			(X)		X
Disclosure		(X)				
Speech		(X)			X	
Rapport						
R^2	0.066	0.106	0.106	0.027	0.251	0.123
F	8.747	4.981	4.405	5.796	5.695	7.402

Note: Predictors that had high correlations and were significant but were not included in the regression models are included, denoted by the symbol (X).

Second College

The means, standard deviations, and correlation matrices for the SEEQ and TBI scales and the *T* scores are provided in Tables 67 and 68. The means for the SEEQ were high, all being above 4.0 on a 5-point scale. However, the correlations between the SEEQ and the *T* scores were very low and some of them were negatively correlated. None of the correlations were significant and therefore no scales were entered in the stepwise regression analysis. The correlations between the TBI scales and the *T* scores were also very low and not significant. Therefore, as with the SEEQ, no scales were entered in the stepwise regression analysis involving TBI scales.

The correlation matrix for SEEQ scales and *T* scores for the African American group is presented in Table 69. The correlation coefficients for the *T* scores are low and none of them

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Table 67

Means, Standard Deviations, and Correlation Matrix for SEEQ Scales and *T* Scores: Second College

Scales	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8
(1) Learning	62	4.098	0.817	1.000							
(2) Enthusiasm	62	4.020	0.976	0.541–	1.000						
(3) Organization	62	4.121	0.783	0.519–	0.764–	1.000					
(4) Group Int.	62	4.507	0.747	0.716–	0.570–	0.647–	1.000				
(5) Ind. Rapport	62	4.152	0.737	0.365-	0.687–	0.617–	0.496–	1.000			
(6) Breadth	62	4.043	0.780	0.488–	0.557–	0.682–	0.625–	0.482–	1.000		
(7) Exams & Assign.	62	4.004	0.933	0.604–	0.593–	0.807–	0.715–	0.482–	0.555–	1.000	
(8) *T*	62	50.000	10.00	0.102	0.037	0.013	-0.017	-0.068	0.040	0.041	1.000

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 68

Means, Standard Deviations, and Correlation Matrix for TBI Scales and *T* Scores: Second College

Scales	N	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9
(1) Clarity	59	3.667	0.739	1.000								
(2) Interest	59	3.662	0.683	0.682--	1.000							
(3) Interaction	59	3.740	0.736	0.835--	0.624--	1.000						
(4) Structuring	59	3.456	0.936	0.753--	0.526--	0.683--	1.000					
(5) Pacing	59	3.502	0.827	0.302·	0.387-	0.239	0.098	1.000				
(6) Disclosure	59	3.754	0.980	0.782--	0.638--	0.686--	0.732--	0.332-	1.000			
(7) Speech	59	4.030	0.809	0.299·	0.519--	0.218	0.044	0.496--	0.288·	1.000		
(8) Rapport	59	3.835	0.890	0.598--	0.492--	0.554--	0.443--	0.336-	0.466--	0.261·	1.000	
(9) *T*	59	50.00	10.00	0.046	0.154	-0.090	-0.057	0.080	-0.039	0.151	0.147	1.000

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

are significant. No scales were entered in the stepwise regression analysis for this group. The correlation matrix for the TBI scales and *T* scores for the African American group is found in Table 70. None of the correlation coefficients were significant for this instrument as well, therefore no scales were entered in the stepwise regression analysis.

Table 71 provides the correlation matrix for the SEEQ and *T* scores for the International group in this sample. The correlation coefficients for SEEQ scales with *T* varied from r = 0.064 (group interaction) to r = 0.415 (exams and assignments) with some negative correlations. However, none of the correlations were significant, and none were entered in the stepwise regression analysis.

The correlation matrix for the TBI scales and the *T* for the International group in this sample is presented in Table 72. Correlations varied between r = -0.14 (disclosure) and r = -0.599 (interaction). Four of the correlations were positive and four were negative and only interaction was significant at the .05 level. However,'two steps were made in the stepwise regression analysis. The relevant statistics are presented in Tables 73 and 74. First interaction was entered and accounted for 35.9% of the total variance. A negative correlation with interaction indicated that as ratings of teachers on the interaction scale increased, achievement decreased. Interest gained significance in the presence of interaction and was entered on the second step, interest accounting for an addtional 41.2% of the total variance. The model therefore accounted for 77.1% of the total variance. Despite the increase in R^2, the negative beta for interest indicated that there was high intercorrelation between the two predictors and the lack of a significant zero-order correlation suggests that interest does not in fact add meaningfully to the model. The model suggests that increases in ratings of teacher behaviors on interaction were significantly related to decreases on students' *T* scores, and

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Table 69

Correlation Matrix Between SEEQ Scales and *T* Scores for the African American Group (*n* = 48)

Scales	1	2	3	4	5	6	7
(1) Learning	1.000						
(2) Enthusiasm	0.514—	1.000					
(3) Organiz.	0.564—	0.832—	1.000				
(4) Gr. Interac.	0.722—	0.497—	0.679—	1.000			
(5) Ind. Rap.	0.348·	0.745—	0.650—	0.521—	1.000		
(6) Breadth	0.481—	0.523—	0.690—	0.611—	0.469—	1.000	
(7) Exams & Assign.	0.670—	0.668—	0.818—	0.764—	0.565—	0.576—	1.000
T	0.062	0.0237	0.037	-0.357	-0.044	0.096	-0.008

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 70

Correlation Matrix Between TBI Scales and *T* Scores for the African American Group (*n* = 46)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.723—	1.000						
(3) Interaction	0.850—	0.701—	1.000					
(4) Structuring	0.798—	0.517—	0.731—	1.000				
(5) Pacing	0.338·	0.344·	0.289	0.050	1.000			
(6) Disclosure	0.807—	0.642—	0.735—	0.733—	0.330·	1.000		
(7) Speech	0.340·	0.588—	0.277	0.021	0.530—	0.258	1.000	
(8) Rapport	0.592—	0.541—	0.523—	0.417·	0.399·	0.465—	0.341·	1.000
T	0.076	0.094	-0.016	-0.115	0.016	-0.067	0.176	0.249

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 71

Correlation Matrix Between SEEQ Scales and *T* Scores for the International Group (n = 12)

Scales	1	2	3	4	5	6	7
(1) Learning	1.000						
(2) Enthusiasm	0.663•	1.000					
(3) Organiz.	0.201	0.301	1.000				
(4) Gr. Interac.	0.671•	0.879—	0.254	1.000			
(5) Ind. Rap.	0.186	0.342	0.636•	0.438	1.000		
(6) Breadth	0.608•	0.622•	0.444	0.684—	0.595	1.000	
(7) Exams & Assign.	0.473	0.300	0.753—	0.360	0.504	0.406	1.000
T	0.372	0.135	-0.101	0.064	-0.205	-0.306	0.415

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

Table 72

Correlation Matrix Between TBI Scales and *T* Scores for the International Group (n = 11)

Scales	1	2	3	4	5	6	7	8
(1) Clarity	1.000							
(2) Interest	0.511	1.000						
(3) Interaction	0.756—	0.292	1.000					
(4) Structuring	0.360	0.600	0.179	1.000				
(5) Pacing	0.196	0.681•	0.020	0.428	1.000			
(6) Disclosure	0.374	0.605•	0.162	0.784—	0.657•	1.000		
(7) Speech	-0.152	0.168	-0.290	-0.104	0.454	0.297	1.000	
(8) Rapport	0.672•	0.237	0.673•	0.482	0.061	0.388	-0.396	1.000
T	-0.155	0.418	-0.599•	0.024	0.188	-0.014	0.086	-0.301

Note: Unmarked $p > .05$. * = $p \leq .05$. ** - $p \leq .01$. *** - $p \leq .001$.

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Table 73

Stepwise Regression Results: TBI Scales and *T* Scores for the International Group (n = 11)

Step No.	Variable Entered	Change in R^2	Model R^2	F Ratio	Probability (p)
1	Interaction	0.359	0.359	5.604	0.0395
2	Interest	0.412	0.771	16.228	0.0030

Table 74

Regression Model: TBI Scales and *T* Scores for the International Group (n = 11)

Variable	b	Beta	t	Probability (p)
Interaction	-12.662	0.677	-4.84	0.0009
Interest	7.800	-0.814	4.03	0.0030
Constant	72.137			

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increases in ratings of teacher behaviors on interaction were significantly related to increases on students scores.

A summary of the significant predictors identified in response to question 4 is presented in Table 75. The evaluations measured by the SEEQ were not related to achievement in class for any of the groups in the sample. The ratings on the TBI also were not related to achievement in class for either the African American group or the total sample. In the case of the International group, however, the interaction was a strong negative predictor contributing to 35.9% of the total variance. Interest accounted for a large portion of R^2 but was not significant initially and, due to indications of very high intercorrelation, is not considered a good predictor.

Summary for Question 4

The correlations between the rating scales and students' achievement in class were quite low for all groups. The areas of the SEEQ and TBI that were most related to achievement in class also varied for each ethnic group at the first college. For the SEEQ, ratings concerning the level of learning that took place in the class, the value of what was learned and the level of challenge presented by the class seemed to be the most related for the sample from the first college. There was no significant relationship between the ratings on the SEEQ and achievement in class for the second college. Ratings of behaviors on the TBI indicated that enthusiastic behaviors were most related to achievement for the first sample. Ratings of teacher behaviors were only significantly related to achievement for the International students from the second sample. Behaviors that encourage interaction were negatively related to achievement for that group.

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Table 75

Summary Table for SEEQ and TBI Scales Significant as Predictors of *T* Scores: Second College

SEEQ Scales (n = 62)	Total Groups	African American	Inter-national	TBI Scales (n = 59)	Total Groups	African American	Inter-national
Learning				Clarity			
Enthusiasm				Interest			X
Organization				Interaction			X
Group Int.				Structuring			
Ind. Rapport				Pacing			
Breadth				Disclosure			
Exams & Assign.				Speech			
				Rapport			
R^2	-	-	-	R^2	-	-	0.771
F	-	-	-	F	-	-	16.227

Summary of Findings

The sample from the first college included students from more than five ethnic groups, including a group of International students. Four ethnic groups and the International group were used in the analysis. Caucasians were the majority ethnic group, making up more than 50% of the sample. The sample from the second college was quite small and included a majority of African American students and a small number of International students of African descent.

The findings indicated that in the multicultural setting there were no significant differences between the evaluations of teachers by different ethnic groups on the SEEQ. However, there were significant differences between ethnic groups on the ratings of teacher behaviors on the TBI. In the analysis, ratings of the Caucasian group varied distinctly from

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the ratings of the other groups. The scales on which they differed were interest, pacing, structuring and interaction. No significant differences were found at the second school.

Further analysis indicated that ratings of teacher behaviors were significant predictors of overall evaluations of teachers and their classes for the entire sample. However, the teacher behaviors that were significant predictors varied for each ethnic group. Teacher behaviors that contributed to clarity were the best predictors of overall evaluations of teachers and classes for the sample from the first school. However, interest was the best predictor for African Americans; structuring, pacing, and disclosure were best predictors for Asian Americans, pacing and interaction were best predictors for Hispanics, and clarity was the best predictor for the Caucasians as well as the International group. Rapport was also a good predictor for the International group. Clarity was the best predictor for the second school, while interaction was the best predictor of overall evaluations of class for the African American portion of that sample.

Correlations between evaluations of teachers, ratings of teachers' behaviors and achievement in class were generally quite low. Where significant correlations were obtained, the prediction models generated did not explain much of the total variance. Of those significant variables identified on the SEEQ, organization was the best predictor for African Americans, learning for Caucasians, and group interaction for International students. On the TBI, interaction was the best predictor for African Americans, interest for Asians and Caucasians, speech for Hispanics, and pacing for International students. There were no significant SEEQ predictors for the second sample. Interaction was the significant predictor of achievement for the International group at the second college. There were no other significant predictors for that sample.

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The findings of this study suggest that ethnicity is related to the perceptions college students may have of teachers and their teachers' behaviors in the classroom.

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CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This final chapter presents a summary of the study, discussion of the findings, and conclusions and recommendations made as a result of the findings. The summary of the study includes an overview of the problem, the literature review, the methodology used in the study as well as a review of the significant findings that were made.

Summary

Statement of the Problem

This study was conducted with the purpose to determine (1) whether student evaluations of teachers and ratings of teacher behaviors were related to the ethnicity of the students, (2) the relationship between overall student evaluations of teachers, classes, and ratings of teacher behaviors, and (3) the relationship between student evaluations of teachers, ratings of teacher behaviors, and students' performance in class.

Overview of Literature

The literature reviewed covered a number of areas related to the study at hand. Those areas included research on student evaluation of teachers, research on teacher behaviors as they relate to effectiveness in teaching, student achievement, and students' perceptions of teaching, classes, and learning. Also included is a review of literature on teacher behaviors

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as they relate the perception of students from varied ethnic groups, the characteristic differences that may affect the way ethnically diverse students react to the classroom setting, and the use of observation as a tool for research.

There is an extensive body of literature that covers student evaluations of teachers at the college/university level. It has been a focus of controversy throughout the literature. Aleamoni (1987) indicated a number of reasons why teachers react unfavorably to the method of evaluation, including immaturity of students and the influence of extraneous variables such as class size and student's major. Some researchers (Cranton & Smith, 1986; Morano, 1985) appear to support such conclusions. On the other hand, a number of researchers have concluded that student evaluations of teachers provide stable and meaningful information (Aleamoni, 1981, 1987; Marsh, 1984, 1987; Marsh & Bailey, 1993) for teachers. Linked to the concern about the effects of extraneous variables is the criticism that the validity of student evaluations of teachers is questionable. While a review by Preece (1990) indicated overall agreement that the evaluations provide valid information, Hinton (1993), who questioned the validity of student evaluations of teachers, suggested that the information they provide not be viewed as objective information but as information about the students themselves and ways in which teachers may better relate to the students. Marsh (1987) and Cohen (1982) suggested that the general positive relationship that has been found between student evaluations of teachers and student achievement in class is an indication that the evaluations are a valid measure of teacher performance.

Student evaluations of teachers have been considered as important sources of information to be used in the improvement of college teaching (Franklin & Theall, 1990). The information that is the most useful is obtained from evaluation instruments that are multidimensional (Marsh & Bailey, 1993), and identify specific behaviors (Franklin & Theall,

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1990; Murray, 1987). Teachers need also to be interested in adapting in order for the information to contribute to change.

Discussion of teacher behaviors were found that related to several student outcomes. On the elementary and secondary levels, teacher behaviors have been linked to teaching effectiveness and student achievement (Cherry, 1987/1988; Kallison, 1986; Smith, 1982a; Yurkewicz, 1988). A review by Nussbaum (1992) pointed to the following teacher behaviors: frequency and intensity of praise, frequency and type of questioning, duration of wait time after questioning, and various indicators of teacher enthusiasm, as having a positive impact on students' achievement. Chiang (1991) found teacher behaviors including speaking clearly, hand-and-arm gestures, and excitement to also be related to teacher evaluations of gifted high-school students.

On the college/university level, explaining, facial expression, tone of voice, and immediacy behaviors related positively to student evaluations, student-reported learning and motivation. Friendly appearance and relaxed interaction were related to positive feedback and high achievement (Nussbaum, 1992). Clarity in explaining, facilitating student participation, and classroom organization were positively related to both student feedback and achievement (Feldens & Duncan, 1986). Studies on verbal and nonverbal immediacy behaviors indicated that immediacy was positively related to perceptions of learning by the students (Gorham, 1988). Nonverbal immediacy more than verbal immediacy appeared to be related to student perceptions of teacher-inspired motivation (Christophel, 1990) and both types of immediacy behaviors were related to student learning. Immediacy behaviors are those that lessen physical or psychological distance between teachers and students. Verbal immediacy behaviors include humor, inviting student input, and using inclusive statements about the class (e.g., "our class"). Nonverbal immediacy behaviors included smiling, gesturing, eye contact, and movement about the classroom.

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In discussing teacher behaviors from an ethnic perspective, Jenkins and Bainer (1990) proposed that teachers from the majority ethnic group relate to students from other ethnic groups differently than they do to students from their own group. They also display behaviors and expect responses that are the norm for their group while having different implications for others. Bassano (1985) found that students studying English had higher expectations for their own performance than their teachers did and expected more formal leadership in the class than was provided by the teacher. Gillespie (1988) concluded from her study that nonverbal interaction and teaching effectiveness may reflect ethnicity more than teaching style or discourse type. Studies investigating the relationship between teacher behaviors and student achievement (Walker, 1987/1988), immediacy behaviors and evaluations of the instructor (Powell & Harville, 1990), class usefulness (Powell & Collier, 1990), and perceived cognitive, affective and behavioral learning (Sanders & Wiseman, 1990) found differences between African American, Asian, Hispanic, and Caucasian ethnic groups.

The literature review also included coverage on the influence of ethnic background on students in the learning environment. Characteristic behaviors of various ethnic groups have been documented which suggest that different types of behavior patterns may be expected from students of differing ethnic backgrounds and behavior patterns may be interpreted differently by students because of differing ethnic backgrounds (Anderson & Adams, 1992; Baruth & Manning, 1992; Nieto, 1992). These authors suggested that teachers should not only expect such differences in behavior but may need to modify their own classroom behaviors in order to accommodate these students. African American students have been characterized as more likely to perceive things in terms of the whole picture, prefer inferential reasoning and approximations, and be more interested in people and activities than things. They are proficient in non-verbals and practice the use of dialect. Asian Americans tend to emphasize conformity and obedience, depend on teacher approval, and learn more by

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observing and memorizing. Hispanics are said to value personal attention and contact. Their primary language is important and they receive high motivation from social reinforcement. Caucasians were said to have an analytic style, to emphasize sustained focused attention, and use an elaborate syntactic code. Learning is impersonal and details are important, while verbal skills are emphasized (Hesler, 1987).

Methodology

Sample

The sample for the study consisted of undergraduate students from a Christian college and a Christian university. Both schools are affiliated with the same religious body. Some graduate students were included because they were enrolled in undergraduate classes. One of the schools was used because of the ethnic diversity of its student body. The other was chosen because the student body consisted almost entirely of one ethnic group. There were three reasons for including the homogeneous sample: (1) as a comparison group to indicate whether differences found between ethnic groups in the multicultural sample were present between national and international students in the homogeneous sample; (2) to determine whether there were differences between the findings for the total sample in both settings; (3) to compare the findings for the ethnic group in the homogeneous setting with the findings for the same ethnic group in the multicultural setting for differences.

Students were selected for the sample based on class membership. Twenty classes were chosen from the ethnically diverse school. Classes were chosen based on an enrollment of 20 or more students and agreement by teachers to allow the class to participate. The number of students (20) was chosen so all larger classes could be included in the selection pool, therefore increasing the likelihood that a number of ethnic groups would be represented in the class. Classes from the school with one ethnic group were chosen based on an enrollment of

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at least 10 students and permission from the class teacher for the class to participate. Originally, the criteria included enrollment of at least 20 students. However, difficulty in finding classes that size whose teachers were willing to participate caused the number to be reduced. In the case of this school, diversity in the class was not a concern.

Originally the sample consisted of 567 students from the ethnically diverse school and 129 from the other school. However, attrition for various reasons resulted in a final sample of 414 for the first school, and 67 for the second school. In the sample from the first school, 225 (54%) of the first sample were Caucasian. Ethnic minorities included 50 African Americans (12%), 42 Asian Americans (10%), 25 Hispanic (6%), 65 (16%) International students of various ethnic origins. Seven (2%) Native American and other minorities were also included but were not used in the analyses using ethnicity groupings because of their small number. In the sample from the second school, 51 (76%) students were African American and 14 (21%) were international students of African descent. One student was classified as Caucasian and two as other. These were not used in analyses related to ethnicity because of the small number.

Instruments

Two instruments were used in this study: (1) the Student Evaluation of Educational Quality (SEEQ) questionnaire and (2) the Teacher Behavior Inventory (TBI). The SEEQ is a multidimensional rating scale that consists of 30 questions that address teacher and class characteristics. The items have been labelled high inference in this study because they do not address specific teacher behaviors but require students to make ratings based on inferences about teachers' expression of such qualities as enthusiasm and interest in students. Some items on this questionnaire address specific behaviors. However, students were required to rate how well those behaviors were performed instead of how frequently. Included on the

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SEEQ were seven additional items relating to demographic information about the student. According to Marsh (1987), the SEEQ measures the following seven dimensions: learning, enthusiasm, organization, group interaction, individual rapport, breadth, and examinations and assignments. Two items measuring overall class and teacher were not included in scales. Reliability and construct validity for the SEEQ are reported by Marsh (1987). The items on the instrument are each measured on a 5-point scale, with 1 being very poor and 5 being very good.

The TBI is a 60-item instrument that asks students to rate teachers on the frequency with which they exhibit specific behaviors such as moving about while lecturing and writing key terms on the blackboard or overhead screen. The items are labelled as low inference (Murray, 1987). The items from the Teacher Behavior Inventory (TBI) produced eight factors (Erdle & Murray, 1986; Murray, 1983). The factors were: clarity, enthusiasm (relabelled interest), interaction, organization (relabelled structuring), pacing, disclosure, speech, and rapport. The items on the TBI have been reported to be reliable (Murray, 1983, 1991) and able to predict differences in student evaluations of teachers in low-, medium-, and high rated groups. Responses to TBI items were on a 5-point scale, ranging from 1 (almost never) to 5 (almost always).

Findings of Study

The following findings are results of the statistical analyses that were performed in reference to each of the research questions.

Question 1

Is there a relationship between student evaluations of teachers and student ethnicity?

No significant differences were found between the evaluations of teachers on the SEEQ by students from different ethnic backgrounds. This finding applied to both colleges.

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Therefore, no relationship was indicated between student evaluations of teachers and ethnicity of students.

Question 2

Are ratings of specific teacher behaviors related to ethnicity?

The ratings of students on the TBI were used as the source of information for answering this question. Multivariate analysis of variance (MANOVA) indicated that there were significant relationships between teacher behaviors and ethnicity at the first school. The ratings done by the Caucasian group differed from all the other groups on the scales interest, interaction, structuring, and pacing. The Caucasian group was more likely to rate teachers higher on interest and pacing behaviors than the other groups, while rating them lower on interaction and structuring than students from the other groups. There were no significant differences related to ethnicity in the way students rated teacher behaviors at the second college.

At least for one school, this study has identified a relationship between students' ratings of specific teacher behaviors and ethnic background.

Question 3

Is there a relationship between students' ratings of specific teacher behaviors and overall student evaluations of teachers and classes?

A significant relationship was found between the ratings of teacher behaviors and the student evaluations on the items overall class and overall teacher, which were both part of the student evaluation form. Results of stepwise regression analyses indicated that for students from the first college, teacher behaviors including clarity, speech and rapport were best predictors of student evaluations of overall class. Correlation between pacing and overall class indicate that it was also a good predictor but was not included in the predictor model

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because of intercorrelation. Behaviors included under clarity, rapport, speech, pacing, and enthusiasm were best predictors of student evaluations for overall teacher. Clarity accounted for the greatest amount of variance in both models. Interaction was also a good predictor though not included in the regression model.

Analyses by each ethnic group showed that interest was the only significant predictor for African American students on both class and teacher. Disclosure and speech were significant predictors for Asian American students on overall class evaluation, while pacing and structuring were significant predictors of overall teacher evaluation. Pacing accounted for more than two thirds of the variance in that model. Structuring was also a good predictor of overall class for the Asian American group though not included in the predictor model because of intercorrelation. Clarity and speech were also good predictors of overall teacher although not included in the model. For the Caucasian group, clarity, speech, and rapport were the predictors for overall class evaluation, and rapport, pacing, interest, and clarity were the predictors for the teacher evaluation. Clarity accounted for almost all the variance in the model for overall class evaluation, and rapport almost all the variance for overall teacher. For the Hispanic group, interaction was the only significant predictor for evaluation of overall class, and pacing was the only significant predictor for overall teacher. However, disclosure, speech and rapport were good predictors of overall class that were not included in the model, while clarity and interaction were good predictors of overall teacher that were not included in that predictor model because of intercorrelation. For the International group, clarity was the only significant predictor for overall class, while rapport and clarity were significant predictors for overall teacher. Rapport, however, accounted for almost 50% of the total variance.

Analysis of the data from the second college indicated that there was a significant relationship between ratings of teacher behaviors and overall ratings of class and teacher. The

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stepwise regression analysis identified clarity and structuring as significant predictors of ratings on class and clarity alone as a significant predictor of the ratings for teacher. When the subgroups in this sample were studied separately, interaction, structuring, and pacing were significant predictors for evaluation of overall class for African American students, and clarity was the only significant predictor for overall teacher for that group. There were no significant predictors for the International group.

Question 4

Is there a relationship between student evaluations of teachers, ratings of specific teacher behaviors, and achievement in class?

For this question, relationships between the SEEQ and the *T* scores as well as the TBI and the *T* scores were examined. *T* scores calculated from students final scores were used as the measure of students' achievement in class. Significant relationships were found between the *T* scores and student ratings on both the SEEQ and the TBI at the first college. A significant relationship between TBI scales and *T* scores was found for only one group at the second college.

Stepwise regression analysis identified learning as the only significant SEEQ predictor of the *T* scores for the sample from the first college. However, the amount of variance accounted for was very small ($< 3\%$), the correlation coefficients were low, and the relationship is considered weak. Interest, pacing, and structuring were significant TBI predictors of the *T* scores. The relationship with these predictors, though significant, was also weak. The variance accounted for by all predictors was 6.6% of the total variance. Structuring had a negative relationship with the achievement measure and, due to high intercorrelations, it was not considered a good predictor although it was included in the model.

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The relationship between the student evaluations and *T* scores for each ethnic group was also analyzed. For the African American group, organization was the significant SEEQ predictor for the *T* scores and interaction was the best TBI predictor for the *T* scores. Organization accounted for 16% of the total variance in the case of the African American subjects. Speech and disclosure also correlated well with the *T* scores but were not part of the regression model. There were no significant SEEQ predictors for the Asian American group, but there was one significant TBI predictor: interest. Interest accounted for more than 11% of the total variance for this group. Learning was the significant SEEQ predictor of *T* scores for the Caucasian group. Exams and assignments and group interaction were also good predictors but were not included in the regression model. Interest was the only significant TBI predictor for that group. Pacing and clarity were also good predictors that were not included in the regression model. The predictors from both the SEEQ and the TBI had weak relationships with *T* scores and accounted for less than 5% of the total variance. There were no significant SEEQ predictors of *T* scores for the Hispanic group, while speech was the only significant TBI predictor. Group interaction was the only significant SEEQ predictor for the International group although learning, while a good predictor, was not included in the predictor model. Pacing was the only significant TBI predictor of *T* scores for that group. Neither predictor model accounted for more than 14% of the total variance.

Analysis of the data from the second college indicated that the SEEQ scales were not significantly related to *T* scores at the second college. Interaction and interest were the significant TBI predictors of *T* scores for the International group. Both predictors accounted for more than 70% of the total variance. However, interest, because of high intercorrelation, was not considered a good predictor although it was included in the model. There were no other significant relationships for the TBI for that sample.

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Discussion

Student Evaluations of Teachers, Teacher Behaviors, and Student Ethnicity

The first objective of this study was to determine if a relationship exists between student evaluations of teachers, students ratings of teacher behaviors, and student ethnicity. Student evaluations of teachers were considered differently from student ratings of teacher behaviors because the former required students to rate teachers on how well they performed by making inferences. Rating of teacher behaviors, however, asked students to rate the frequency of the teachers' behaviors instead of make judgments about how "well" they performed. Based on the literature concerning student ethnicity and education, it seemed possible that students of different ethnic backgrounds use different criteria, and possibly different teacher behaviors, to come to conclusions about teacher performance (Powell & Harville, 1990). The assumption was that should a relationship exist between ratings of teacher behaviors and ethnicity, identifying teacher behaviors that contribute to students judgments about teachers' overall performance was also possible.

Means for the seven scales on the Student Evaluation of Educational Quality (SEEQ) revealed positive evaluations of teachers. The means were all approximately 4 points on a 5-point scale. However, no significant differences were found among the ratings from the five groups involved at the first college. Means on the SEEQ for the second college were very positive as well--all were slightly above 4 points. There were also no significant differences in evaluations between groups at the second college. There appeared to be a general tendency for students to rate teachers favorably, regardless of their ethnic origin. A number of factors may have contributed to this trend. Perhaps respect for the authority of the teacher and recognition of the teacher as having more information on the subject matter are factors considered by all college students when evaluating teachers. In a Christian environment,

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students may be more reluctant to state that they think teachers are doing a poor job. In addition, the absence of specific detailed criteria about behaviors such as teachers' enthusiasm, students may be less likely to think critically about what teachers do and depend instead on general impressions from which they make inferences.

There may have been additional reasons why no differences were found for the second college. Students from a minority ethnic group in a homogeneous setting may tend to be more supportive of their teachers because of a shared ethnicity and culture, and a need for "self preservation" as a minority group. In addition, teachers in such a minority setting may make an effort to challenge and support their students as a result of their shared identity.

The Teacher Behavior Inventory was used for ratings of teacher behaviors. Means for the TBI were approximately 3 to 4 points on a 5-point scale. These were also positive ratings. However, significant differences were found between the ratings made by students from different ethnic backgrounds at the first school. The Caucasian group tended to rate teachers higher on behaviors that express interest and pacing than the other students, and lower on interaction and structuring than the other students. Caucasian students seemed to perceive lower (or higher in the case of reversed items) frequencies of the behaviors included in interest and pacing as being more adequate than the other groups. On the other hand, they seemed to have expected higher frequencies of the behaviors included in interaction and structuring than the other students. No differences were found between the groups at the second school.

Higher ratings by Caucasian students suggest that such behaviors as gesturing with the hands, relating anecdotes, humor, and movement about the classroom were less important to Caucasian students than the other students. The rate of presentation of the material was more satisfactory for Caucasians, while other behaviors such as those that increase the structure, facilitate more sequential arrangement of material, encourage more student participation,

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present challenging ideas, and provide for variety in class presentation were of more importance to Caucasian students than to others. This finding is supported by descriptions made of the Caucasian student (Cushner et al., 1992; Hesler, 1987). Students from other groups besides Caucasian may believe that the teacher should determine course method while being more critical of teacher actions that stimulate interest. Caucasians are likely to value a structured, and well-planned presentation, while some other ethnic groups place high value on interaction, a higher level of emotional involvement, more verbal input by the audience, and some amount of spontaneity (Baruth & Manning, 1992; Hesler, 1987; Pollard, 1995).

Language may also have influenced the Caucasian students' responses in regards pacing. The language used in the classroom and the manner in which ideas were expressed were most likely representative of middle class Caucasian language and lifestyle. This was probably not the first language for many of the students that were not Caucasian and the language possibly did not reflect their own lifestyles. Therefore, the possibility exists that students from other cultural backgrounds were more challenged by the pacing of the class.

The differences in the between the findings for both schools were probably a reflection of differences between the teachers as well as the students. In the multicultural setting, most of the teachers were Caucasian while the students were from varied ethnic backgrounds. In the homogeneous setting, teachers and students shared the same ethnicity and it seems likely that there was some level of similarity in cultural experiences and preferred behavior patterns. This may have resulted in less differences in responses to the teachers.

Correlation of Teacher Behaviors With Overall Ratings of Teacher and Class

The focus of question 3 was identifying scales on the TBI that formed best predictor relationships with the overall class and overall teacher items on the SEEQ. Since the answer to question 2 states that there is a difference between the way students of different ethnic

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backgrounds rate teacher behaviors, differences were also expected between the predictor variables for the overall class and overall teacher items for each ethnic group.

The findings indicated that a number of teacher behaviors are significantly related to overall evaluations of class and teacher by students from the ethnic groups included in the study. While all the behaviors that were significantly correlated are important, more attention will be focused on the behaviors that had the highest correlations and explained the most variance in predictor models produced in the stepwise regression analysis.

When the entire group from the first college was examined, the significant behaviors identified in the analysis for evaluations of overall class were similar to those identified for evaluations of overall teacher (see Tables 76 and 77). Clarity, which includes behaviors such as giving several concrete examples, repetition of difficult ideas, and using familiar language, was the category of behaviors that had the highest correlation and alone accounted for the most of the total variance. Clearness of speech and establishing rapport with the students were also identified in the analyses for both overall class and overall teacher. This gives an indication not only that clarity was important for most of the students, but that the behaviors deemed most important in making evaluations about the teacher are the behaviors that are also important in evaluating the teacher. This is an indication that the teacher, to a great extent, affects the students response to the class.

When data from each ethnic group were analyzed, some differences were apparent. For Caucasian and International students, clarity remained an important predictor for overall class and rapport for overall teacher. In regard to clarity, such behaviors as use of familiar speech, concrete examples and repetition seemed to be important factors for these groups when evaluating a class. The choice of rapport seemed to indicate that teachers' expressions of interest in individual students were important for students in both those groups. This reflects the findings presented by Powell and Collier (1992) indicating that immediacy behaviors,

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which decrease distance between teachers and students, were positively related to teacher effectiveness for Caucasian students. For International students who are in unfamiliar territory, rapport with the teacher could be important for understanding requirements and increasing students comfort levels in a new environment.

Interest, which includes behaviors displaying enthusiasm such as gesturing, moving about the class, and use of anecdotes and humor, was the only significant predictor for African American students and accounted for half the total variance for evaluation of both overall class and overall teacher. The identification of interest as the significant predictor for African Americans seems to support conclusions that use of humor (Sanders & Wiseman, 1990) and emotional and physical involvement in learning (Baruth & Manning, 1992: Nieto, 1992) is preferred by this group over the majority middle-class Caucasian norm of cognitive involvement taking place within a structured and orderly environment.

In the regression models, none of the predictors of overall class coincided with predictors for overall teacher for the Asian American and Hispanic groups. Disclosure and speech had almost equal weight as predictors of evaluations of overall class for the Asian American group, and pacing was the best predictor for overall teacher. Structuring was also a good predictor of overall class, though not included in the model, and structuring was included in the predictor model for overall teacher. As with structuring, both disclosure and speech are concerned with a clear understanding of what needs to be done in a class: disclosure represents clearness in regard to course requirements and speech in regard to understanding what the teacher is saying. Cheng (1990) stated that Asian students work well with structure, definite goals, and reinforcement or teacher approval. Pacing is concerned with appropriate rate of presentation and efficient use of class time. Pacing was also the only significant predictor of overall teacher for the Hispanic students. In both cases, pacing may

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Table 76

Significant TBI Predictors of Student Evaluations of Overall Class: First College

Combined Groups	African American	Asian American	Caucasian American	Hispanic	Inter-national
Clarity	Interest	Disclosure	Clarity	Interaction	Clarity
Speech		Speech	Speech		
Rapport					

Table 77

Significant TBI Predictors of Student Evaluations of Overall Teacher: First College

Combined Groups	African American	Asian American	Caucasian American	Hispanic	Inter-national
Clarity	Interest	Pacing	Rapport	Pacing	Rapport
Rapport		Structuring	Pacing		Clarity
Speech			Interest		
Pacing			Clarity		
Interest					

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be related to familiarity with the language used in the classroom. As a group, Hispanics place importance in their primary language (Hesler, 1987) and keeping track of instruction in another language could be more of a challenge for some. Interaction was the only predictor in the regression model of evaluations of overall class for Hispanics. As a group, Hispanics also gain motivation from social reinforcement (Hesler, 1987), which may explain the apparent importance of class interaction. Disclosure, speech and rapport were also good predictors of overall class that were not included in the model. Here again disclosure and speech seem to speak to the need to have a clear understanding of what is taking place in the class.

Clarity was the main predictor for evaluations of both overall class and teacher for the second college (see Table 78). Interaction was a strong predictor for overall class for the African American portion of that sample, while clarity was the only significant predictor for overall teacher. Clarity was a good predictor of overall class but did account for much variance in the model because of intercorrelation with the other predictors. In this section, the results for this group resembled those of the combined group at the first college and seemed to emphasize that students value clear presentations that include examples, familiar language and adequate visual and verbal presentation of material.

A difference was observed in the behaviors identified by the African Americans in the first and second colleges. The findings of this study suggest that African Americans in a diverse community may judge teachers on different bases than those in a community that is composed mostly of African Americans. Another possible explanation may be that African American teachers constantly use the desired dynamics of enthusiasm, particularly when relating to a homogenous group of their own ethnic background, and therefore students in those settings assess their teachers based on other elements of teaching.

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Clarity was identified most frequently as the best predictor for both overall class and teacher. Powell and Harville (1990) found clarity to be the highest correlate of judgments about class and willingness to engage in behaviors taught in class, and Murray (1983) found clarity to be a good predictor of differences between student ratings of high-, medium- and

Table 78

Significant TBI Predictors of Student Evaluations of Overall Class and Teacher: Second College

Overall Class			Overall Teacher		
Combined Groups	African American	Inter-national	Combined Groups	African American	Inter-national
Clarity Structuring	Interaction Structuring Pacing		Clarity	Clarity	Clarity

low-rated teachers. Murray (1991) suggests that behaviors included under clarity have an impact on the encoding and storage stages of information processing. When students are concerned about structuring information in a sequential manner to facilitate recall, such teacher behaviors would likely be much desired.

Student Evaluations of Teachers, and Teacher Behaviors and Achievement in Class

Question 4 investigated not only whether there was a relationship between student evaluations of teachers, teacher behaviors, and student achievement in class, but what dimensions of the evaluations were the highest correlates and best predictors of achievement. In addition, analysis was done for each ethnic group to discover any differences.

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Correlations between achievement and the scales on both instruments were very low. Some scales were negatively correlated and many correlations were not significant. If the positive correlation is considered an indicator of the construct validity of the student evaluations (Marsh, 1987), then 3 of the seven dimensions of the SEEQ and seven of the 5 dimensions of the TBI in this study could be considered as having construct validity related to student achievement, that is, at the first college. Only 2 scales from the TBI would qualify from the second college. A summary of the significant predictors of achievement from both scales at the first college is presented in Table 79. Only one scale from the SEEQ was entered in the predictor model for achievement and accounted for less than 3% of the total variance. The scale, learning, includes items for evaluation on whether the materials presented were learned and understood, whether what was learned was valuable and challenging, and whether interest in the subject was increased because of what was learned. Apparently, for most students in the sample, their own perceptions on how well they learned in class is a reflection of their actual achievement in the class.

Three dimensions from the TBI were significant predictors of achievement. Interest accounted for almost all the variance in the model in comparison to the other two dimensions, pacing and structuring. Structuring was in fact negatively correlated and the characteristics it displayed in the model (high intercorrelation) indicated that it was not a good predictor. Unlike the studies of Smith (1982b) and Kallison (1986), the findings of this study indicate that enthusiastic teacher behaviors explained more of the variance in achievement than behaviors that provided structure. Sanders and Wiseman (1990) did find that behaviors such as "uses humor" and "not using a dull voice" positively correlated with cognitive learning for all ethnic groups included in their study. Murray (1983) found that enthusiasm was one factor on which group differences between high-, medium-, and low-rated teachers were largest. Using the information processing model, he presents the idea that enthusiasm is an element

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Table 79

Significant SEEQ and TBI Predictors of Achievement: First College

Instr.	Combined Group	African American	Asian American	Caucasian American	Hispanic	International
SEEQ	Learning	Organization Group Interact.	-	Learning	-	Group Interact.
TBI	Interest Pacing Structuring	Interaction	Interest	Interest	Speech	Pacing

involved in maintaining student attention. Attention is a vital stage in the processing of information since encoding cannot take place when information not attended to is lost.

Student ratings of organization was a good predictor of achievement for the African American group. Although group interaction was part of the model, it accounted for much less of the variance and evidence of high intercorrelations indicate that it was not a good predictor of achievement. Ratings of this group on aspects such as providing clear and careful explanations appear to be affected by achievement in class. Learning was also significantly correlated to achievement but was not part of the model due to intercorrelation. Interaction was the only scale entered in the predictor model for the African American group. This may reflect the preference of this group for interaction with all environmental factors in the learning situation (Gay, 1992). Speech and disclosure were also significant predictors, though not included in the predictor model. They suggest a relationship between clear and specific presentation of class requirements and achievement.

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No dimension on the SEEQ was a significant predictor of achievement for the Asian Americans. This absence of a relationship between evaluations and achievement could be an indication that students from this ethnic group evaluate teachers based on criteria that do not relate to their achievement in the class. The possibility is that these students have study practices that cause them to do well regardless of the performance of the teacher, or that these students' expectations of teachers performance are higher or lower than is needed for them to do well. Interest was the only predictor from the TBI in the regression model for this group. Apparently teacher behaviors may have an impact on their achievement, particularly those behaviors that solicit attention. When related to the results from the SEEQ, another possible explanation arises for the lack of correlation between evaluations and achievement: the students may not be aware of the impact that some teacher behaviors have on them and thus rate the teachers on a scale unrelated to their achievement.

Significant predictors for the Caucasian group included learning from the SEEQ, and interest from the TBI. These findings closely mirrored those for the entire group, a result, most likely, of the Caucasian majority in the sample. Each dimension from both instruments accounted for very little of the total variance for the group. It appears that for this group, students' achievement in class has very little to do with students' evaluations of teachers and ratings of teacher behaviors. It is possible that such factors as these students' facility in communicating in the language most familiar to them, familiarity with the patterns of study needed in the particular academic setting, and practice of consistent study patterns may be reasons that their performance in class relates so little to their evaluations of teachers and ratings of teacher behaviors.

The only dimension from either of the instruments that was a significant predictor for the Hispanic group was speech from the TBI. For yet another group, the students' evaluations of teachers as a group had little bearing on their achievement. With regard to the

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TBI predictor, the possibility of English being a second language for Hispanics may be a primary reason that speech and understanding seems important for those students.

Group interaction was the only SEEQ predictor in the model for the International group. Included in this group are people from a number of ethnic/cultural backgrounds that may have developed preferences for circular instead of linear structures in the environment. That involves more group arrangements and active involvement in the classroom procedures. Learning, although not in the model, was also a good predictor. For this group as others mentioned before, student evaluations of learning in a class seem to reflect actual achievement. Pacing was the only significant predictor from the TBI. Because students in the group are from varied backgrounds, pacing may in fact impact their achievement. Factors such as language differences, differences in classroom procedures, differences in expectations concerning assignments, and uncertainty about the environment could all make keeping track of a class a challenge for International students.

The significant predictors of achievement for the second college are presented in Table 80. There were no significant correlations between student ratings, student evaluations, and achievement for the entire sample or for the African American group. Interaction and interest from the TBI were entered in the predictor model for the International group. Both variables accounted for almost two-thirds of the total variance. However, interest was not significantly related to achievement on its own and when added to the model showed signs of high intercorrelation and instability. Interaction was negatively related to achievement which indicates that increased interaction in the class related to decreases in student achievement for that group. That group of students may have preferences for a more structured, less interactive environment than was found in the setting at the second college.

The results of the analysis for this question were very different for the African American groups in both settings. While student evaluations on organization and ratings on

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pacing related to achievement for African Americans from the first college, there was no significant relationship between any of the instruments and achievement of students at the second college. This was the case although students at the second college rated their teachers highly on both instruments. It is possible that the small size of the sample was the reason for this difference. It is also possible that students at the second school are very supportive of their teachers because of ethnic/cultural loyalty and rate them highly. Finally, it is possible that the criteria the students use to evaluate their teacher and rate their behaviors are not related to their achievement in class. The outcomes for the International group in this setting

Table 80

Significant SEEQ and TBI Predictors of Achievement: Second College

Instr.	Combined Group	African American	International
TBI	-	-	Interaction
	-	-	Interest

were quite unlike the results obtained for any other group. Further investigation would be needed to determine why interaction was a negative effect for International students in the second college while it was a positive effect for International students at the first school. It is possible that the levels of interaction in both settings is quite different. It is also possible that the International students that are found at the first college may come from a wider variety of backgrounds and therefore have different needs and preferences than the International students in the second college. Again, the small sample that was used here may be the reason for this discrepancy.

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One interesting observation concerning the results is that, while in general students seemed to rate teachers and classes higher when they perceived them to be higher on clarity, the students performed better in classes when they rated teachers higher on enthusiastic behavior. It would appear that student satisfaction and student achievement may be considered as two different goals for teaching.

Conclusions

The following conclusions were made based on the findings of this study:

1. Student evaluations of teachers are not related to the ethnicity of the students in the context examined by this study.
2. Student ratings of teacher behaviors are related to students' ethnicity in a multicultural setting. It appears that Caucasian students favor organizing behaviors and behaviors that encourage interaction over students of other ethnic groups. On the other hand, students from other ethnic groups appear to favor enthusiastic behaviors and adjustments in pacing over Caucasian students.
3. Students of different ethnic groups use differing teacher behaviors as criteria for rating teachers. In this study, there was a strong indication that enthusiastic behaviors are important to African American students in a multicultural setting, while for Asian Americans explicit information about the details in the class and rate of teaching were important. Caucasians and international students valued behaviors that provided clarity in the class and establishment of interpersonal rapport by the teacher. The Hispanic students valued appropriate rate of teaching and social interaction.
4. African American students in a homogeneous cultural setting appear to use different criteria to evaluate teachers than do African Americans in a multicultural setting.

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5. A significant relationship existed between student ratings of teachers, ratings of teacher behaviors, and students' achievement in classes at the first college. However, student evaluations are poor indicators of student achievement. Differences existed between ethnic groups on which dimensions of teaching and which teacher behaviors relate most to achievement. However, enthusiastic behaviors appeared to be somewhat important for the achievement of most groups.
6. Overall, student evaluations of teachers are positive. In this study, almost all evaluations were moderate to high.

Recommendations

Based on the findings and conclusions of this study the following recommendations are proposed.

Practice

1. Since differences do exist in the way students from different ethnic backgrounds view teaching, teachers need to acknowledge first what views they themselves have and second that those views are different from some views their students may have because of their background experiences. They should also seek to find out what those differences are and seek to provide variety where possible. Teachers should realize, however, that they will be unable to meet the needs of all the people all of the time. Therefore, being aware of differences, they will be able to encourage student feedback and place that feedback in perspective when it is received.
2. In general teachers should seek to use behaviors that enhance clarity and enthusiasm in the multicultural classroom.
3. Teachers need to ensure that they are available to students and seek to develop rapport with them.

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4. When working with multicultural groups, teachers should pay constant attention as to the elements related to pacing and they should seek regular feedback from students on whether or not they (the students) are keeping up with the class.
5. Although differences have been found between groups, teachers and college/university personnel need to be careful not to allow stereotypes to form that will affect how they treat specific students and what they expect from them before they get to know who they are. In addition, bearing in mind that there are differences that are related to other population characteristics besides ethnicity, findings regarding one population may not hold true for another. Personnel need to develop a knowledge base regarding the populations with which they work.
6. The use of student evaluations of teachers by administrators needs to be undertaken with the awareness of who makes up the student body and the effects the characteristics of those students could have on the outcomes of those evaluations.
7. Teachers need to be informed about how to interpret feedback from evaluation forms in light of the populations with which they work.

Future Research

1. Since this research reflected only a limited population of college/university students, the findings cannot be generalized to the general population of college/university students. Similar research is needed in other settings, in both Christian and non-Christian schools.
2. A larger research sample that includes large representations from each minority group is also needed. Small representations from a group may have highlighted, isolated characteristics, or fail to highlight some important ones.

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3. Research that includes large populations of each group of students in the same class, possibly over an extended period of time, would make valuable contributions to the stability of any characteristic differences that may be found.
4. More focus needs to be placed on research regarding teacher behaviors, ethnicity, and achievement. In light of the concern about increasing and retaining minority students in higher education, such research may provide valuable information on ways to reach those populations.
5. Research needs to be done that includes other variables such as gender, class level, and age along with ethnicity. Such research would provide information on how differences attributed to ethnicity may also be affected by other individual characteristics.

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APPENDIX A
CORRESPONDENCE

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Trudy Ann Holmes
8707 Valley View Drive
Berrien Springs, MI 49103
(616) 471-3473

February 2, 1994

Dr. Sandra Price
Vice President, Academic Affairs
Oakwood College
Huntsville, AL 35896

Dear Dr. Price:

I am a doctoral student in the Department of Educational and Counseling Psychology and I am currently preparing to collect data for my dissertation research.

The research will investigate the relationship between student evaluations of teachers, students evaluations of teacher behaviors and student achievement from a cross cultural perspective. For the purpose of the study, it is necessary to collect data from student ratings of teachers in class, student ratings of specific teacher behaviors in class and to collect student scores for the students who participate.

I have chosen Oakwood College as a site for collecting data because its relatively homogenous population makes it an appropriate choice as a control group for the cross-cultural group being selected. The collection of data will require approximately 20 minutes from two class periods during the semester in eight of your classes. It is unlikely that I will be able to be present there at the time of data collection, therefore I will need to collaborate with someone there to represent me using the outlined procedures.

Enclosed you will find the instruments that are to be used, the instructions, and the consent forms to be signed by all students and teachers involved. Also included is a copy of the proposal for the research project.

A final report of the findings will be provided to the school if requested.

Thank you for your assistance in gaining permission for me to conduct this study.

Sincerely,

Trudy Ann Holmes
Doctoral Student
Andrews University

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TRUDY ANN HOLMES
Educational and Counseling Psychology
Andrews University
Berrien Springs, MI 49104

May 17, 1994

Mrs. L. Carter
Psychology Dept.
Oakwood College
Huntsville AL 35896

Dear Mrs. Carter:

Thank you for allowing your class(es) to participate in providing data for my dissertation research. The contribution is extremely valuable.

There is one final piece of input that I need from you. As you might recall, I also need to have students final class scores as a part of the data. It is important that you note that I need **scores** and not letter grades. Scores would be the final number or percentage mark from which you will derive the letter grades for each student. I will also need the number for the total possible score for the class.

The ID numbers of the students in your class(es) that participated are listed on the following page. You will notice that only the last 4 or 5 digits of the ID numbers have been. I am requesting that you write the students scores beside their numbers. Please do not include names since students must remain anonymous. (I currently have no means of identifying students by name.) An example is provided at the top of the following page. If it is not convenient for you to identify each number and place the score beside it, you may send a list of final scores for your class in any order you choose and I will arrange them as needed. Again, please use only the student ID numbers for identification, do not include any names. If you do not compute scores for your class, you may put in the letter grades but a percentage mark would be preferred.

Students scores in this study will used as an indicator of achievement in class to be correlated with responses given on the two instruments they were asked to fill out. Obtaining this information was included in the student agreement form. If you have any further questions on what is being asked of you, or what is to be done with the information you provide please feel free to contact me at:

Department of Educational and Counseling Psychology
Andrews University
Berrien Springs, MI 49104
(616) 471-3473

Sincerely,

Trudy Ann Holmes

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APPENDIX B
INSTRUMENTS

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Instruction Sheet

You are being asked to participate in a research project involving student evaluations of teachers. For this study you are being asked to complete a rating form today and another form one or two weeks from today. You will first be given a sheet explaining the provisions of the research which you will need to sign as a consent form if you agree to participate in the study.

The results of this study will help provide information on how to improve college teaching. When you fill out your form, please be honest. Every effort is being made to make sure that the information that you provide will not in any way affect you or your instructor.

You will fill in your responses on the answer sheet provided. Please remember to fill in your student ID number in the designated area on the response sheet. Please use the pencil provided to fill out the answer sheet and try not to make stray marks on the sheet.

Thank you for your time and cooperation.

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Student Evaluation of Educational Services

This is an evaluation of this class. Please select the most appropriate response for each item. Try to complete all items as honestly as possible. The responses for the first 31 items are to be rated on a 5-point scale as follows: 1) very poor, 2) poor, 3) moderate, 4) good 5) very good. The three items at the beginning are filled in the section provided on the question sheet.

Identification: On side of answer sheet
Sex: On answer sheet
Grade of Education:(On answer sheet) 1) freshman, 2) sophomore, 3) junior, 4) senior, 5) other

Learning
1. You found the course intellectually challenging and stimulating
2. You have learned something which you consider valuable
3. Your interest in the subject has increased as a consequence of this course
4. You have learned and understood the subject materials in this course

Enthusiasm
5. Instructor was enthusiastic in conducting the course
6. Instructor was dynamic and energetic in conducting the course
7. Instructor enhanced presentations with the use of humor
8. Instructor's style of presentation held your interest during class

Organization:
9. Instructor's explanations were clear
10. Course Materials were well-prepared and carefully explained
11. Proposed objectives agreed with those actually taught so you knew where the course was going
12. Instructor gave lectures that facilitated taking notes

Group Interaction
13. Students were encouraged to participate in class discussions
14. Students were invited to share their ideas and knowledge
15. Students were encouraged to ask questions and were given meaningful answers
16. Students were encouraged to express their own ideas and/or question the instructor

Individual Rapport
17. Instructor was friendly toward individual students
18. Instructor made students feel welcome in seeking help/advice in or outside of class
19. Instructor had a genuine interest in students
20. Instructor was adequately accessible to students during office hours or after class

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Breadth

21. Instructor contrasted the implications of various theories
22. Instructor presented the background or origin of ideas/concepts developed in class
23. Instructor presented points of view other than his/her own when appropriate
24. Instructor adequately discussed current developments in the field

Examinations And Assignments

25. Feedback on examinations/graded materials was valuable
26. Methods of evaluating student work were fair and appropriate
27. Examinations/graded materials tested course content as emphasized by the instructor
28. Readings, homework, etc. contributed to appreciation and understanding of subject

Overall

29. Compared with other courses you have taken, this course was . . .?
30. Compared with other instructors you have had, this instructor was . . .?

Student Characteristics

31. Reason for taking the course: 1) Major requirement, 2) Major elective, 3) General requirement, 4) Minor requirement, 5) Minor elective, 6) General interest only
32. Major department: 0) Other, 1) Behavioral Science, 2) Education, 3) English or Communication, 4) History, 5) Music, 6) Religion, 7) Business, 8) Science, Technology
33. Cultural orientation: 1) African American, 2) Asian American, 3) Caucasian American, 4) Hispanic, 5) International*, 6) Native American 7) Other
34. Age: 1) 15 - 20, 2) 21 - 25, 3) 26 - 30, 4) over 30
35. *If cultural orientation is International please indicate: 1) African, 2) Asian, 3) Pacific Islander, 4) European, 5) Latin American, 6) West Indian 7) Other

36-38. Grade percentage

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Teacher Behavior Inventory

In this inventory you are asked to assess the frequency with which your instructor exhibits various classroom teaching behaviors. The behaviors are to be rated on a 5-point scale as follows: 1) Almost never, 2) Rarely, 3) Sometimes, 4)Often, 5) Almost Always.
Identification: On side of answer sheet

Clarity: teaching behaviors that serve to explain or clarify concepts and principles
1. gives several examples of each concept
2. uses concrete, everyday examples to explain concepts and principles
3. fails to define new or unfamiliar terms
4. repeats difficult ideas several times
5. stresses most important points by pausing, speaking slowly, raising voice, etc.
6. uses graphs or diagrams to facilitate explanation
7. points out practical applications of concepts
8. answers students' questions thoroughly
9. suggests ways of memorizing complicated ideas
10. writes key terms on blackboard or overhead screen
11. explains subject matter in familiar, colloquial language

Enthusiasm: use of nonverbal behavior to solicit student attention and interest
12. speaks in a "dramatic" or expressive way
13. moves about while lecturing
14. gestures with hands or arms
15. exhibits facial gestures or expression
16. avoids eye contact with students
17. walks up aisles beside students
18. gestures with head or body
19. tells jokes or humorous anecdotes
20. reads lecture verbatim from prepared notes or text
21. smiles or laughs while teaching
22. shows distracting mannerisms

Interaction: techniques used to foster student participation in class
23. encourages students to ask questions or make comments
24. criticizes students when they make errors
25. praises students for good ideas
26. asks questions of individual students
27. asks questions of the class as a whole
28. incorporates students' ideas into lecture
29. presents challenging, thought-provoking ideas
30. uses a variety of media and activities in class
31. asks rhetorical questions

Organization: teaching behaviors that serve to structure or organize the subject matter
32. reviews topics covered in previous lecture at beginning of each class

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33. gives preliminary overview of lecture at beginning of class
34. puts outline of lecture on blackboard or overhead screen
35. uses headings and subheadings to organize lectures
36. clearly indicates transition from one topic to the next
37. explains how each topic fits into the course as a whole
38. periodically summarizes points previously made

Pacing: rate of presentation of information, efficient use of class time
39. dwells excessively on obvious points
40. digresses from major theme of lecture
41. covers too much material in class sessions
42. asks if students understand before proceeding to next topic
43. sticks to the point in answering students' questions

Disclosure: explicitness concerning course requirements and grading criteria
44. advises students as to how to prepare for tests or exams
45. provides sample exam questions
46. tells students exactly what is expected of them on tests, essays, or assignments
47. states objectives with each lecture
48. reminds students of test dates or assignment deadlines
49. states objectives of course as a whole

Speech: voice characteristics relevant to classroom teaching
50. stutters, mumbles, or slurs words
51. speaks at appropriate volume
52. speaks clearly
53. speaks at appropriate pace
54. says "um" or "ah"
55. voice lacks proper modulation (speaks in monotone)

Rapport: quality of interpersonal relations between teacher and students
56. addresses individual students by name
57. announces availability for consultation outside of class
58. offers to help students with problems
59. shows tolerance of other points of view
60. talks with students before or after class

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APPENDIX C
AGREEMENT FORMS

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Andrews University
Department of Educational and Counseling Psychology
Teacher Agreement Form

Dear Teacher:

You are being asked to participate in a research project conducted by a doctoral student, in which student evaluations of teachers and perceptions of teacher behaviors are being examined. This study is being carried out among undergraduate students on two college campuses. The responses of the students are being compared taking into consideration a number of factors, the most outstanding being the cultural orientation of each student. The objective of this study is to determine what teacher behaviors are most preferred by students, whether there are differences between various student groups, and whether there is a relationship between evaluations and student performance. This information will help professors in improving their classroom presentations as well as provide valuable information about student perceptions and student performance.

As a participant in this research project you will be asked to give permission for the students in this class to participate in the survey process and to provide the final scores of the students to the researcher as data for the study. The students will be asked to respond to a survey evaluating the class and teacher and one evaluating specific teacher behaviors.

The researcher will not identify the class by name and your name will not be included in the data. Information specific to your class will not be made available to anyone else but the researcher. Your participation in this research project is voluntary and you are free to exclude your class after the data collection process has begun. The research findings will not have any effect on your position or standing in your school. If you desire feedback from the findings of the study that does not include information on the responses from specific individuals, they will be made available on request. If you have any questions about this procedure, please contact the researcher at:

Trudy Ann Holmes
Department of Educational and Counseling Psychology
Andrews University
Berrien Springs, MI 49104
(616) 471-3473

. . . . . .

I am, by this means, giving permission for the class that I am instructing (_____) to be a part of the sample used by Trudy Ann Holmes in her research on student evaluation of teachers and I agree to provide her with the students final scores provided they agree to the release of those scores.

I understand that all of the data collected will be used for research purposes only, and that I will not be identified by name or class in any report that is given on the research. In addition, I understand that all the data collected will be available only to Miss Holmes to make her analyses.

_____	_____
Signature of Participant	Signature of Researcher
_____	_____
Date	Date
_____	_____
Signature of Witness	Date

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Andrews University
Department of Educational and Counseling Psychology
Student Agreement Form

Dear Student:

You are being asked to participate in a research project conducted by a doctoral student, in which student evaluations of teachers and perceptions of teacher behaviors are being examined. This study is being carried out among undergraduate students on two college campuses. The responses of the students are being compared taking into consideration a number of factors, the most outstanding being the cultural orientation of each student. The objective of this study is to determine what teacher behaviors are most preferred by students, whether there are differences between various student groups, and whether there is a relationship between evaluations and student performance. This information will help professors in improving their classroom presentations as well as provide valuable information about student perceptions and student performance.

As a participant in this research project you will be requested to provide responses to two survey instruments during separate class periods during this school term. In addition you are being requested to agree to release of your final score in the class as part of the data in the study. You are being asked to include your student ID number on your response sheets in order for the three sources of data to be matched by person. The researcher will not receive your name at any time and student ID numbers will be removed from the response sheets as soon as the collating process has been completed. Your responses are strictly confidential and will be available only to the researcher as data for analysis.

Your participation in this research project is voluntary and you are free to withdraw after the data collection process has begun. The research findings will not have any effect on your performance in this class. If you have any questions about this procedure, please contact the researcher at:

Trudy Ann Holmes
Department of Educational and Counseling Psychology
Andrews University
Berrien Springs, MI 49104
(616) 471-3473

. . . . . .

I agree to be a participant in this research project by providing the information requested in the surveys. I also hereby give permission for the release of my final score in this class (_____) by the teacher to Miss Holmes, the researcher.

I understand that the information obtained will be used only for research purposes and that, with the exception of the use of my ID number for organization purposes during collection only, I will not be identified by name, or in any other manner that will betray my privacy in the collection, analysis, or reporting of the outcomes of this study. I also understand that the information I provide is confidential and will not be made available to the teacher or in any other way be used to affect my performance in this class.

_____ _____

Signature of Participant Signature of Researcher

_____ _____

Date Date

_____ _____

Signature of Witness Date

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EMPLOYMENT RECORD

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September, 1986 - June, 1988	Teacher, English and Music Departments, Green Island Secondary School, Hanover, Jamaica.
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January, 1991 - Present	Graduate Assistant, Department of Educational and Counseling Psychology. Responsibilities: Research, Administrative, Filling in for teacher and grading papers.
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