PERCEPTIONS OF TEACHING, TEACHING PRACTICES AND

EFFECTIVENESS OF SUPPLEMENTAL INSTRUCTION LEADERS

AND SELECTED STUDENTS AT A RESEARCH I INSTITUTION

A Dissertation

by

KATHLEEN DIANE SPEED

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2004

Major Subject: Educational Administration

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Approved as to style and content by:

Yvonna S. Lincoln (Chair of Committee)	Christine Stanley (Member)
Bryan R. Cole (Member)	Larry Dooley (Member)
	Yvonna S. Lincoln (Head of Department)

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ABSTRACT

Perceptions of Teaching, Teaching Practices and Effectiveness of

Supplemental Instruction Leaders and Selected Students

at a Research I Institution. (May 2004)

Kathleen Diane Speed, B.A., St. Mary's University;

M.S., Corpus Christi State University

Chair of Advisory Committee: Dr. Yvonna S. Lincoln

This study examined students' and Supplemental Instruction leaders' perceptions of teaching, teaching practices, and faculty teaching effectiveness. This study also examined the impact of the SI leader's role on those perceptions and subsequent behaviors on end-of-course evaluations and sought to determine whether differences existed between the two groups in order to determine whether or not SI leaders' perceptions should be included in a comprehensive evaluation system.

A purposive sample of 17 SI leaders, who had been employed during the spring 2002 semester and returned for the fall 2002 semester, and 17 students, who had attended at least 10 SI sessions during the fall 2002 semester, were selected to participate in this study.

Data for the study were collected through individual interviews using a protocol designed to collect their perceptions regarding the following: 1)

definitions of teaching and its activities; 2) descriptions of good and bad teaching or good and bad teachers; 3) definitions and descriptions of faculty teaching effectiveness; 4) role of the SI leader; 5) impact of SI leader's role on perceptions of teaching, its activities, and faculty teaching effectiveness; and 6) impact of SI leader's role on behaviors on end-of-course evaluations.

A major finding of this study is that SI leaders and students define teaching and its activities in a similar fashion. SI leaders, unlike students, however, report that learning is tied to teaching effectiveness, or lack thereof. This study has three major results: 1) SI leaders end up teaching, rather than facilitating; 2) the SI leader's role impacts views on teaching; and 3) the SI leaders' role impacts behaviors on end-of-course evaluations.

A review of the literature on student ratings of instruction and regular attendance at SI indicate that both correlate, to a small degree, with mean end-of-course grades. Claims of validity with respect to both may be somewhat suspect, in light of SI leader's claims that they teach, rather than facilitate. Investigation of the impact of regular attendance at SI on end-of-course grades and end-of-course evaluations may result in the need to draw new conclusions with respect to validity of student ratings of instruction and SI.

DEDICATION

To
Claire:

I look forward to your future as
I so believe in you!

To
Mom and Dad:

Thanks for believing in me!

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During the last year or so, when I wasn't at home or at work, I was frantically writing and drinking "Texas Pecan" while sitting in the "living room" of my second home: Coffee Station. Vlad, mornings at Coffee Station are such a treat! Jennie, Michelle, Mindy, Kyle, and Chris: You made me feel at home. Ahmet, Bill, Burak, Esad, Michael, Paul, Sam, Semih, Serkan, & Tina: you are the greatest! Thanks, Johnny C., for bringing a bit of levity into my life, especially during the manic phase of writing. And Chris, you have left an indelible mark, not only on canvas and clay, but on the hearts of everyone in my family.

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And to Claire, my daughter, I love you.

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CHAPTER I

INTRODUCTION

How does one define teaching effectiveness? How does one assess

teaching effectiveness? These questions have been addressed in numerous

journals, each one providing its own definition, methodology, and

suggestions about how to measure effective teaching. Despite the fact that

to date, there is no definitive answer (Kulik, 2001; Marsh & Roche, 1997;

Seldin, 1999), the need to evaluate teaching and to use the results of those

evaluations in the improvement of instruction and in promotion and tenure

decisions continues (Centra, 1987). Student ratings of instruction have been

the primary source of information for evaluating teaching effectiveness;

these ratings have also been met with a great deal of skepticism and

criticism (Aleamoni, 1987a, 1987b).   The creation of comprehensive

evaluation systems has emerged as an attempt to provide both critique and

assistance for faculty (Aleamoni, 1997). Those in support of creating these

systems call for evaluation of teaching to be drawn from multiple

perspectives, including other types of student feedback (Marincovich, 1999).

Supplemental Instruction leaders, such as students, are day-to-day

observers of what happens in the classroom (Congos & Scheops, 1998). As

—————————

This dissertation follows the style and format of *Educational Researcher*.

day-to-day observers, how do they define teaching and teaching effectiveness? Could their role as SI leaders alter their perspectives? If it can be shown that SI leaders have a more sophisticated perception of teaching and teaching effectiveness, then perhaps their voices should be included as part of a larger, comprehensive evaluation system.

Students' Rating of Teacher Effectiveness

Cashion (1999) wryly observed that "most college professors enjoy being rated by students about as much as most college students enjoy taking final exams" (p. 27). Seldin (1999) extended the argument by pointing out that faculty also question the validity of rating instruments. "Few issues in higher education are as sensitive, divisive, and political as faculty evaluation, and in particular, the quality and value of the information provided by students in their evaluations of teachers and courses" (Theall & Franklin, 2001, p. 45). In terms of rating instruction, it comes down to a matter of effectiveness, and to date, there is no conclusive definition of what effective teaching is or how to evaluate it (Kulik, 2001; Seldin, 1999). Regardless of the method by which teaching is evaluated, Seldin (1999) argued that there is a far greater problem: "No group is more reluctant to admit that there are good teachers and bad teachers than college teachers themselves" (p. 1).

Not surprisingly, however, students have little difficulty in pointing out differences between "good" and "bad" teachers. Jackson and Murray (1997) authored a book, "*What Students Really Think of Professors: An Analysis of Classroom Evaluation Forms at an American University.*" As "consumers" of the educational product, students assert that end-of-course evaluations give students "a voice in their education" (Kulik, 2001, p. 10).

According to Marincovich (1999), students want their voices heard and "seem to assume that one of the main reasons they should take time to fill out teaching evaluations is to help faculty get better" (p. 46). Numerous studies have been conducted on the various types of teaching evaluations: student, peer, administrative, alumni, graduating seniors, and self-evaluation (Theall & Franklin, 2001). The literature is replete with studies that examine both the effectiveness and shortcomings of the various types of teaching evaluations (Seldin, 1998). Ultimately, the consensus is that improvements in teaching evaluations will also mean improvement in teaching performance (Seldin, 1999) as feedback from students facilitates improvement in teaching (McKeachie, 1994).

Marincovich (1999), in her list of recommendations on how to improve the teaching process in light of evaluations, noted that one way to improve teaching is to employ "other types of student feedback" (p. 64). With regard to providing feedback on teaching and teaching effectiveness, it would be

worthwhile to explore the perceptions and experiences of a group of students known as Supplemental Instruction (SI) Leaders.

Supplemental Instruction

In 1973, Martin developed an academic assistance program known as Supplemental Instruction (SI). The purpose of SI is to provide peer-facilitated academic assistance for students enrolled in historically difficult classes or, "classes with a higher percentage of D or F grades" (Martin & Arendale, 1993, p. 3). Chemistry, biology, physics, psychology, and accounting, for example, are courses that traditionally have many D, F, and W grades (Martin & Arendale, 1993). Students who attend SI on a regular basis throughout the semester typically earn ½ to 1 full letter grade higher than students who do not attend (University of Missouri, Kansas City, 2000a). Today, approximately 250,000 students attend SI per academic year at over 800 colleges and universities worldwide (Congos & Stout, 2001, p. 43). The SI program has expanded "to over 115 institutions in twelve countries: Australia, Canada, Denmark, Egypt, Malaysia, Marshall Islands, New Zealand, Puerto Rico, South Africa, Sweden, United Kingdom, and West Indies" (Congos & Stout, 2001, p. 43). The views and perceptions of SI leaders about teaching and effective teaching practices could provide important feedback to the teaching evaluation arena. While not every class has an SI leader or every university an SI program, these students may

provide additional insights into classroom teaching practices for those that do. SI leaders, like other students enrolled in the class for credit, "attend class lectures, take notes, [and] read all assigned materials" (Martin & Wilcox, 1996, p. 97). What distinguishes the SI leader from the other students enrolled in a particular class is that they have previously taken the class for credit and typically received an A in the course (Arendale, 1998). SI leaders receive training on learning and study strategies and serve as "model students" (Arendale, 1998). The SI leader acts as a facilitator and helps students integrate learning and study strategies with content presented in the course (Wallace, 1996). Given that SI leaders are considered "quasi-professionals," in that they have been hired to serve in this position, their views and perceptions about the classroom environment may offer additional insights into teaching and effective teaching practices.

Statement of the Problem

Faculty have questioned the validity of students' responses on end-of-term surveys (Seldin, 1999). Some argue that students do not have the pedagogical knowledge to make judgments about teaching practices. Seldin (1984) noted that

> students are an excellent source, for example, on the degree of
>
> intellectual curiosity and interest in the subject stimulated by
>
> the teacher in the classroom. But faculty peers are certainly

more competent judges of the scholarly content of the course

and the professor's mastery of the subject (p. 134).

Without question, however, student feedback on teaching practices provides the larger academic community, its constituents, and stakeholders with a picture of what happens in the classroom. Jackson and Murray (1997) cite the importance of taking note of students' perceptions of teaching and teaching practices as the picture may vary from classroom to classroom or "even within the same classroom" (p. 14). Documenting the students' voices about what they perceive to be happening in the classroom regarding teaching practices and teaching effectiveness adds to the overall picture of what happens in the classroom and provides another source of sought-after feedback for those involved in the teaching accountability and ratings movement.

SI leaders, given their unique status within the classroom, come to the classroom with a different set of experiences, since they have previously completed the course, earned credit, and then are hired to serve as SI leaders. SI leaders are advanced students who have been trained to facilitate and model active learning strategies and who are knowledgeable about learning theory and its application to the content presented in the course.   Their purpose in the classroom is to take the content-related information presented by the professor and work with students who are

enrolled in the class in a group study environment. Soliciting feedback from SI leaders regarding their views of teaching and teaching behaviors could result in more thoughtful, less biased insights into what happens in the classroom. Given that an SI leader has had multiple exposures to the content presented in the classroom and that the leader's role is one of a quasi-professional as well as being both a student and a peer, their views of teaching and teaching practices may provide another means of evaluating teaching effectiveness.

Purpose of the Study

The purpose of this study was to examine the perceptions of SI leaders regarding teaching and teaching practices. The SI leaders involved were employed at a Research I Institution in Texas. The study also examined students' perceptions of teaching and teaching practices at the same Research I Institution. Interview data provided valuable insights into how SI leaders and students perceive the performance of faculty in terms of their roles as teachers.

A second purpose was to discover whether or not the quasi-professional role of SI leaders impacted or altered their views on teaching and teaching practices. Responses by the SI leaders, in particular, provided valuable insights with respect to teaching and what constituted effective or ineffective teaching. Unlike the students who attended their SI sessions, SI

leaders were not enrolled in the class as students; rather, their responsibility was to take the information presented in class and facilitate further discussion and learning of the material.

It was important to determine how students and SI leaders defined and described teaching and effective teaching practices and to note differences in perceptions with respect to each group. First, it was important to question students regarding their perceptions of what they wanted in the classroom and whether they believed they were being served well by their instructors. Second, it was also important to understand whether or not the quasi-professional role of SI leaders impacted, changed, or influenced their perceptions of teaching and teaching effectiveness. If responses provided by SI leaders were sufficiently different from students when posed the same questions, it would then make way for seeking input from SI leaders as one more source of feedback in a comprehensive teaching evaluation process and as a matter of formulating policy utilizing in the SI model.

Research Questions

The study addressed the following questions:

1. How do students and SI leaders define teaching?
2. How do students and SI leaders describe the activities that make up teaching?

3. How do students and SI leaders describe good teaching, and how do they describe bad teaching? Alternatively, how do students and SI leaders describe a good teacher or a bad teacher?

4. How do students and SI leaders define and describe faculty teaching effectiveness?

5. How do students view their role as SI leaders?

6. How has the role of an SI leader shaped, influenced, or changed the SI leader's views on teaching?

7. What are the differences/similarities in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students?

Operational Definitions

Supplemental Instruction (SI): Supplemental Instruction (SI) provides academic assistance for students in historically difficult classes. It is an academic intervention strategy that assists students in mastering the course content, while at the same time providing additional resources for the students on topics such as learning theory and study strategies (Arendale, 1998).

Supplemental Instruction (SI) Leader: SI leaders facilitate further discussion of classroom material presented in a particular course. The SI leader at the subject Research I Institution is an undergraduate student who

has at least a cumulative 3.0 GPR, and has earned an A or B in the course for which he/she serves as the SI leader.

Teaching Activities: Teaching activities in this study are defined as those which fall within the following categories: course preparation, teaching behavior, presentation of material, professor/student preparedness for class, availability, and testing and grading.

Significance of the Study

Trotter (1977) pointed out that "an underlying, but simple, premise is that the responsibilities of a faculty member are essentially determined by the responsibilities and commitments which the university itself undertakes in order to fulfill its role in society" (p. 151).   He further noted that "the university teacher is individually accountable to the university for his contribution to the institutional mission" (p. 151). The question, therefore, becomes what the role of the professor is in terms of fulfilling the teaching mission of the institution? Is it to serve the student? Students believe that they have clear and precise ideas of how professors should behave in and outside the classroom. Faculty productivity, research, and service responsibilities are concepts that are secondary to what students' view as the professor's primary role: to serve student learning in the classroom (Responsive University Project, 1999).

Students, as primary stakeholders or as the people who assume they "foot the bill," argue that they are absolutely, one hundred percent of the time, entitled to the best educational environment. Students see themselves as primary consumers of education, and as such, demand fair, reasonable and appropriate contact with the professors who teach them. The argument that students are the primary stakeholders is tenuous at best as what they are vocalizing is more perception rather than actual fact, but nonetheless they feel entitled to the best educational environment. As a result, having an opportunity to provide feedback regarding teaching practices gives students a voice in the education process.

Another consideration is the actual outcome of faculty evaluation aside from its use in tenure and promotion decisions and assessing teaching effectiveness (Aleamoni, 1997). Does student evaluation of teaching actually improve or impact classroom instruction? The reviews are mixed, at best, with no definitive answer as to the effectiveness of such rating systems. Without question, student evaluation of instruction is used more than other types of evaluation such as peer, administrative, and alumni. The most recent literature calls for a more comprehensive system of evaluating teaching effectiveness (Aleamoni, 1997; Arreola & Aleamoni, 1990; Seldin, 1989). If movement towards a more comprehensive system can foster change in teaching effectiveness for the better, then there is another voice and

source of additional student data from which insightful information about what happens in the classroom on a day-to-day basis can be mined.

One such voice is that of the SI leader. The SI leaders' role in the classroom is unique in that, unlike their contemporaries, they are hired, quasi-professionals who attend class, listen to the lecture, take notes, and then facilitate further discussion/learning of the content. Given their training in learning theory and how to apply the theory to the content, their construction of their experiences, in light of their unique role, would provide another perspective on teaching and another type of student view or source from which to gain insights into what happens in the classroom.

Organization of the Dissertation

This dissertation is comprised of five chapters, followed by references and appendices. Chapter I describes the foundation of the study by explaining the research problem, the purpose of the study, the research questions and operational definitions, and significance of the study. Chapter II reviews the literature on teaching effectiveness, evaluation of teaching effectiveness, student ratings of instruction, validity of student ratings of instruction, and the history, philosophy, and key personnel involved in the implementation of the Supplemental Instruction (SI) model. Chapter III presents the research methodology. Chapter IV reports the findings from the study. Chapter V concludes with a summary of the research findings as well

as suggestions and recommendations for research and implications for SI

policy and for instructional evaluation.

CHAPTER II

LITERATURE REVIEW

This chapter looks at the relevant literature in two major areas: teaching effectiveness and Supplemental Instruction. The first half of this chapter focuses on how teaching effectiveness is described; how it is evaluated and measured, once it has been described; how students rate instruction; and finally, whether or not student ratings are a valid measure of the quality of instruction. The second half of the chapter focuses on an outside-of-class retention program known as Supplemental Instruction (SI); its theoretical and philosophical underpinnings; the Supplemental Instruction leader; the role and scope of the SI leader; the conditions under which a particular student is hired as an SI leader; and finally, the relationships between the SI leaders and the professors for whom they work. In examining the nature of this relationship, it is hoped that the SI leader may prove to be yet another source from which faculty can draw valuable feedback regarding teaching effectiveness.

Teaching Effectiveness

Despite the large volume of research, the education community has yet to reach a consensus on a single, definitive factor or criterion that adequately addresses the issues of defining and evaluating effective teaching (Marsh & Roche, 1997) . Kulik (2001) and Seldin (1999) recently pointed

out that there is no conclusive evidence of what effective teaching is or of how it should be evaluated.   A review of the literature revealed that the term "effective teaching" is inextricably linked to some method of evaluation, such as student ratings of instruction (Aleamoni, 1997; Centra, 1987; Marsh & Roche, 1997; Seldin, 1989).

There is a long-standing and often controversial tradition of using student ratings of instructors as a means of evaluation (Abrami, d'Apollonia, & Cohen, 1990; Aleamoni, 1999; Centra, 1987; Marsh, Fleiner, & Thomas, 1975). A review of the literature indicates that the issue of evaluation of faculty members' teaching effectiveness has been documented over many years, using a variety of methods and forms. During the earliest era in the evaluation movement, students were asked to rate instruction (Brandenburg & Rice, 1927; Remmers, 1928), though the expectation of faculty in conducting evaluations was completely voluntary (Centra, 1987). Over the years, the use of student ratings to evaluate teaching effectiveness has shifted from a voluntary measure, to a formative measure, and most recently, to a summative measure used in merit, tenure, and promotion decision processes (Centra, 1987). Seldin (1989) argues that there are two main reasons why we evaluate teaching: to improve teaching and to provide administrators with evidence of good teaching for personnel decisions. This conclusion has been met with some skepticism on the part of faculty

members. Aleamoni (1997) ardently dismisses the first reason, noting that the actual and practical purpose is to evaluate faculty members for the purposes of personnel decisions.

A lack of consensus on which of two theoretical positions regarding purpose and scope of student evaluations of instruction as the most valid measure further complicates the discussion of teaching effectiveness. The first position evaluates teaching effectiveness based on the quality of instruction as perceived by students. The second advocates judging teaching effectiveness based on outcome measures, such as how much a student learns (Abrami et al., 1990).

In the first view, students are asked to evaluate teaching effectiveness in terms of process measures, such as quality of classroom instruction, classroom environment, and student-teacher relationships. There seems to be little controversy over using these criteria as measures of what constitutes "teaching effectiveness," because they tend to reflect students' satisfaction levels (Abrami et al., 1990). The second view seeks to measure whether teaching effectiveness is a product of instructional effectiveness. That is to say, do students rate instructional effectiveness in terms of actual teaching processes and their impact on student learning? Unlike the first view, there seems to be considerable controversy regarding students' ability to evaluate instructional effectiveness adequately (Abrami et al., 1990). By

the early 1980s, Marsh (1984) notes that literally thousands of articles have

been written on the issue of student ratings, and despite the importance of

the studies, multiple perspectives and opinions exist, making attempts to

summarize the findings difficult at best.

Characteristics of Teaching Effectiveness

Although conclusions drawn from studies have yet to reach consensus,

there is some consistency among studies regarding various characteristics

used to describe effective teaching. There is a good deal of evidence

regarding what constitutes good teaching and what types of techniques

effective teachers use in the classroom (Pascarella & Terenzini, 1991).

Pascarella and Terenzini defined what it means to be an effective teacher:

> Effective teachers have a thorough command of their subject matter,
> the ability to present sophisticated and complex material in such ways
> that students can follow, the ability to organize course content and
> structure classroom activities in an efficient manner, and the ability
> to send clear learning stimuli through such devices as examples and
> analogies that clarify key points, relate one topic to another, and
> signal the transition from one topic to another (p. 652).

Wotruba and Wright (1975) focused on defining what it means to be

an effective teacher. Their work examined data collected from 21 studies

that sought to define characteristics of effective teaching. In trying to

determine which characteristics should be included on a teaching effectiveness rating instrument, 60 students were asked the following questions: "What are the characteristics of ideal professors?" and "What are characteristics of poor professors?" (p. 657). Fourteen faculty members and administrators were asked: "What characteristics of teaching should be evaluated?" and "Which characteristics are most important?" (p. 655).

After an initial categorization of the results and determination of the students' ability to rate an item accurately, the administrators, faculty, and students were asked to rank 18 characteristics based on importance. Students concurred with faculty and administrators on three of the characteristics: subject-matter knowledge, encouragement of critical thinking, and enthusiasm for the subject. Students and faculty agreed that good professors provide help for students both inside and outside of class and evaluate students' progress in a fair manner. Students and administrators thought similarly about one characteristic: good professors ought to be enthusiastic and interested in teaching. Four characteristics were unique to the student group: Good professors provide interesting lectures, clear objectives and assignments, and are prepared for class. Likewise, there were five items that were unique to either the faculty or administrative group (Wotruba & Wright, 1975).

Feldman (1988) examined 31 studies where both faculty members and students were asked to rate components of instruction. Specifically, students and faculty were asked to classify characteristics of instruction as either "good" or "effective" and to identify "ideal" or "best" teachers. Upon completion of this study, 22 instructional dimensions were identified:

(1) teacher's stimulation of interest in the course and its subject matter; (2) teacher enthusiasm (for subject or for teaching); (3) teacher's knowledge of the subject; (4) teacher's intellectual expansiveness (and intelligence); (5) teacher's preparation; organization of the course; (6) clarity and understandableness; (7) teacher's elocutionary skills; (8) teacher's sensitivity to, and concern with, class level and progress; (9) clarity of course objectives and requirements; (10) nature and value of the course material (including its usefulness and relevance); (11) nature and usefulness of supplementary materials and teaching aids; (12) perceived outcome or impact of instruction; (13) instructor fairness; impartiality of evaluation of students; quality of examinations; (14) personality characteristics ("personality") of instructor; (15) nature, quality, and frequency of feedback from the teacher to students; (16) teacher encouragement of questions and discussions; openness to opinions of others; (17) intellectual challenge and encouragement of independent

thought (by the teacher and the course); (18) teacher's concern and respect for students; friendliness of the teacher; (19) teacher's availability and helpfulness; (20) teacher motivates students to do their best; high standards of performance required; (21) teacher encouragement of self-initiated learning; and (22) teacher productivity in research and related activities (p. 302-309).

Both students and faculty were asked to rate these 22 dimensions in terms of importance. Ultimately, this study concluded that both students and faculty rated these instructional characteristics similarly. The largest differences between the two groups were that students placed more importance on teachers who stimulate a student's interest than the faculty and less emphasis than faculty on self-initiated learning (Feldman, 1988).

In a study conducted by Macdonald (1987), students were asked to write a paragraph defining what it means to be a "good" teacher and what it means to be a "bad" teacher. Item analysis was used to evaluate student responses. The researchers concluded that:

> **A good teacher** is one who controls the class well, explains well, and takes time to do so, has a good sense of humor, is understanding, and through the use of the blackboard, gives good notes. **A bad teacher** is one who is often in a bad mood, covers materials quickly, shows favoritism, has a poor sense of humor, and is boring (p. 20).

In 1999, at Texas A&M University, Professor Yvonna Lincoln along with another faculty member and several graduate students conducted a qualitative research study on a number of issues, including students' perceptions of teaching. As part of the *Responsive University Project* (Lincoln & Carpenter, 1996), the participants were asked the following question: "How would you describe a good professor, and conversely, how would you describe a bad professor?" Content analysis of the students' comments resulted in the formation of a number of broad categories: course preparation, teaching behavior, availability, other areas, such as 'speaks English', testing and grading, and professional attire. Course preparation was divided into two smaller categories: presentation of material and professor/student preparedness for class (Speed-Chabot & Bell, 1999).

Teaching effectiveness, as a field of study, is a product of a larger area of research, teaching evaluation. Teaching effectiveness and the evaluation of teaching effectiveness are so intertwined, that the relationship between evaluation of teaching and actual teaching effectiveness often is seen as questionable, especially in terms of student ratings of instruction.

Despite the controversy, there is some evidence that students and faculty agree on certain dimensions of instruction (Wotruba & Wright, 1975).

Multiple Sources of Evaluation of Effective Teaching

Recently, as noted in the literature, comprehensive evaluation systems of rating instructional effectiveness have emerged (Aleamoni, 1999; Centra, 1996). Aleamoni (1997) argued that the evaluation system must include a comprehensive evaluation plan followed by a comprehensive program to address issues brought forth by the initial evaluation.

Arreola and Aleamoni (1990) noted that, in order to "improve instruction and faculty performance" (p. 55), a comprehensive system must include both a diagnostic component and a developmental component. These authors argued that a connection must be made between the two in order to serve faculty members in most need of assistance.

...if the evaluation system is going to determine how well faculty teach courses or how frequently they publish scientific articles, there should be seminars, workshops, and instructional materials available to help them learn how to teach better or how to write manuscripts that are more likely to be accepted for publication" (p. 55).

In the formative stage of a comprehensive program, faculty evaluation is based on observations, peer reviews, self-evaluation, student evaluations, and gathering data from other sources on campus such as administrators and instructional development offices (Aleamoni, 1997).

There is a vast amount of literature that examines the various types of teaching evaluation: student, peer, administrative, alumni, graduating seniors, and self-evaluation (Marsh & Roche, 1997; Theall & Franklin, 2001). Various individuals such as administrators, colleagues, and alumni can provide solid evaluations of teaching effectiveness (Centra, 1996). The literature is replete with studies that examine both the effectiveness and shortcomings of these various types of teaching evaluations (Seldin, 1988). Just as there is no general consensus on what constitutes effective teaching, there is equally no consensus as to who is better to provide evaluation of teaching. Arreola and Aleamoni (1990) argued that an effective evaluation system would involve data collection and interpretation from a variety of sources, although there is also some skepticism regarding various individuals' ability to make sound judgments regarding teaching effectiveness.

For example, an administrator such as the dean, who may be far removed from the department, may not be able to provide as detailed a picture regarding teaching effectiveness as colleagues and department chairs (Centra, 1996) . Peer evaluations, second to student evaluations (Centra, 1987; Seldin, 1989) are widely used due to the peer's expertise and understanding of the subject matter being evaluated (Seldin, 1988). Self-evaluations of the faculty regarding their own teaching and classroom

performance are often scrutinized by administrators as being too personal and subjective (Centra, 1996). Observations by experts with a knowledge of the pedagogy of teaching are also mentioned as sources that should be included as part of evaluating instruction (Aleamoni, 1997). Alumni have identified similar characteristics of effective teaching and rate instructors much the same as do currently enrolled students (Centra, 1996).

Without question however, it is the student's evaluation of instruction that receives the most attention (Aleamoni, 1999; Centra, 1996; McKeachie, 1997; Seldin, 1989). Centra (1996) argued that students do not have enough content background to provide a holistic picture of teaching excellence by a given instructor and proposed that valuable information regarding exemplary teaching practices can only be found by soliciting feedback from colleagues and department chairs. Seldin (1989) argued that students do not have the requisite content knowledge and are not versed in pedagogy and therefore should not be asked to comment on matters best left to colleagues and administrators.

Seldin (1989) noted that in order to evaluate teaching performance effectively, it is pertinent to use multiple sources. These include "classroom observation, self-appraisal, samples of instructional material, and videotaped classroom sessions" (p. 90). Centra (1996) agreed, commenting

that "the solicitation of evaluations from a wide range of sources can only increase the richness of the data available…" (p. 55).

Ultimately, the general consensus is that improvements in teaching evaluation will also mean improvement in teaching performance (Seldin, 1999) as feedback from students facilitates improvement in teaching (McKeachie, 1994). It may be argued that faculty members who are interested in improving their teaching will do so; those who are not interested will not seek out ways to improve. Pascarella and Terenzini (1994) noted that faculty members spent much more time on research than teaching. Seldin (1989) pointed out that the desire to improve one's teaching may be stimulated by pressure to fulfill requirements for promotion and tenure. Arguably, promotion and tenure decisions traditionally look at teaching, research along with procurement of outside resources, and service as grounds for advancement. The role of the faculty is multifaceted, yet current policy suggests that teaching is given less weight than research in the tenure and promotion process. If institutions are committed to improving classroom instruction, then faculty members must be given incentives along with professional development resources (Aleamoni, 1997; Arreola & Aleamoni, 1990; Pascarella & Terenzini, 1991).

Student Evaluations of Instruction

Aleamoni (1987) found that the primary means of evaluating faculty members is through the use of student evaluations. Despite the recent movement to solicit feedback from a variety of sources, "student ratings of instructor and instruction are still the only component that is regularly obtained and used" to evaluate teaching effectiveness (Aleamoni, 1999, p. 153). As Seldin (1989) pointed out, however, students are the only day-to-day observers of what happens in the classroom. Thus, these students are in a unique position to provide valuable and crucial information regarding what happens in the classroom (Seldin, 1989). Further, he noted that although students may not be able to judge certain aspects of teaching, students are capable of evaluating

> such things as the teacher's ability to communicate at their level, the teacher's professional and ethical behavior in the classroom, student-teacher relationships, what has been learned in the course, and how much interest in the subject was stimulated by the teacher (p. 90).

Aleamoni (1997) stated that students are capable of rating certain aspects of the course: instructor effectiveness; organization and structure of the course; course objectives and whether or not the course content matched the objectives; appropriateness of the textbook; course workload and assignments; and an affective aspect, such as rapport.

For example, some students may consider the instructor of the course "effective" or "good," while other students enrolled in the same class with the same instructor may consider the instructor ineffective or "bad" (Centra, 1996). Further, "As some writers have pointed out, teachers are not simply 'good' or 'bad'; they are good or bad with particular students" (Centra, 1996, p. 55; citing McKeachie, Lin, & Mann, 1971). It's not surprising then to find that students who are enrolled in the same class vary in their opinion of the course instructor. Perceptions of teaching effectiveness may be derived at times from subjective criteria such as "appeal" (Centra, 1996).

Centra (1973) noted that the "most common use of student ratings is to produce information for instructors – to generate feedback from students which an instructor can use to change his course or teaching methods" (p. 12). The purpose of providing evidence of effective or ineffective teaching practices to the faculty member is so that the individual can improve classroom instruction. As McKeachie (1997) stated, the "primary purpose of student ratings [is to provide] feedback to teachers that will be helpful for improvement" (p. 1218). There is enough evidence to support the use of student ratings of instruction as they can and do have the power to improve teaching (Centra, 1973).

Despite the continuing controversy regarding the use of student evaluations of instruction, Jackson and Murray (1997) argued that student

ratings serve a greater good as they can and do provide external sources

such as parents, alumni, and administrators with insights into what

happens in the classroom on a day-to-day basis. Documenting students'

perceptions regarding teaching practices and teaching effectiveness adds to

the overall picture and provides feedback by those involved in the teaching

accountability and ratings movement (Aleamoni, 1999; Centra, 1996;

McKeachie, 1997).

Validity of Student Ratings of Instruction

Aleamoni (1987b) noted that faculty members have expressed

concerns about student ratings and that these concerns are based more on

supposition than on provable facts. "Almost all of the instructional

evaluation research to date has employed student ratings as the outcome

measures" (Aleamoni, 1997, p. 34). Furthermore, there is support regarding

the validity of student ratings that has shown a correlation between the

rating of instruction and student learning (Centra, 1987). Much of the

research into the validity of student ratings of instruction in the last 30

years was conducted as response to widely-held positions by faculty that

students were not capable of rating instruction adequately (Aleamoni, 1997)

and as a consequence, the validity, reliability and utility of these student

ratings are suspect (Abrami et al., 1990).   Marsh (1984) provided the

rationale for such criticism by noting the following issues concerning the opposing views noted in the large volume of research:

> Part of the problem lies in the preconceived biases of those who study student ratings; a second part of the problem lies in unrealistic expectations of what student evaluations can and should be able to do; another part of the problem lies in the plethora of ad hoc instruments based upon varied item content and untested psychometric properties; and part of the problem lies in the fragmentary approach to the design of both student evaluation instruments and the research based upon them (p. 708).

The most widely used validation criterion focuses on teaching effectiveness as it relates to student learning (Centra, 1987; Marsh & Roche, 1997). Marsh and Roche (1997) further noted that since there is not a definitive factor or criterion measure that adequately addresses the issue of evaluating effective teaching, most validity studies of teaching effectiveness have "attempted to demonstrate that student ratings are logically related to various other indicators of effective teaching" (Marsh, 1984, p. 719), through the use of construct validation. Construct validation examines the relationship between interpretation, development of the instrument, how the data is collected, and logical arguments (Marsh, 1984). Specifically,

construct validation seeks to determine the validity of interpretation in terms of its relationship or non-relationship to certain variables that the instrument seeks to measure; and further, that no single variable can establish the instrument's validity (Gall, Borg, & Gall, 1996; Marsh, 1984). Marsh (1984) argued that "teaching effectiveness is a hypothetical construct for which there is no single indicator" (p. 729) and extensive research on establishing its validity supports this conclusion. As such, construct-validation studies have compared student evaluations of instruction with other criteria, such as faculty self-evaluation, observations, peer, and alumni evaluation (Abrami et al., 1990; Doyle & Crichton, 1978; Marsh & Overall, 1980).

Seldin (1989) pointed out that despite arguments in the literature for factors such as gender bias, class size, grading standards, and grade point average to bolster the belief that these factors either positively or negatively influence student ratings of instruction, statistics showed that "84 to 86 percent of the variance between positive and negative student ratings cannot be attributed to extraneous variables" (p. 92). Generally speaking, students rating of instruction have been found to be valid and that there are multiple factors and criteria that influence student ratings. As Cranton (2001) astutely observed, student evaluations of instruction are subjective and interpretive. Assigning a value or number to a student's response on a

predetermined list of questions found on an evaluation instrument is still a subjective response, because it is based on a student's construction and perspective of what he or she determines to be good teaching. Cranton argued for a paradigm shift in evaluating the merits of student evaluations, one that involves qualitative, open-ended and "good interpretive evaluations [that] are trustworthy and credible" (p. 15).

Aleamoni's (1999) extensive survey of the literature resulted in the identification of sixteen myths relating to student ratings of instruction. These myths were identified in order to refute claims regarding the validity of student ratings that were deemed factual. The foundation of his article was based on his original 1987 article, "Students Ratings Myths Versus Research Facts" (as cited in Aleamoni, 1999). The comprehensive nature of this publication regarding the myths of student ratings of instruction when combined with the 1987 article spans 74 years of research and contains a reference list consisting of 155 citations.

Aleamoni (1999) dismissed certain claims by providing numerous citations that support his conclusion about the sixteen myths identified in the study:

1. Students cannot make consistent judgments about the instructor and instruction because of their immaturity, lack of experience, and capriciousness.

2. Only colleagues with excellent publication records and expertise are qualified to teach and to evaluate their peers' instruction.

3. Most student ratings schemes are nothing more than a popularity contest with the warm, friendly, humorous instructor emerging as the winner every time.

4. Students are not able to make accurate judgments until they have been away from the course and possibly away from the university for several years.

5. Student rating forms are both unreliable and invalid.

6. The size of the class affects student ratings.

7. The gender of the student and the gender of the instructor affect student ratings.

8. The time of day the course is offered affects student ratings.

9. Whether students take the course as a requirement or as an elective affects their ratings.

10. Whether students are majors or nonmajors affects their ratings.

11. The level of the course (freshman, sophomore, junior, senior, graduate) affects student ratings.

12. The rank of the instructor (instructor, assistant professor, associate professor, professor) affects student ratings.

13. The grades or marks students receive in the course are highly
    correlated with their ratings of the course and the instructor.

14. There are no disciplinary differences in student ratings.

15. Student ratings on single general items are accurate measures of
    instructional effectiveness.

16. Student ratings cannot be used meaningfully to improve
    instruction (p. 153-159).

Aleamoni (1999) ultimately concluded that student ratings of instruction have merit and can be a useful tool in evaluating teaching effectiveness and that when used with other types of evaluations would prove beneficial to the instructor to both "enrich and improve the course as well as to document instructional effectiveness for administrative purposes" (p. 159).

Marincovich (1999), in supporting the use of multiple sources, stated that it is necessary use additional types of student feedback. Another type of student feedback worth exploring and not previously listed as one of the traditional sources is the perceptions of Supplemental Instruction leaders (SI leaders). Just as students enrolled in the course have day-to-day contact with instructors, so do SI leaders. The SI leader is source of additional insights into effective teaching practices, and it is worthwhile to examine SI leaders' perceptions and experiences.

Supplemental Instruction

In 1973, then graduate student, Deanna C. Martin, while working with academically at-risk students of color at University of Missouri-Kansas City's (UMKC) medical school, was charged with the responsibility of gathering information regarding existing retention efforts and subsequent programming in order to assist the students in the health science program. After interviewing learning center directors from across the country and visiting Berkeley's learning center, Martin subsequently concluded that in order for students to be successful learners "skills instruction is best accomplished if applied to specific content" (Widmar, 1994, p. 4). Working on that premise, in the early 1970s, the first SI program was established as a pilot study at the UMKC School of Dentistry. Upon evaluation, the first year of this SI program proved to be successful. As a result, the program expanded to include other disciplines within the health sciences and eventually to other departments within the institution (Widmar, 1994). By 1981, the program had undergone some programmatic changes, but as a result of its success, the *U.S. Department of Education* certified it as an *Exemplary Educational Program* that was eligible for federal funds (Center for Supplemental Instruction – UMKC, 2000). Supplemental instruction, in its 30 year history, has expanded:

National and international dissemination continues. As of December

1997, faculty and staff from 719 institutions across the nation had received training to implement their own SI program. SI is active at an additional 146 institutions in 12 countries (including Australia, Malaysia, New Zealand, South Africa, Sweden, and United Kingdom) (Center for Supplemental Instruction – UMKC, 2000).

Philosophy of Supplemental Instruction

SI targets traditionally difficult, high-risk courses where many students earn a C or less and/or where 30% of the students enrolled in the class withdraw prior to the end of the semester or term. The SI model defines a high-risk course as one where the student's current study skills behavior does not mesh or fit well with the academic rigors of the course. Historically, courses such as biology, chemistry, economics, history, political science, physics, or courses that serve a large freshman population, large lecture courses, and prerequisite courses in a given curriculum are targeted (Arendale, 1994; 1998; Congos & Stout, 2001; Ramirez, 1997).

In courses for which there is an SI leader, three to four outside-of-class sessions are held each week. The session is facilitated by a peer leader (SI leader) who has previously taken the course. Group sessions cover active learning strategies that complement the course content (Congos & Scheops, 1998; Warren & Tonsetc, 1997).

Supplemental Instruction Model

Theorists such as Piaget (1964), von Glasersfeld (1990), and Vygostky (1978), pointed out the effectiveness not only of active learning but also the effectiveness of learning in collaboration with others. Piaget's constructivist theory suggested that students must actively engage in the learning process, in order to understand clearly what they have learned, so that they can apply the information. SI provides opportunities for students to move beyond concrete or non-abstract levels of understanding to the more advanced levels of formal or abstract understanding identified by Piaget & Inhelder (1958). Von Glaserfeld (1990) noted that in order to understand the material, students must actively take in information and construct meanings from the information presented. In addition to the constructivist nature of SI and its application within the SI session, students are afforded opportunities to experience active ways of knowing within the context of group sessions as it applies to the content presented in class (Martin & Arendale, 1993; Warren & Tonsetc, 1997). During the SI session, students are provided with opportunities to engage actively in the learning process with other students and receive feedback regarding their comprehension of course content (Arendale, 1998). Vygostsky's *Zone of Proximal Development Theory (1978)* suggested that students, who work in collaboration with other

students or peers, increase their level of understanding and comprehension of material.

SI is not a remedial program; rather it is a program that seeks to prevent potential study habit pitfalls (Arendale, 2001; Congos & Scheops, 1998). Congos and Scheops argued that it "mediates or bridges the gap…" (p. 50). It bridges the gap by hiring academically successful students to assist students currently enrolled in the course to apply appropriate study skills within the context of course content (Congos & Scheops, 1998, p. 49). In other words, "SI provides opportunities for all students in traditionally difficult courses to participate in a peer-led, active learning experience that integrates how-to-learn with what-to-learn" (Congos & Stout, 2001, p. 43).

Congos and Scheops (1998) identified a 5-phase learning process, where students learn and apply study skills concurrent with learning and mastering subject content. Phase 1 and Phase 2 fall under what the author's defined as "learning processes." Phase 1 looks at the acquisition of study skills such as "note organization, techniques for reading textbooks, reviewing and reciting material to be learned, self-testing, memory, reasoning, application, test evaluation techniques, etc." (p. 51). Phase 2 applies the activities from Phase 1 to the content. Phase 1 and Phase 2 are where SI places its focus. Phase 3, Phase 4, and Phase 5 are defined as "outcomes of the learning processes." With the acquisition of study skills

within the context of the course material, in Phase 3 students have, to varying degrees, mastered the subject.   Subject mastery is verified in Phase 4 through the use of exams and quizzes. Ultimately, in Phase 5, as a result of higher course grades, retention levels and graduation rates will increase (Congos & Scheops, 1998).   SI focuses on the processes of knowledge acquisition and not on the results. That is not to say that content mastery as an outcome measure is unimportant, but rather that the purpose of SI is to assist students in knowledge acquisition by focusing on skills that are "essential to learning" (Congos & Scheops, 1998, p. 51).

As a result of the proven success of this model during its 30 year history, the program has made several claims about its effectiveness. According to the Center for Supplemental Instruction – UMKC (2000), the U.S Department of Education has validated the following three claims:

Claim 1. Students participating in SI within the targeted, historically difficult courses earn higher mean final course grades than students who do not participate in SI. This is still true when differences are analyzed, regardless of ethnicity and prior academic achievement.

Claim 2. Regardless of ethnicity and prior academic achievement, students participating in SI within targeted, historically difficult courses succeed at a higher rate (withdraw at a lower rate and receive

a lower percentage of D or F final course grades) than those who do not participate in SI.

Claim 3. Students participating in SI persist at the institution (reenrolling and graduating) at higher rates than students who do not participate in SI (Center for Supplemental Instruction – UMKC (2000, p. 4).

Supplemental instruction is a method by which students can apply "how to learn" to "what to learn" (Arendale, 1998). Consequently, it leads to higher end-of-course grades for students who participate in the SI program and higher retention rates at the university level (Congos & Scheops, 1998).

Supplemental Instruction Personnel

Martin, Arendale, and Associates (1993) identified the key personnel responsible for implementing the SI model: the SI supervisor, faculty members, and the SI leader. They provided clear descriptions of the role and scope of each. The authors described the role of the *SI Supervisor* as:

> . . . an on-site professional staff person who implements the SI program and supervises the SI leader. The supervisor is responsible for identifying the targeted courses, gaining faculty support, selecting and training leaders, and monitoring and evaluating the program. Supervisors meet with SI leaders weekly during the term as a group or individually. Supervisors of most programs have formal meetings

with all SI leaders together at least three times during the term for follow-up and problem-solving. [Furthermore,] SI supervisors attend a three and one-half day training workshop covering the areas of implementation and management, training, supervision, evaluation, and study strategies. Continued professional development is available through professional development seminars (p. 3).

The *Faculty Member* is an individual who

. . . teaches the course in which SI is offered. Faculty screen SI leaders for content competency. SI leaders are encouraged to meet weekly with SI course faculty members during their office hours to discuss SI session activities. Faculty cooperation is an essential ingredient of the SI model. Therefore, SI is only used in classes where professors understand and support the idea. This policy holds true even if department chairs and deans request that SI be attached to certain classes. [Additionally,] while regular meetings are encouraged, faculty members are free to choose their level of involvement with the SI leaders and the program supervisor. Some faculty members choose to meet with the SI leader to plan for SI sessions. This may include the creation of work sheets, mock examinations, or other materials. Many other faculty also request that the SI leader provide anonymous feedback from students concerning difficulties encountered during

class lectures or with the reading materials. On the other hand, some

faculty choose not to devote additional time to the program (p. 3).

The last of the three key personnel, though not in terms of importance, is the

SI leader. The role and function of the SI leader is to serve as a facilitator in

a group study, learning environment. He or she is a peer leader who assists

students by providing the students enrolled in a particular course with

opportunities to practice active learning strategies within the context of the

course material; therefore, re-lecturing on material covered in class is

beyond the role and scope of the SI leader (Martin & Arendale, 1993).   In

order to serve a class as an SI leader, an individual must meet certain

requirements.

According to Congos and Stout (2001), in order to be hired as an SI

leader for a particular course, students will have previously completed the

course for which they will serve as an SI leader, earned an A or B in that

course, and have at least a 3.0 cumulative GPA (grade point average).

Furthermore, SI leaders must have a mastery of the subject matter such

that when facilitating the session, they model the correct use of terminology

and concepts (Congos & Scheops, 1998). In addition to the basic

qualifications, other factors should be taken into consideration when hiring

SI leaders. These factors include: "educational background, interpersonal

skills, academic references, receptivity to learning a new leadership style,

capacity for accepting feedback and training, and compatibility with the SI model" (Congos & Stout, 2001, p. 43).

Traditionally, the SI leader works approximately 10 hours per week, and has certain responsibilities throughout the work-week. The SI model suggests that the SI leader attend every class; take notes; complete assignments in the course for which they serve as a SI leader; facilitate 3 SI sessions per week; meet with the SI supervisor at least once a week; meet with the professor, if needed; and plan and prepare for the sessions (Congos & Scheops, 1998). It is important to note that while the basic structure of the SI program remains intact across most campuses, there are variations in terms of work hours, pay, training, and weekly meetings. This is most evident on the SINet Listserve postings, which often point out differences across programs.

In terms of hiring an SI leader, Congos and Stout (2001) recommended the following recruitment strategies for potential leaders: solicit recommendations from instructors, current and former SI leaders, advisors and counselors; and announce the position in classes, SI sessions, campus newspapers, campus radio and TV stations, and posters.

Supplemental Instruction Leader Training

In terms of training, the SI leader participates in a one- or two-day session before the start of the semester (Congos & Scheops, 1998). During

training, SI leaders are exposed to the basics of the SI model, learning

theory, session planning and design, mock sessions, group dynamics, and

other useful information that will help them to be successful in their SI

sessions (Martin & Arendale, 1993). SI leaders are trained in the use of

Socratic teaching methods and techniques. With these methods, SI leaders

assist the students attending SI by eliciting questions and answers (Congos

& Stout, 2001). By having the responsibility for learning the material

placed on their shoulders, the participants become actively engaged in

learning. Throughout this process, SI leaders reinforce necessary and good

study habits and skills that apply directly to the content the students are

trying to master.

The Marshall Study

According to Marshall (1994), "many faculty [have] become burned out

or frustrated by their experiences of teaching 'high-risk courses' or courses in

which thirty percent or more of the students receive a D, F, or W at the

semester's end" (p. 32). In her 1985 study, she examined the relationship

between Supplemental Instruction and faculty development. She

hypothesized that both students and faculty would benefit from such

associations. In creating a program that fostered communication between

the professor and the SI leader, Marshall (1994) believed that it "would not

only aid students in learning more effectively but also assist faculty in teaching more effectively" (p. 34).

Marshall's program encouraged the faculty member to build a relationship with the SI leader by having the two meet on a weekly basis. The SI model as developed by UMKC stresses the importance of professor and SI leader contacts. Marshall (1994) concluded at the end of the program's first year, that "many faculty found feedback from SI leaders extremely valuable" (p. 35) and that the faculty members developed a sense of trust with their SI leader. In some cases, "several faculty members came to feel that having the SI leader in class was inspirational for them and regarded their SI leaders as colleagues" (p. 38). One professor acknowledged the fact that he found "feedback from working with my SI leader" beneficial (Marshall, 1994, p. 39). One faculty member who participated in Marshall's study encouraged the "'SI leader to raise her hand'" during the lecture to signal if students were not understanding the material. The professor then covered the material again.

As a result of the SI leader-and-professor relationship, faculty members began to look at their current teaching methods and made changes (Marshall, 1994). The SI leader became a source of support for the professor. Marshall (1994) also noted the following: "SI leaders provided a vital affirming element for faculty; they [the SI leader] had succeeded in these

courses" (p. 38). She stated that from the SI leader's perspective, the experience led to a great appreciation for the professor as well as for the teaching profession.

Congos and Schoeps (1999) argued that it is possible to determine the effectiveness of the SI program at a given institution by soliciting testimony through closed- and open-ended questions from students and faculty. In their article, the authors provided a template for soliciting such feedback and suggested the following closed-ended question: "If you asked for feedback from your SI leader on your teaching style, instructional techniques, or problems students were having, the SI leader's responses were helpful" (p. 63). This is an important question to ask because it assesses what happens in the classroom and serves as another form of evaluation of teaching effectiveness.

Summary

While there is clearly no one single, definitive criterion by which we are able to measure and assess teaching effectiveness, the literature does support the use of various means of rating instruction within a larger, comprehensive system. The research on student ratings of instruction, perhaps the most controversial, yet most widely studied of all types of evaluation, has described the various methods by which teaching effectiveness is assessed and validated. Primarily, studies have generally

focused on the outcome measure of student learning as it related to how students rate effective teaching. There is a growing sentiment that student ratings of instruction should be part of a larger evaluation system where evaluation of instruction is comprised of a variety of perspectives and methods. The SI leader may be able to offer insights into teaching and teaching effectiveness as a result of being another day-to-day observer of what happens in the classroom.

Constructivist methodology suggests that students must actively engage in the learning process in order to comprehend information at more advanced levels. While Supplemental Instruction focuses on the process of knowledge acquisition, the outcome of such a process is better student learning at higher levels.

Given that the literature supports the use of student ratings of instruction to evaluate teaching effectiveness and that the most common measure or criterion used to determine effectiveness is student learning, then one additional perspective that has not previously been mentioned in the literature as a source from which to solicit feedback regarding teaching and teaching effectiveness is the SI Leader.

While SI leaders are not considered experts in the subject matter which they facilitate, it is within their scope to assist students in acquiring the necessary skills that will enable them to be successful in the class. It is

also within their role to visit with the professor and provide feedback when students have difficulty understanding a particular concept. Asking SI leaders to comment on their perceptions of teaching and teaching effectiveness may prove insightful.

In order to determine whether or not the pseudo-professional role of SI leaders impacts or alters their perceptions of teaching and teaching effectiveness, their perceptions must be measured against those of other students. Questions must be posed to both groups in order to determine if SI leaders have a broader, perhaps more sophisticated view, of what happens in the classroom. If the results of this research support the supposition that SI leaders' views of teaching and teaching effectiveness are different from students' views, then perhaps inviting feedback from this source would ultimately improve the teaching effectiveness of the instructor.

The rationale for soliciting feedback from students and SI leaders about their perceptions of teaching effectiveness is as follows:

1. The purpose of providing feedback on teaching and teaching effectiveness is ultimately to improve instruction.

2. Unlike administrators, colleagues, and alumni, both students and SI leaders are daily observers of what happens in the classroom.

3. Despite the criticisms of student rating of instruction, it is still the most widely used method of assessing teaching effectiveness.

4. The most recent literature calls for a more comprehensive evaluation
   system that seeks input regarding effective teaching from a variety of
   perspectives.

5. The SI leader has received training in learning theory and its
   application within the SI session. As a result, SI Leaders may have
   more sophisticated or knowledgeable perspectives about what actually
   constitutes effective teaching.

6. While the SI model notes the importance of the SI leader's
   relationship with the professor, the model does not provide a formal
   process for the SI leader to provide feedback regarding what happens
   in the classroom.

CHAPTER III

METHODOLOGY

This chapter focuses on the research methodology used in this study. The chapter includes the following sections: purpose of the study, selection of qualitative methodology, research design, population, procedures, and data analysis.

Purpose of the Study

The purpose of this study was to examine the perceptions of students and SI leaders regarding teaching and teaching practices. The data provided important insights into how students and SI leaders define teaching, describe its activities, and perceive the performance of faculty in terms of their roles as teachers.

A second purpose was to discover whether or not the quasi-professional role of SI leaders impacted or altered their perceptions of teaching, teaching practices, and effectiveness. SI leaders' responses provided additional insights into their role and how it impacted their perceptions and subsequent behaviors in their SI sessions. Further, if responses provided by SI leaders were sufficiently different from students when posed the same questions, it would then make way for seeking input from SI leaders as one more source of feedback in a comprehensive teaching

evaluation process and as a matter of formulating policy utilized in the SI model.

Selection of Qualitative Methodology

Quantitative methods are most often used to describe and define the concept of effective teaching. The traditional approach to assessment of teaching effectiveness surveys students using an end-of-course evaluation and then uses statistical measures to interpret and report findings. The findings from these studies are reported in the various journals. The numerous follow-up articles specifically address validity issues with respect to defining and determining teaching effectiveness and have called for additional methods for presenting a broader and clearer picture of what actually constitutes teaching effectiveness (Cranton, 2001; McKeachie, 1997; Seldin, 1989, 1988). A portion of the literature in this study dealt with the issue of validity and its place within the tradition of measuring effective teaching. This study did not attempt to argue for or against using quantitative methodology to assess teaching effectiveness, but provided a picture of the research landscape, specifically as it pertained to validity issues raised in numerous articles. Rather, this study provides a conceptual framework in which to consider validity and suggests that qualitative inquiry provides, in this study, a different picture.

In this study, the researcher chose to employ qualitative methods because of their relationship to and resonance with the constructivist nature of the Supplemental Instruction (SI) model. The SI model focuses on constructivist theories of learning.

Lincoln & Guba (1985) pointed out that constructivist methodology suggests that "there are multiple constructed realities that can be studied only holistically…" (p. 37). This researcher chose not to provide participants with any operational definitions with respect to teaching, its activities, and effective and ineffective teaching practices. Within the naturalistic paradigm, the respondent's construction of the particulars is allowed to emerge without threat of predetermined postulates, thus bringing forth realities shaped by experience. It was important to let the participants construct their own definitions shaped by their experiences as students and/or SI leaders. Only the human instrument can adapt and adjust "to the variety of realities that will be encountered" (Lincoln & Guba, 1985, p. 39). Consequently, constructivist methodology was used to determine students' and SI leaders' construction of what constituted good or bad teaching and effective teaching practices.

Research Design

The impetus for this study was research conducted as part of the Responsive University Project (Lincoln & Carpenter, 1999), carried out by the chair of this researcher's committee and for which this researcher was a part of the data-collection team. The initial research project examined students' and parents' perceptions of teaching, research, and service. In the initial stages of the Responsive University Project, the research team developed an interview protocol. The team conducted focus groups with students from various organizations on campus. The research team analyzed the data from the focus groups using the constant comparative method. Team members presented the findings as they pertained to students' perceptions of teaching at the Annual Meeting of the American Educational Research Association in 1999 (Blackwell, 1999; Hughes-Whitlock, 1999; Lincoln & Carpenter, 1999; Osters, 1999; Speed-Chabot & Bell, 1999). The findings from the initial study served as background data for this study.

This researcher supervised approximately 8-10 SI leaders each semester and met with the SI leaders on a weekly basis. During our meetings, conversations would take place in which the SI leaders would relate their perceptions of what happens in the classroom. Combining knowledge gained by listening to various SI leaders' comments regarding

teaching with knowledge of comments made by students who participated in the Responsive University Project, provided a new line of inquiry. The informal nature of the discussions with SI leaders made it necessary to employ systematic inquiry in the form of interviews. The interviews focused on their perceptions of teaching and also looked at whether or not their role as SI leaders impacted, influenced, or altered those initial perceptions. The questions pertaining to teaching from the Responsive University Project as well as additional questions were compiled and used for the protocol in this study.

It was also necessary to interview additional students, given the expanded protocol for this study. The purpose of interviewing students who attended SI ten or more times provided additional information on students' perceptions of teaching and served as a point of comparison to SI leaders' responses to the same questions.

Population

The respondents for this study were drawn from two populations: SI leaders and students who attended ten or more SI sessions. All of the students interviewed in this study were currently registered as undergraduate students at a Research I Institution in Texas during fall 2002.

SI Leaders

During the fall 2002 semester, 84 undergraduate students were employed as SI leaders. Of these 84 leaders, 46 were first-semester or "new" SI leaders who were hired at the end of the spring 2002 or the start of the fall 2002 semesters.   Thirty-eight SI leaders, employed during the spring 2002 or summer 2002 semesters, who returned for the fall 2002 semester. Demographic information on the SI Leaders' majors was collected but not reported as individual majors; rather, the SI leaders' majors were categorized into one of the undergraduate colleges.

During fall 2002, Supplemental Instruction was offered in 41 different courses in six of the nine undergraduate colleges at this Research I institution: Agriculture and Life Sciences, Business, Geosciences, Liberal Arts, Science, and Veterinary Medicine . Supplemental Instruction was not offered in any courses in the colleges of Architecture, Education, or Engineering.

In determining which SI leaders to interview for the study, two considerations were taken into account. First, only the 38 returning SI leaders were eligible to participate in the study, since only an experienced leader would have been able to answer questions regarding SI posed during the interview. Of those 38 returning SI leaders, 12 returned for their second semester, 17 returned for their third semester, and 9 returned for their

fourth or later semester. Secondly, four of the returning SI leaders whom

the researcher supervised were exempted from the interviews. These

students were exempted from participating in the study given the

supervisor/supervisee relationship as this researcher wanted to avoid

engaging any activity that could be construed as coercive in nature, a major

concern when garnering approval for human subjects research. As a result,

there were 34 returning SI leaders in the population from which a sample

was drawn in fall 2002.

A sample of 20 SI leaders was randomly selected to be interviewed for

this study. Given the relatively small number of returning leaders who were

hired for courses in the colleges of Agriculture and Life Science, Business,

Geosciences, and Veterinary Medicine, the majority of the data comes from

interviews with SI leaders who were hired for courses in the colleges of

Liberal Arts and Science. Students hired to serve as an SI Leader for a

course within a college do not necessarily have their departmental majors

within that college.

Exact numbers cannot be determined *a priori* in qualitative

methodology. The actual number interviewed for the study was based on

Lincoln & Guba's (1985) redundancy theory, which states that "sampling is

terminated when no new information is forthcoming…" (p. 202). Upon

completion of the 17th interview, it was decided to cease interviewing SI

leaders. Thus, 17 returning SI leaders were interviewed for this study.

Students

In terms of the student population, 17 students who attended a

minimum of ten SI sessions during the fall 2002 academic term were

interviewed for the study. The initial selection of these students was based

on their attendance at SI sessions facilitated by the 17 SI leaders

interviewed for this study. Attendance records for all 17 SI leaders

interviewed showed that 229 students attended SI ten or more times during

the fall 2002 semester.

It would have been preferable to interview at least one student who

attended SI sessions with each of the 17 SI leaders. However, for 2 of the 17

SI leaders interviewed, there were no students who attended ten or more

sessions during the semester; thus, no students from their sessions were

interviewed.   For eight of the 17 SI leaders interviewed, a total of 21

students attended ten or more SI sessions. The remaining 208 students

were from science-based SI sessions offered by seven SI leaders.

Since the study did not focus on students' perceptions of teaching and

teaching effectiveness as it related to the course for which they attended ten

or more SI sessions, 11 of the 17 students interviewed for this study

attended science-based SI sessions. In all, 17 students were interviewed for this study.

In terms of both the SI leader and student samples, every effort was made to solicit interviews from various academic, socio-economic, cultural, racial, and ethnic backgrounds. This proved difficult. Within the emergent sampling design, it is not possible to have a priori specifications with respect to the sample (Lincoln & Guba, 1985). The critical case, in this study, sought to examine perceptions of SI leaders and students about their perceptions of teaching, its activities and faculty teaching effectiveness. The impact of socio-economic, cultural, and ethnic backgrounds would have been critical to purposive sampling and selection of participants had this study focused on help-seeking behaviors, for example.

The SI program on this campus does not collect demographic data with respect to socio-economic, cultural, and ethnic backgrounds for either group. There is some variation in the academic level of both SI leaders and students based upon classification and college of major (see Chapter IV).

Procedures

According to Lincoln & Guba (1985), "The instrument of choice in naturalistic inquiry is the human…" (p. 236).   Interviews were conducted using an interview protocol developed according to the case study method outlined by Lincoln & Guba (1985).

The data for this study were collected through an interview process with SI leaders and students during fall 2002 and early spring 2003 semesters. Both SI leaders and students were contacted by email, phone, or in person. The participants were invited to set a day and time to be interviewed. With the exception of two interviews, all interviews were conducted in this researcher's office. Prior to the actual interview, each participant was provided with an informed-consent document. All participants signed and dated the form and all forms have been retained and are kept in a locked filing cabinet.

Two types of data collection methods were used during each interview. First, handwritten field notes were recorded in a bound composition notebook. Field-notes from the interviews with the SI leaders and students were recorded in two separate composition notebooks. Second, all of the interviews were audio-taped. Upon completion of the interview, each tape, along with its corresponding field-notes, was transcribed using a transcribing machine and a word-processor. Each transcribed interview was saved in its original un-edited format. Copies of the transcribed interview were copied into another computerized folder and these were edited, unitized, and printed onto three-by-five index cards. Each index card contained a code, such as SIL1DC, and was numbered sequentially. For example, SIL1DC10 stood for "SI Leader #1 Data Card #10" and 69 different

index cards were generated from that transcribed interview. White 3x5

index cards were used for SI leaders; blue 3x5 index cards were used for

students. The index cards containing units of data were stored in two

separate boxes, one for data that pertained to questions of teaching and

teaching effectiveness, and the other for questions pertaining to SI.

The relatively small number of participants made it necessary to

employ safeguards to protect the identity of both SI leaders and students. In

reporting the data and findings from this study, no reference was made to

the SI leaders' major at the departmental level or affiliation with a

particular course or college for which they were hired. Furthermore, no

reference was made to students' major at the departmental level or which SI

sessions they attended. Numerous verbatim responses reported in this

study were attributed using non-descript pseudonyms: "SI leader" or

"student." Attribution of comments and verbatim responses made by a

particular participant, such as SI leader #1 or student #1 for example, is

identified as follows: [SIL1] or [S1], respectively.

Data Analysis

Data were analyzed using the Glaser and Strauss (1967) constant

comparative method as adapted by Lincoln & Guba (1985). The initial

analysis involved examining each data card and comparing it to another

data card containing a corresponding unit of data. If it was found that the

content or data on both cards were similar, they were placed into the same pile; if they did not seem to relate, a new pile was created. As a result of this process, categories were identified. Within each of the larger categories, additional analyses were conducted to determine the existence of sub-categories. Recording SI-leader data onto white index cards and recording student data onto blue index cards facilitated identification of the source of each unit of data and comparisons between the two groups.

Rigor of Data

In a naturalistic study, the phenomena being studied are evaluated in light of trustworthiness. Cranton (2001) defined trustworthiness as that which is "established through discourse and consensus among informed people" (p. 14) and must be confirmed by additional sources (Lincoln & Guba, 1985). Trustworthiness, in naturalistic inquiry, is comprised of four characteristics: credibility, transferability, dependability, and confirmability (Erlandson, 1993; Lincoln & Guba, 1985). According to Lincoln & Guba (1985), trustworthiness is established by the following:

Credibility

A study achieves credibility by utilizing techniques and "activities that make it more likely that credible findings and interpretations will be produced" (Lincoln & Guba, 1985, p. 301). In order to establish credibility,

the research used the following methods: prolonged engagement, persistent observation, triangulation, peer debriefing, and member checks.

In terms of meeting the criteria of prolonged engagement and persistent observation, my role as SI supervisor has provided a theoretical and practical understanding of the scope of the SI model and the role individuals play in putting the model into effect. As a result, the researcher was well acquainted with the culture as well as the theoretical and practical aspects of the SI model. Furthermore, as an assistant lecturer at Texas A&M University, my desire to improve instructional techniques and understanding of effective teaching brought forth opportunities for continued professional development. Triangulation was accomplished by posing the same questions to two different student groups, gathering SI attendance data, and examining brochures and websites published by UMKC.

For this study, advice was sought from two colleagues who agreed to serve as peer debriefers. Both have extensive experience and knowledge of the SI model and program at this institution. One has attended training and conferences sponsored by the National Center for Supplemental Instruction at UMKC. The other peer debriefer was formerly a SI leader at another institution and currently supervises SI leaders at this institution. Questions, theories, and hypotheses were posed and discussed to help focus and reduce potential bias, especially with respect to the data analysis

chapter and subsequent findings, conclusions, and policy recommendations. A third debriefer acted as an inquiry auditor (Lincoln and Guba, 1985). This individual, a former graduate student familiar with the methods of qualitative inquiry and who graduated under the direction of the chair of this committee, was asked to review and comment on the methodological components of the study and to verify and attest to the completeness of the audit trail.

Each of the participants were invited to perform a member check and examine their own interview transcript. Upon review, if needed, the participant added, changed, or made clear any inconsistencies or missing pieces of data. In addition to the individual member checks, two small group meetings were held with both SI leaders and students. Copies of chapter 4 were provided and discussion was held with respect to the data, its categories, representation, and conclusions.

Transferability

A thick description of the phenomenon being studied is the most effective way to describe the data so that it enables "someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility" (Lincoln & Guba, 1985, p. 316). Purposeful sampling using students from two specific sub-populations was used to satisfy these criteria.

The creation of a reflexive journal also provided evidence of transferability. The reflexive journal served to document the intangibles as well as personal observations, biases, questions, ideas, and methodological considerations. Thoughts noted on other pieces of paper were also placed in the reflexive journal. It also provided a place to record potential issues raised by this study and suggestions for creating policy on this campus. As a supervisor for supplemental instruction, concurrent to the writing of this study, I have implemented some of the suggestions and recommendations for improving communication between the SI leader, the professor, and the supervisor. Other areas of exploration and study have arisen out of the findings from this study, and the reflexive journal documents the formative stage and questions for future research. These are referenced in Chapter Five.

Dependability and Confirmability

According to Merriam (1997), dependability of the data is not dependent upon replication of results, but on whether or not the conclusions drawn from the data make sense. As Merriam (1997) pointed out: "The question is not whether findings will be found again, but whether the results are consistent with the data collected" (p. 206). Lincoln and Guba (1985) posited that while dependability and confirmability are interrelated, each must be established independently, yet examined simultaneously.

Dependability of the data examines the inquiry process, whereas confirmability examines the product; "thus, a single audit, properly managed, can be used to determine dependability and confirmability simultaneously" (p. 318). In order to test and attest to both components, the researcher must create and leave an audit trail.

Much like an accounting audit, the audit trail provides documentation of the phenomenon being studied through the use of a reflexive journal, field-notes, audio-tapes, and data cards. In performing a dependability and confirmability audit, the auditor should be able to trace the inquiry process by way of documentation, evidence, and reporting. All four documentation methods were employed in this study. The peer debriefer knowledgeable about the naturalistic inquiry process and procedures served as the inquiry auditor for this study.

This study provided a means whereby individual perceptions of both SI leaders and students were heard, compared, and measured against the perceptions of their peers. Both SI leaders and students interviewed for this study provided their perceptions of teaching and teaching effectiveness. Instead of attempting to quantify and objectify those perceptions, the qualitative methods employed brought forth constructed realities on the part of all the participants. Cranton (2001) noted that "…what constitutes good teaching depends on the individuals who are working and learning

together…" (p. 13). The constructivist nature of qualitative inquiry provided the appropriate framework and subsequent analysis for this study.

During the interviews, both SI Leaders and students were posed a number of questions in a successive approximation format. In the first step, SI leaders and students were asked to define teaching. Once they defined it, then they were asked to nominate teaching activities. They were then asked to apply those nominations by comparing and contrasting good teaching with bad teaching. It was then necessary to explore whether or not they perceived a difference between good/bad teaching and effective/ineffective teaching practices. The successive nature of the questions required the respondents to continually build a conceptual base, starting with responses on the knowledge level and then progressing through Bloom's Taxonomy (1956). The six levels are knowledge, understanding, application, analysis, synthesis, and evaluation. Bloom's six levels of understanding presupposes a certain grasp of the information at a lower level before being able to grasp it at a higher level. The sequence of interview questions provided both students and SI leaders opportunities to voice deeper and more meaningful constructions of the phenomenon.

Six of the seven research questions provide the organizational structure and are used as major headings for discussion of the data. They are:

1. How do students and SI leaders define teaching?

2. How do students and SI leaders describe the activities that make up teaching?

3. How do students and SI leaders describe good teaching, and how do they describe bad teaching? Alternatively, how do students and SI leaders describe good teachers or bad teachers?

4. How do students and SI leaders define and describe faculty teaching effectiveness?

5. How do students view their role as a SI leader?

6. How had the role of a SI Leader shaped, influenced, or changed the SI leader's views on teaching?

The seventh research question asked the following: *What are the differences/similarities in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students?* The answer to this question is presented throughout the data analysis chapter by way of the interplay between the various perceptions and views. The constant comparative nature of the data analyses lends itself to an ongoing assessment, by way of narrative and description.

The original proposal contained seven research questions. Preliminary analysis of the data, however, suggested that it would be worth-while to ask the SI leaders an additional question. SI leaders' responses to

the sixth research question necessitated the addition of the following

question: *Has your role as an SI leader shaped, influenced, or changed your*

behavior when filling out end-of-course evaluations? If so, in what way?

CHAPTER IV

DATA ANALYSIS

…Nearly everyone goes to school from age five or so onward. From

the very day of that experience our store of knowledge about teachers

and their work begins to build. By the time our schooling is complete,

the tally of our face-to-face encounters with teachers runs into the

thousands. That extended acquaintance, whose product might be

called 'school sense,' leaves many people believing that they too,

though not teachers themselves ('mind you,' they might add), have a

pretty good idea of what the job entails in the way of knowledge and

skill. They may even go so far as to claim that they could teach quite

well themselves, if they but tried (Jackson, 1986, p. 2).

Jackson is quite correct that when prompted, you will be provided

with an assortment of characteristics, ideas, suggestions, praise and

criticism regarding teaching. All you have to do is ask. You will receive, in

return, a mixed bag of complementary and opposing views that leads one to

reach similar conclusions of those who have spent years and years

researching this issue: teaching is indeed multidimensional (Feldman,

1988).

The role and scope of student ratings have changed during its less than 100 year history as researchers continue to define and measure what constitutes effective teaching. Sophisticated statistical measures seek to determine validity and reliability measures. The more weight we can give to specific dimensions, the more secure we become in our evaluation. Thus, we then feel more confident when providing the results of these evaluations to individuals who, in turn, use them to make tenure and personnel decisions.

Given the multiple dimensions of teaching, there is no single, definitive criterion or aspect that defines teaching and how to teach effectively (Abrami et al., 1990; Kulik, 2001; Marsh & Roche, 1997; Seldin, 1999). In an attempt to define it, characteristics and traits have been investigated in order to determine the difference between effective teaching and ineffective teaching. Braskamp, Ory, and Pieper (1981) argued that "teaching effectiveness is viewed as a consequence of the personality and skills of the teacher" (p. 65). Cashion (1995) argued that not every skill or dimension evaluated is universal. Nonetheless, we solicit feedback on teaching from a variety of sources but primarily students. Student ratings of instruction is by far the most widely used form of feedback, and it is also the most widely studied, reviewed, and criticized (Aleamoni, 1987; Centra, 1996; Seldin, 1987). Cashion (1995) reported that there were more than 1,500 references that examined student ratings of instruction. Using the ERIC

descriptor "student evaluation of teacher performance," 2,466 references were found in the social sciences subject area to date.

Student ratings of instruction have been fraught with controversy, especially with regard to the belief that they are correlated with end-of-course grades (Theall & Franklin, 2001). Aleamoni (1999) found that prior research showed either no or a relatively small relationship. Despite both criticism and controversy, student ratings of instruction will likely remain as the primary source for evaluation as students are the only individuals who observe the day-to-day interactions, activities, and behaviors in the classroom (Seldin, 1989).

There is another individual, however, who observes the class on a day-to-day basis: SI leader. SI leaders, like students, attend class on a daily basis but unlike students, they do not earn a grade in the course. Their role is to take the information presented in class and to assist students in learning the material in peer-facilitated group study sessions. Due to the day-to-day exposure to classroom content and the nature of the relationship the SI leader has with the professor for the course, the SI leader has a unique perspective of teaching and teaching effectiveness.

Through exploration of their views, SI leaders' perceptions ultimately provided useful information that may eventually serve as another source from which to solicit feedback. It was a perspective worth exploring. In

order to better understand the respondents' perceptions, it is important to provide a picture of the subject institution, the SI program at the subject institution, and a demographic picture of the respondents themselves.

The Subject Institution

The subject institution, opened in 1876, was the first public institution of higher education in the state of Texas. It is the land-grand, sea-grant, and space-grant institution that was made possible by the Morrill Act of 1862. It has been classified as a Research I institution by the Carnegie Foundation (Texas A&M University, 2002).

In fall 2002, approximately 45, 600 students were enrolled on both the main campus and a satellite campus located on the Texas coast. Enrolled students represent all 50 states and over 100 foreign countries. These students are enrolled in one of 10 academic colleges (Texas A&M University, 2004).

The SI Program at the Subject Institution

The program identifies itself as one that adheres to the traditional SI model that was developed at UMKC. The SI program started in 1992 with four sections. The following year 8 sections were offered. Ten years later, the SI program at the subject institution offered SI in 41 different courses and employed 84 SI leaders. With such a large student population, SI is available to approximately 20,000 students each semester.

In fall 2002, the total course enrollment for courses offering SI was 20,157. Of that 20,157, there were 13,824 students who did not attend any SI sessions during the semester. There were 6,333 students that attended at least one SI session during the semester. Students attended an average of 4.32 sessions during the semester.

When looking at the overall mean GPR or grade point for all courses, those who did not attend SI earned a 2.586. For students who attended 1-4 SI sessions, the overall mean GRP was 2.672. For students who attended 5-9 SI sessions, the overall mean GPR was 2.731. Finally, for students who attended 10 or more SI session, the overall mean GPR was 2.825. The correlation between SI attendance and final course grade was 0.058. This correlation is statistically significant at the .01 level (McGee, 2004).

The Respondents

The respondents in this study were students who attended SI on a regular basis and experienced SI leaders who had completed at least one full semester as an SI leader. Table 1 provides a demographic profile of the respondents with respect to gender, classification, and the college of their majors.

Table 1

Demographics of Participants by Type

	SI Leaders	Students
Gender		
Male	6	5
Female	11	12
Classification		
Freshman	0	5
Sophomore	0	5
Junior	5	1
Senior	12	6
College of Major		
Agriculture and Life Sciences	1	1
Business	1	3
Geosciences	0	1
Veterinary Medicine	6	3
Liberal Arts	5	2
Science	3	1
Education	0	2
Architecture	0	0
Engineering	1	2
General Academics	0	2

Organization of the Chapter

As noted in Chapter III, the presentation of data is organized under the heading of each of the research questions. The research questions provided the framework for interview questions, which closely mirrored the research questions themselves. Each respondent was provided with a typed copy of the interview protocol (see Appendix A). It is important to note that neither students nor SI leaders were provided operational definitions with

respect to teaching, its activities, or teaching effectiveness. The SI leaders were free to construct their own definitions and descriptions of their role and its impact on their views and behaviors. It was up to the students and SI leaders to define and describe the concepts.

This chapter is divided into two major sections. The first half of this chapter reports and when appropriate, contrasts, the SI leaders' and students' perceptions of teaching, teaching activities, and teaching effectiveness. The second half of the chapter provides insights into SI leaders' views of their role, session activities, and their relationship with the professors for whom they serve as SI leaders. The data and subsequent analyses in this chapter are organized by research question. Research questions one through four specifically look at the data of both students and SI leaders. Research questions six and eight address only data from SI leaders. Consequently, both data and analysis are presented and discussed within the first four, the sixth, and the eighth research questions, so that when combined provides the answers to research question seven.

The seventh research question asked: What are the similarities/differences in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students? The answer to this question is presented throughout this chapter by way of the interplay between the various perceptions and views. The constant comparative

nature of the data analyses lent itself to an ongoing assessment, by way of narrative and description.

An eighth research question was identified. This chapter also examines the impact of SI leaders' roles on those perceptions as well as their ascribed behaviors and beliefs regarding end-of-course evaluations. The chapter concludes with synopsis of the findings from the study. The findings address all seven original research questions as well as the eighth developed in the course of the study as part of an emergent design process.

Research Question I

Research question I asked the following: How do students and SI leaders define teaching? As Jackson (1986) pointed out, the masses believe that they have a pretty good idea about teaching, what it entails, and what they would do if given the chance to teach. The students and SI leaders in this study were given the opportunity to voice their opinions, starting with the most basic question.

What is teaching? SI leaders and students were posed the following question: "What is teaching?"

> Teaching, in my mind is taking some information, material, and gathering it and then letting students know what it is about. [It is] telling [students] everything they know about that subject so that students have a broad understanding of that subject. [It is showing students] how they can use it in their daily lives or later on in their career or [how to] apply it to your daily life and apply it to the real world [S1DC2-4].

I think the generic term is trying to convey ideas and what you know and trying to help your students learn. But I think it goes deeper than that as you have to kind of get on their level. It is kind of hard to define teaching. [S10DC2-4].

That is a hard question. I say that teaching is one person in front of a group of individuals and you are trying to get them to learn something or talk about something that they have not really thought about in a certain way before or maybe do not know anything about, and just trying to help them learn [SIL4DC2-5].

Teaching is conveying information in a manner that other people can, I guess, absorb, retain, and use it again to solve their own problems [SIL14DC2-3].

Well, teaching is a kind of art. There are a lot of different aspects that can either enhance your teaching or not make your teaching very effective at all. I think teaching should be getting others involved in a particular subject matter or material and get them interested in that material as much as you can [SIL16DC2-5].

The above constructions provide a broad picture of how students and SI leaders defined teaching. What follows is a distillation of the broad definition into process categories.

Both SI leaders and students describe teaching as a two-step process. The first step looks at teaching as a way to transmit knowledge from someone who is knowledgeable about a particular concept to one who is not. The subsequent step looks at teaching as a way to develop knowledge, through everyday application, so that one will ultimately learn the underlying concepts.

In the first step, teaching is characterized as a means by which knowledge is transmitted from the knower, typically the professor, to a

student. SI leaders and students formulate their perceptions and

characterize them as follows:

>Teaching is conveying ideas and concepts to students [SIL9DC2].

>Teaching is instructing students based on knowledge that you have in a certain area [SIL13DC2].

>[Teaching is] informing other people about a particular subject [S2DC2].

>Teaching is telling or giving information to a student [S3DC2].

>Teaching is explaining concepts...and elaborating upon that [S11DC2]

>[Teaching] is just providing information to a person [S8DC2].

They are quick to add, however, that an extension of teaching is to provide

information to someone who does not know the concept already.

>[Teaching is] getting across ideas to someone previously unexposed to those ideas [SIL5DC2].

>Teaching is a mental activity or an intellectual activity or a physical activity where you have another person learning a new skill or new knowledge that they did not have before [SIL8DC3-4].

>Teaching is expressing ideas and concepts on a variety of subjects to someone who does not know [SIL11DC2].

>Teaching is helping somebody grow or learn something that they do not know [S12DC2].

>Giving information to a student with the hope that they learn something that they did not know before [S3DC2-3].

>Relating a point that the student does not understand [S4DC2].

Ultimately, students and SI leaders conclude that teaching impacts the learning process by assisting those previously unexposed to information and newly acquired concepts to learn.   This is an important distinction and is particularly important in light of SI leaders' assertions, noted in the second half of this chapter, which they often wind up teaching the material again during their sessions.

In the second step, as one SI leader noted, students should be able to take the information presented in class and then "be able to apply it and use it" [SIL9DC4].   In order to apply it, however, presentation of the concepts must be taught and presented using real life and meaningful examples instead of presenting just the facts, or lecturing straight from the book. As one SI leader commented "you can go off and learn the stuff on your own in the book. You can go read the book and understand it" [SIL12DC6]. Instead, they want the professor to present these facts within the context of real life or real world examples to which students can relate. SI leaders and students want a teacher who will show them

> how they can effectively learn that information and be able to apply it and use it [SIL9DC3-4].
>
> real life applications…because you don't necessarily use rote book information in the real world [SIL12DC7-8].
>
> how they can use it in their daily lives or later in their career or just apply it to [our] daily lives and apply to the real world [S1DC4].
>
> how to expand [the student's] understanding of the world [S11DC3].

The process of providing students with real life applications and examples, in their view, is so that they will be able to "understand it and retain it" [SIL1DC3].   In the words of another student, "It is not just telling student random facts that they can spit out on a test, but incorporating that and allowing them to use [what they have learned] themselves" [S9DC4]. Thus, retention of material equates with learning. Learning, therefore, is defined as the outcome measure of teaching and identified by SI leaders as a teacher's primary goal. Teachers must have a goal and that goal of teaching is

> helping someone learn [SIL11DC2].
>
> for the student to learn the material… and… also for the student to enjoy learning the material instead of making it miserable for them [SIL13DC5].
>
> [Teaching] is breaking the barrier between the student wanting to learn and not wanting to learn [S14DC2].

In essence, the act of teaching becomes a source of motivation as it has the ability to turn some students on to learning. SI leaders intuitively recognize the role of motivation in instruction/teaching. It is not enough to transmit material; in addition, students must want to learn.

Both students and SI leaders conceptualized and provided similar answers to the question: What is teaching? Teaching is viewed as a one-way process. It is the professor's responsibility to present the information, to present it using real-life applications, and to find ways for students to

actually want to learn the material. Neither students nor SI leaders argue that they are part of the process other than being passive recipients of the information. The similar viewpoints with respect to teaching are an important distinction, especially with respect to how SI leaders view their role in their own SI sessions. This idea of student passivity in the classroom figures prominently in why SI leaders "teach" rather than "facilitate". The claim made by SI leaders' that they teach will be revisited in more detail in the second half of this chapter.

Research Question II

The second research question asked: How do students and SI leaders describe the activities of teaching? Once the SI leaders and students provided their definitions of teaching, they were then asked the following question: "What activities make up teaching?" Their responses to the questions fell within three separate categories: teaching methods or process measures; application of knowledge; and student understanding or outcome measures.

What activities make up teaching?

It can be anything from standing there lecturing to making [students] perform something or having them do projects or group work [SIL5DC6-9].

In classes, lots of time spent doing lectures, [providing] handouts, and [using] visual aids [SIL10DC10-12].

I think teaching comes in many different forms. You can do things audibly or visually or kinesthetically. There are several different methods you can use, and I believe you can incorporate those methods together [SIL15DC3-8].

Visual presentation such as an overhead and dry erase boards [are some activities]. There are also creative ways of doing it that incorporate….classroom discussions and small groups. There are so many ways [S3DC6-11].

Activities that reinforce information such as notes or interactive projects [S11DC6].

Challenging the person and leading them through new ground and giving them more than one sense as to what something is [whether it be] visual or auditory [S12DC3-4].

The formal content analysis resulted in the identification of a set of categories with respect to different teaching activities. At times both students and SI leaders listed a number of distinct activities within a given comment. What follows is a discussion of the categories that were identified as a result of the analytic itemization process.

First, teaching involves the use of multiple methods. "Lots of things" [SIL10DC8] and "many, many activities" [SIL5DC3] make up teaching. As a result of this view, SI leaders and students nominated 11 different types of activities. *Lecture* is the traditional, largely one-way, face-to-face instructional format in the classroom. *Notes* are an extension of the lecture. Students listen and capture the information presented during the lecture through note-taking. *Labs* are opportunities for students to practice

concepts and theories presented during the lecture. *Visual aids* consist of professor-produced notes or outlines which are copied onto overheads or contained in PowerPoint presentations, recordings, and/or videos and students are expected to copy these during the lecture. *Books* are the textbooks and supplementary materials assigned by the professor for a given course. *Discussion* is another instructional technique used in the class where students are provided opportunities to discuss course content with the professor and students. *Games* such as bingo and Jeopardy, for example, are activities that aid in the learning process. *Practice* is the opportunity for students to work problems, worksheets, and case studies during class. *Group Work* offers students the opportunity to collaborate with each other. *Presentations/Projects* are opportunities for students to share relevant information with the rest of the class; they are typically graded assignments. *Examinations are written exercises* that measure how well students learn the information for a given course.

Second, whether course content is presented through lecture or discussion or use of visual aids, application of this knowledge to the real world, according to students, is essential. Teaching involves finding ways to help students "learn something that they'll use in life" [SIL4DC12]. The utility of knowledge shows them why this concept is important and how to apply it in the real world. "…When you are teaching, you need to be able to

apply whatever concepts you are trying to convey in a manner that somebody can relate with" [SIL9DC8]. It is as if they are saying the following: if a student can not relate to the concept, or relate the concept to a real-life situation, then they will not understand it.

Students and SI leaders want professors to use a variety of methods or activities in the classroom. Regardless of the method, however, application to real life and the real world is far more important. Certainly, the utility or the application of information in the real world aids in the understanding of a particular concept. The students' view of learning is quite narrow, but that view is based upon trying to earn a grade for a particular course. They do not fully understand the concept of learning whereby we investigate concepts, at times, for the purpose of pure investigation. Pure science may or may not lead to immediate applications. Sometimes we learn for the sake of learning.

Finally, SI leaders and students regard the students' ability to understand the material as a teaching activity. Teaching is viewed as a varied process "so you have to do things to make them understand it" [SIL2DC10]. The lecture process, typically found in large classes, for one student, "tends to be boring and [I] tend not to get as much out of the activity" [S14DC6]. If they feel like a teaching activity is boring, then they are less likely to pay attention. As one SI leader noted:

> Not only do they get up there and present the materials that they are knowledgeable about and they want the students to learn about, …but more teachers need to start getting more creative in their ways of teaching, so that students will actually maybe enjoy it and therefore, the more they enjoy it, the more they'll want to learn [SIL13DC6 & 10].

This can be accomplished by providing different types of explanation [S3DC12]. Further, teaching is about "getting people to understand the deeper meaning, instead of just giving definitions and stuff" [SIL4DC9]. As another SI leader argues: "for teaching to be complete I think the [student] has to understand it" [SIL2DC9]. Teaching is viewed as a one-way process; teachers are expected to assume control over the learning process.

Once again there is basically no difference in viewpoint with respect to the activities of teaching. Both students and SI leaders argue that teaching is a one-way process and in order for students to understand and learn the material, it must be presented using real-life or real-world examples, while using a variety of activities, not just lecture.

This belief system becomes apparent, once again, when SI leaders speak about the activities that they use in their own SI sessions. The SI model specifically states that the SI leaders are not to re-lecture, but that they are to engage students in a variety of active learning activities, activities that they defined in research question VI and which are similar to those identified above. If indeed the activities mentioned above are indicative of teaching, then it is not too surprising and even understandable

when SI leaders state that they teach rather than facilitate. Once again,
this idea will be revisited in the second half of this chapter.

The first two research questions elicited a definition of teaching,
followed by description of teaching activities. By soliciting students' and SI
leaders' perceptions, it provided the basis for application in terms of defining
good teaching and bad teaching.

Research Question III

Research question three asked: How do students and SI leaders describe
good teaching, and how do they describe bad teaching? Alternatively, how do
students and SI leaders describe a good teacher or a bad teacher?

How do you describe good teaching, and conversely, how do you
describe bad teaching?

> To me, good teaching means making a connection with your students.
> To me it doesn't matter what the subject is as long as you make a
> connection with your students and you feel that they've learned the
> material. I think that's good teaching. Bad teaching to me is when
> maybe you have a graduate student or maybe you have a teacher who
> is not used to teaching that material and they just lay out that
> material and that's it. They just present it, don't expect you to get it,
> don't wait to see if you're getting it, and just keep moving forward.
> They think that's their job. I'm portraying this information and that's
> what I do and that's it. To me, that's not teaching [SIL12DC16-24].

> Good teaching would incorporate all the different styles of learning. A
> professor could stand up and use overheads, diagrams, and pictures
> for those people who need something to look at, and they can also talk
> about it and enhance the pictures through verbal descriptions. Then
> there are other sorts of professors who see to stick with one type of
> learning and they really never cross the boundary. So for those
> [students] who have a different style of learning, I feel like they're not

always reached and that they don't always completely benefit from the teaching [SIL159-14].

A good lecturer cares about the students. [The professor needs to be] able to convey information in a meaningful way. A bad teacher – I am going from examples that I've had in class – will talk to the chalkboard the entire time and does not keep the students' attention [SIL17DC16-20].

A good teacher to me is someone who challenges me as a student. Even though sometimes I don't want to do the work, I would still appreciate that. [Good teachers] focus on what they are doing, whereas a bad teacher just gets in class and says, 'ok, here do some busy work' and doesn't really go over the material [S8DC11-12].

Every good teacher I've ever had really wanted me to learn. They wanted me to understand what I was doing. Even if I didn't understand, they were patient with me and they just kept working with me until I understood what was going on. [A bad teacher is someone who] is just doing their job and they're just telling [students] what needs to be told [S10DC12-13].

[A good teacher] forces the student to think about things in anther way. Good teaching has to engage the student; if not, students just memorize and regurgitate without learning anything. Good teaching should leave students with the ability to make informed decisions about the topic. Bad teaching does not engage the student. The professor gives the student what they want to hear and students don't learn anything [S11DC7-12].

As a follow up to the first two questions, it was important to ascertain

SI leaders' and students' perceptions how of their definitions and

descriptions of teaching and its activities impacted their views on what

constitutes good teaching and bad teaching. Their nominations are quite

similar, in fact, to characteristics outlined by Feldman (1988). The only

difference is that these students express their perceptions a bit differently.

In order to put their perceptions of good and bad teaching into context, it was important to subdivide them into two major processes: instructional and relational. Due to the comparative nature of the question, it seemed pertinent to contrast the good and the bad views contemporaneously.

Instructional Processes of Teaching

In terms of an instructional process, good teaching involves professors who exhibit a number of characteristics according to both students and SI leaders. Good teachers: 1)are knowledgeable about the subject; 2) apply concepts to "real" life; 3) present concepts at the "student's level" of understanding; 4) check and make sure students "understand" concepts; 5) engage or involve students in discussion; 6) provide clear expectations for the course; 7) recognize and teach to various learning styles; 8) give interesting lectures; 9) are aware of the pace of their lectures, and 10) motivate students to want to learn.

In terms of an instructional process, bad teaching involves professors who: 1) give incomplete explanations of concepts; 2) have poor instructional styles (mechanics in classroom such as speaking to the board, not having the appropriate overheads, or consistently make mistakes when demonstrating how to solve a problem); 3) speak in a monotone voice; and 4) have low expectations for students.

As an instructional process, good teachers are prepared and organized [S1DC] as "good teaching would require a person to be extremely knowledgeable of the material" [SIL13DC16]. Teacher preparation is viewed as an instructional process. As one student commented:

> Well, I think they get up early, they plan ahead, they have different tasks to perform just like any other job you have to do. Whether it be little elementary kids, you have to take care of them to make sure they are where they are supposed to be, or, if you are college professor, you have to make sure your lecture is outlined and prepared [S1DC6-9].

The same student went on to describe how preparation played out in the classroom:

> I have had teachers in the past that were not prepared for class and she was just kind of raw and did not know what she was talking about. I had a professor last semester that just knew what she was doing in every lecture. "We are going to talk about this at this time," and if we did not talk about that, then it would be at the next time that we would still go on to what her outline planned for us. It made it a lot easier to follow with her organizational skills [S1DC10-12].

At the same time, they want professors to be able to present the information "on the student's level, not going over the students' head when they're explaining" [SIL13DC17]. This requires the professor to find "out where [the students] are coming from" [SIL10DC15]. It also requires a certain level of empathy.

> Good teaching is always remembering what it is like to be a student, because once you forget how it is like, to struggle, then you've lost the essence of what you are doing. You've lost the cause of what you are doing [SIL3DC21].

Good teachers "listen to the person that they are teaching" [SIL10DC14].

For example,

> if you have questions and someone says, 'well, I don't understand…',
> [the professor's] like 'alright let me put it this way to you,' so [the
> professor] relates it in a different way [SIL6DC17].

Good teachers not only recognize the student's knowledge level, good

teachers present "knowledge in a way that interests [the students] because

that means if they can apply it to their lives or if they just find it novel then

they're more likely to pay attention to it and it's more like to stick with

them" [SIL1DC10]. Not only do professors "show the student they are

interested in the material themselves" [SIL9DC12], they present it in such a

way that students find the material interesting. The application of real-life

examples makes it more interesting and more meaningful, for one SI leader

in particular. "In sociology, they teach you about poverty, but they don't just

teach you the concepts and the terms, they teach you like to take this and

change the world" [SIL4DC28].

Another aspect of good teaching is student involvement. Good

teaching

> would be getting the material across where the person on the other
> end actually responds with answers [SIL11DC5].

> definitely includes that back-and-forth discussion [SIL9DC9].

> is interactive [SIL8DC11].

> [happens] when they really get you involved [SIL4DC26].

[involves] asking questions and interacting with the class [S5DC9-10].

is stopping to ask questions and making sure everyone understands [S6DC8-9].

engages the student [S11DC7].

In terms of involvement, one SI leader provided a description of one of his

classes.

The professor was a very good professor, and he, the way he taught was that he would have notes that were partially filled out, so, in order for us to get the rest of them we'd have to attend class and actually have to be paying attention [SIL6DC9].

As a follow up, good teaching also means that the professors are

checking to make sure that students understand the material, as "some

students may not 'get it' as quickly as others" [SIL3DC23]. It also means

that "part of good teaching is giving tests" [SIL1DC16]. Because tests are an

expected part of teaching and learning, it is also necessary for professors to

let students "know what you expect them to learn prior to giving them those

tests" [SIL1DC18]. This necessitates that the "the requirements for the

course are stated accurately … at the beginning of the semester" [S2DC19].

Good teaching, according to SI leaders and students, involves a

number of different aspects, yet it is not characterized as a complicated

instructional process. On the contrary, it is rather simple and straight

forward. Good teaching comes as a result of good teachers.

[Good teachers] have got to look at how did they present the material, how did the students react to when they presented it, and they need to measure if the students are actually understanding, and if the students aren't understanding, then they need to do something about it [SIL13DC20].

Bad teaching or bad teachers, in terms of an instructional process, are viewed as the opposite of good teaching or good teachers. "Bad teaching [is] just standing up there dictating different ideas" [SIL9DC14]. Bad teachers "just lay out the material and that's it. They just present it" [SIL12DC19-20]. "Bad teaching is just going on and on about what you know instead of making sure that the class is following what you are saying" [S6DC10]. Further, as one student noted, a bad professor is one who will "get up and you know that they're going straight from the book and that's just boring" [S3DC20]. Not only does a bad teacher get up and read from the book, but "sits there and says this comes from the book and gives deep sighs" [S12DC6]. There is no attempt to relate the material to the students' level or to explain concepts in a way that students understand or find interesting.

> A bad teacher just explains it and re-lectures it and says it again. He'll just kind of repeat the same thing he said and not try to state it in a different way [SIL6DC16].

> Bad teaching is going up to the front of the class, writing a problem on the board and just leaving and not clarifying [S9DC13].

In the experience of one SI leader and one student:

> Bad teaching, in my experience, is just the ones [sic] that get up there and give you the terms and give you the definitions, and they say, the test is next Friday, learn this stuff [SIL4DC23].

A bad teacher…just gets in the class and says 'ok, here, do some busy work,' and doesn't really go over the material. It's just more memorization type stuff, it's nothing in depth or deep thinking [S8DC12-13].

Poor presentation style is also seen as an aspect of bad teaching. "Disorganization is probably the worst way to go about trying to teach something" [S4DC9]. In the eyes of one SI leader, bad teaching occurs when the professor

just talks and looks at the overhead and points with the laser pointer and he doesn't even turn around, he just looks at his overhead. So even if you have a question, you pretty much have to shout at him because he will never see hands that are raised, because he never turns around [SIL6DC14].

Even if the professor does turn around, a bad teacher is "not really open to, like, helping if a student has questions" [S2DC25]. If the professor communicates to the student that he or she is not open to questions, student are not likely to ask questions when they are in academic trouble. A bad teacher "makes [students] feel like they couldn't come and ask questions even if they wanted to" [S13DC14]. Speaking in a monotone voice was also mentioned as a characteristic of bad teaching. Monotone voice translates, in the mind of one student, as a lack of interest on the part of the professor. If the professor is not interested in being in the class, then more than likely students will not be interested either.

Bad teaching is using monotone, I call it I guess, not putting emotion into what you're teaching even though you might have a passion for

it, as the teacher, your student needs to have the same passion otherwise you're not going to get across to them the message [S14DC9].

Additionally, bad teachers are "not clear about what the requirements for the class are" [S2DC23], have low expectations, and do not challenge their students. As a result, students do not learn or retain the information. In the opinion of one SI leader:

> If you expect too little of someone then that's what they're going to give you. And so, of course, the class was extremely too easy for them and I don't believe people will learn and retain information unless they're challenged. And so better for it to be too hard than to be too easy, because if it's too easy that little thing in your brain just goes click I know this [so] I don't need to learn this. And even if its too hard, you have to make an effort, and even if you don't retain all the information, you will have learned something new [SIL8DC18-21].

Relational Processes of Teaching

Before delving into their constructions of the relational processes of teaching, a point needs to be made with respect to a much larger question that neither students nor SI leaders' take into consideration: Are they really "consumers" of the educational product? Both students and SI leaders voice their opinion which takes on the aura of entitlement to certain benefits with respect to the relational aspect of learning and instruction. They view themselves much like a consumer demanding quality services from the entity from which they purchase goods and services. Do they then demand that these individuals care about them or build relationships with them? The answer is probably not. The other reality is that they foot far less of the

bill than they perceive that they do. Certainly, students should be provided with the quality instruction, but one cannot be both a consumer and a unique individual, one who has a different relationship with the academy. Ultimately, it cannot be both.

The second set of processes identified by SI leaders and students were the relational processes. The SI leaders and students conceptualize the relational process of instruction as the way in which professors relate to the students and the way students relate to the professor within the context of learning the material.   To a certain extent, they want to be seen as humans and to be seen as persons, not just as students [SIL13DC]. For students, the relational process is a valuable and necessary extension of the instructional process.

In terms of the relational process, good teaching involves a number of necessary characteristics. Students want professors who: 1) "care"; 2) build relationships with students; 3) are patient; and 4) "want to be there."

In terms of the relational process, bad teaching involves professors who: 1) do not "care;" 2) do not identify with students; 3) are not patient; and 4) have forgotten "why they are there."

Good professors are those who "care" about their students, who build relationships with their students, and who want their students to learn. "Good professors connect with the student, they want to be there and

they want to help students out" [S1DC15-17]. If the professor demonstrates
that he or she cares about students, it leads to better teaching "because once
you have that personal connection you can't help but want your student to
learn and when you want someone to learn, whether intentional or not, you
convey information better" [SIL8DC14-15]. Further, caring results in
wanting your students to learn. "Every good teacher I've ever had wanted
me to learn" [S10DC12]. That "is really important because if you don't have
that, it's going to show itself to the students and they're not going to care
about learning either" [SIL1DC13]. It's as if the professor is saying to the
student, I care "enough about [you] to want to present it, not just like 'here'
it is" [SIL13DC18]. If the student feels that the professor cares, then when a
student doesn't understand the concept, he or she will not "be afraid to ask
questions" [SIL7DC19]. As one student noted: "Good teaching is making the
students feel like they can easily interact with the teacher and ask questions
and feel like they can easily approach them" [S7DC12].

Good teachers also build relationships with their students. They do
this by "making themselves approachable" [SIL9DC10].   It also involves
making the students feel "comfortable" [SIL10DC24]. For one SI leader, "to
me it doesn't matter what the subject is, as long as you make a connection
[with] your students" [SIL12DC16]. Good teachers "get to know their
students" [SIL8DC12]. Good teachers "converse with the students" [S8DC8].

It's easy to tell when a professor wants to be in class. "You can tell a professor who likes what they are doing and has studied what they do because they put their own personal experiences into it" [S3DC21-23]. Another student described good teachers as those "[who] want to be there and they want to help the students out. They do not just come to class and not want to be there, and have a bad attitude" [S1DC16-18].

Lastly, "one of the most important attributes of a good teacher is patience" [SIL3DC22]. The notion of patience was quite important to one student, as patience equates to or leads to learning.

> Every good teacher I've ever had really wanted me to learn, they wanted me to understand what I was doing, and even if I didn't understand then they were patient with me and they just kept working with me until I understood what was going on [S10DC12].

Once again, caring, approachableness, and feeling a "connection" with the professor are not aspects of the customer service model. The issue at hand is not whether or not the professor should or should not exhibit these characteristics, but whether or not it is congruent with mission of the institution. It is certainly understandable why the students feel the way that they do, but what they want is inconsistent with traditional customer service philosophy.

Bad teaching, once again, is viewed as the opposite. Bad teaching involves professors who don't care, who can't identify with the students, and who have forgotten why they are there. A bad teacher is

one who "neither cares not nor knows what he's teaching, or they just go up and know it's their duty to just go up there and tell us what the books says and they don't really give any other explanation of what's going on" [S12DC8].

someone who is not interested in their students [SIL1DC14].

someone who doesn't "care for the students" [SIL3DC30].

Interestingly, not all students or SI leaders see this as the professor's fault necessarily.

The teacher may themselves care, but the people over them are telling them, 'Tough. You may care, but you've got to get through a certain amount of material within a certain amount of time, even if it's at the expense of the student' [SIL13DC22].

For one SI leader, if the professor doesn't seem to care, "then I'm not going to go [see] them" [SIL7DC20].

Another aspect of bad teaching is the professor's inability to identify with the students' intellectual levels. Bad teachers:

would just lecture [SIL10DC17].

basically [show] an indifference to the actual learning or comprehension of the student [SIL9DC15].

don't wait to see if you're getting it, and they just keep moving on [SIL12DC22].

aren't aware of [their] students and aren't aware of their understanding [SIL7DC15].

tell students the information and says [to the students] 'if you don't understand, then that's your problem learn it later' [S9DC12].

get up there and tell us what the book says and don't give any other explanations of what's going on [S12DC8].

This lack of identification is often attributed to the intellectual level of the

professor. "They're on this high pedestal, you know, unreachable"

[SIL5DC11]. As a result, students have difficulty understanding the

material:

> I mean you can be very intellectual in a certain topic but not be able to teach it [SIL7DC14].

> I know he knows what he's talking about, he's very intelligent. I know he knows everything there is to know about that subject. But he could not relate [sic] it to us at all [SIL6DC13].

As one SI leader commented:

> I think it all goes back to just remembering that you were once in their shoes too. You've seen the struggles and you've seen the successes. You've passed out on that experience also [SIL3DC32].

In other words, they want professors to remember what it was like to be a

student, and to think back on the struggles they experienced as

undergraduates. The students' belief system promotes a common experience

or sense of identification for all students, past and present. Bad teachers,

according to students, fail to see the connection between their past

experiences as a student and experiences of current students.

Lastly, bad teachers come across as not liking what they do. This

translates, in the mind of one SI leader, as the professor saying to him- or

herself: "Oh, how's the easiest way for me [to] present this? You know, I'll

present it so that my job's done" [SIL13DC19]. Bad teaching, therefore,

becomes nothing more than a "person [who] is just doing their job"

[S10DC13].   For one student, if the professor just stands up there doing a

job and reads from the book, then the teacher is not only bad, he or she is

also "boring" [S3DC20]. In such teaching, professors lose sight of the sole

purpose of being in the classroom, according to one SI leader, which is "that

the entire reason a teacher is there is for the students. Once the students do

not exist, the teachers do not exist" [SIL3DC25]. The sense of entitlement to

services surfaces yet again and this extraordinarily narrow perception on the

part of students is completely erroneous. The role of the faculty is much

larger and more complicated than most students realize. As faculty, we

realize that our role is more than just standing up there and disseminating

facts and we exist whether or not the students decide to show up.

All of the perceptions of good and bad teaching were based upon the

professor's behavior and role, with one exception. Only one SI leader

identified, as a consequence of bad teaching, that sometimes students fall

asleep, realizing that

> it's not always the teacher's fault for putting the students to sleep. I
> mean sometimes there are just going to be people who aren't
> interested in what you're doing, at all, and regardless of how excited
> you may be, they may just be tired [SIL5DC15-16].

SI leaders generally seem to hold a view of teaching that is less

critical than students and are willing to acknowledge the student's

responsibility in the classroom. SI leaders have more insight into the joint responsibility of teaching and learning.

Only one SI leader mentioned the word "effective" and compared the two: "By 'good teaching', what comes to mind is effective teaching, effectively. Bad teaching is not effective" [SIL11DC4 & 6].

Characteristics of good and bad teaching were generated and based on responses by the SI leaders, and the students' responses were compared against those nominations. Students and SI leaders generally agreed on the definitions, descriptions, characteristics, and aspects of teaching, its activities, and what constituted good and bad teaching. Teaching, according to both students and SI leaders, can be characterized as both relational and instructional. When a characteristic was defined as good, often an opposite characteristic was defined as bad.

Once again, it would seem that students and SI leaders hold similar perceptions with respect to good and bad teaching and subsequently that belief system may play a role in why SI leaders forgo the SI model and teach. SI leaders identified both relational and instructional characteristics in research question six that are similar to those identified in this research question.

Research Question IV

Research question four asked: How do students and SI leaders define and describe faculty teaching effectiveness?

In the literature, teaching effectiveness was defined as two measures: process or instructional, and outcome measures or learning. The purpose of asking the participants to define and describe faculty teaching effectiveness was to determine whether or not the participants would identify both measures of teaching effectiveness described in the literature. Up to this point in the process, SI leaders and students had, for the most part, provided similar definitions of teaching, identified many of the same teaching activities, and agreed on the instructional and relational processes of good and bad teaching. The exploration of their perceptions with regard to faculty teaching effectiveness, however, resulted in the demarcation line between SI leaders' and students' views with respect to the outcome measures of teaching effectiveness. SI leaders identified learning as an outcome measure of teaching effectiveness; students did not. Often whether or not a student learns the material is what is measured on end-of-course evaluations and used as the measure to determine whether or not a faculty member exhibited effective teaching practices. While it is not possible to know whether or not the SI leader is conscious of that fact, SI leaders, on the whole, pointed to learning as an outcome of effective teaching. This is an

important piece of information as it impacts SI leaders' behaviors in their own SI sessions. Once again, this issue will be discussed later in the chapter.

The categorization process regarding responses to effective and ineffective teaching practices for this part of the study involved two steps. The first step was to see what categories were identified as a result of responses to the effective and ineffective questions, and are identified under the *Effective Teaching* and *Ineffective Teaching* headings. The second step was then to compare those categories with both good and bad teaching categories. The second step is presented in the latter half of this section.

For the most part the descriptions of effective teaching and good teaching and its activities matched one-to-one, as did ineffective teaching with bad teaching and its activities. What resulted was again the same in terms of definition, description, and explanation. While this section also examines the commonalities between good and effective or bad and ineffective, this section points out instances where effective or ineffective resulted in the formation of a set of distinct categories.

How do you define and describe effective teaching practices? How do you define and describe ineffective teaching practices?

Both students and SI leaders nominated characteristics that are found in both good teaching and effective teaching categories as well as in bad

teaching and ineffective teaching categories. Like the nominations of what

constitutes good teaching, effective teaching is viewed in terms of an

instructional process by both students and SI leaders. In fact, the

nominations for effective teaching practices mirrored closely to those of good

teaching.

Effective Teaching

> Effective teaching, I guess, is when [students] actually walk away
> with an understanding of the material [SIL1DC20].

> Effective teaching is when you can walk out of the class remembering
> and something that you're going to remember for years to come. It's
> not something that you're memorizing for the test or just did for the
> grade [SIL4DC31-32].

> Effective teaching is when the professor stimulates my interest and as
> a result, I go back and read the material on my own. They want me to
> find out more about the subject, and not just for a particular exam. It
> will make me want to go out and find out more about that material
> [SIL16DC20-22].

> I think the most effective teachers are probably those who give
> handouts, either like fill-in-the blank or like questions to a problem
> [S7DC13].

> Effective teaching practices are ones that the students have to read,
> discuss in class, and apply that [S11DC13-15].

> Effective means being clear and being prepared for the lecture
> [S2DC27].

Effective teaching is defined as good teaching. "I guess it's just kind of

what I was talking about" [SIL12DC25]. Ineffective teaching is the opposite

of effective teaching and bad teaching. "It's just the opposite of that" [SIL4DC33].

In terms of good teaching and effective teaching practices, SI leaders and students desire professors who: 1) apply concepts to "real" life; 2) present concepts at the "student's level" of understanding; 3) engage or involve students in discussion; and 4) recognize and teach to various learning styles.

"Enthusiastic" [SIL7DC28] was the only distinct instructional aspect nominated as an aspect of effective teaching and was nominated by only one SI leader. Students and SI leaders assume that enthusiastic professors are passionate about their subjects and that translates into professors caring about their students.

The examination of effective teaching practices resulted in the formation of one distinct category. Whereas good teaching has both instructional and relational instructional processes, effective teaching, unlike good teaching, has an outcome measure: learning. Unlike the instructional and relational processes of good and bad teaching, learning is viewed as an outcome measure of effective teaching practices.

> Effective, well the whole point of it is for the student to remember and actually know and understand the material [SIL6DC19].

> Effective teaching I guess is when they actually walk away with an understanding of the material [SIL1DC19].

> Effectiveness is an understanding and not in the performance [SIL2DC34].

Performance on a test is not necessarily the only measure by which learning should be measured, according to one SI leader. A student can walk a way from a class having learned a great deal, but the grades are not reflective of the knowledge gained. There is a distinction between instructional and relational processes and learning. As one SI leader noted:

> I think it's more effective when it's something that you can walk out of the class remembering and something you're going to remember years to come and it's not something that you're just memorizing for the test or just did it for a grade. I don't think that's very effective. It might be effective at the time, you might get your course requirements done, or whatever, but I think it's more effective if you really learn something from the class [SIL4DC31-32].

Effective teaching is the application of the instructional processes in such a way that it results in student learning. Thus effective teaching becomes a two-way process.

Throughout this research question and the other research questions, with very few exceptions, there was barely any mention of student responsibilities with respect to learning. The students are silent on their role in the learning environment. While they are quick to point out the perceived faults of their professors, they are not about to point the finger at themselves. It is doubtful that even if the students attended a class with the best and most effective professor that every student would walk away having learned without any effort on the part of the student.

Ineffective Teaching

Ineffective teaching happens when students just don't understand, but the professors just keep doing what they're doing, even though students don't understand [SIL6DC23]

Professors who are very involved in their own research and they are pretty much self-involved [are ineffective.] When you become self-involved, you lose interest in those you are teaching to. If you lose interest, no one really learns [SIL10DC26-28].

Having strict, rigid schedules, and only one way of teaching, and only one way of presenting it, and if [students] don't get it, the 'oh, well.' [It's] not being sensitive to the student's needs and not being willing to get down on their level and explain it to where they can actually understand it [SIL13DC33-37].

[Ineffective teachers are] the ones who just stand up there and talk. They just stand up there and talk. They won't let anybody ask questions. They do ask us questions [S1DC24-25].

Not being prepared and not being organized. It's also just like kind of going around a question or subject that a student has a concern about. [S2DC30-32]

Ineffective teaching is when a professor] just does not care about the lecture or students. They're just there to give the students the material and then go home [S13DC17].

Ineffective teaching was also closely linked to definitions and

descriptions of bad teaching and in addition defined as the opposite of

effective teaching practices. "Ineffective, you know just the opposite"

[S3DC31].

In terms of bad teaching and ineffective teaching practices, SI leaders

and students are critical of professors who: 1) give incomplete explanation of

concepts; 2) do not "care;" 3) do not identify with students; and 4) have

forgotten "why they are there." No new instructional or relational categories were identified. "Unenthusiastic" was nominated again by the same SI leader who noted that an example of ineffective teaching practices occurs when the professor seems "unenthusiastic about students and their learning" [SIL7DC27].

SI leaders, on the whole, identified learning as an outcome of effective teaching; students, on the other hand, did not. It is an important distinction in light of the way in which they view their role as SI leaders and the impact of that role on their perceptions of teaching and subsequent behaviors on end-of-course evaluations. Evidence, discussion, and implications regarding the differences in perception with respect to learning as an outcome measure are presented later in this chapter.

SI leaders link learning with effective teaching; they also link the failure to learn with ineffective teaching. It is conceptualized as the opposite of what happens to learning as a result of effective teaching practices. "Well that would be, I guess, just basically the opposite, so they don't walk away with a good understanding of the material and they don't feel like they've gained anything" [SIL1DC22]. But failing to learn or failing to gain knowledge is taken one step further and is distinguished between how a student learns and the resulting grade. From one SI leader's perspective, students do not learn when they just memorize the information. "I don't

think you really get a lot out of it. And I think it's more than that. I think it

should be more than that" [SIL4DC38]. The professor has to challenge the

student to think, so an ineffective teaching practice consists, for example, of

comparing a student's grade on an exam and what they have actually

learned. "It would be like a student can do well on a test when they haven't

learned or even do bad on a test and not learning" [SIL2DC35-36].

SI leaders and students want professors to have effective teaching

practices that closely align themselves with the instructional processes of

good teaching. The relational aspect of good teaching is not aligned with

effective teaching based on the nomination process. Yet, on the other hand,

ineffective teaching practices are closely aligned to the relational process of

bad teaching and only one aspect of the instructional process of bad teaching.

Relational aspects become less important if the students feel like they are

learning. It would seem that students are willing to overlook the "caring"

aspect, for example, if the professor is effective in helping the students learn

the material. Students are looking at the bottom line, grades, and if they get

the desired grade then they are willing to forgive the professor for not caring

enough.

Whereas the first part in the categorization processes looks at

definitions and descriptions of faculty teaching effectiveness, the second part

in the categorization process examines the following relationships: good

teaching and effective teaching, good teaching and ineffective teaching, bad

teaching and effective teaching, and bad teaching and ineffective teaching.

The participants were asked to determine whether or not the above

relationship can occur and whether or not they have personally experienced

or witnessed any of the proposed relationships.

Do you think there is a relationship between good/bad teaching and

effective/ineffective teaching practices?

For two SI leaders, the answer to that question was seen as a one-to-one

connection:

> I think it's mostly good teaching with effective teaching practices, and
> bad teaching with ineffective teaching practices" [SIL6DC26-27].

> Hopefully, a good teacher would be an effective teacher [SIL10DC29].

One SI leader believed that there is a relationship, but qualified the

response:

> I think there is a strong relationship between the two, but there's not,
> it's not an absolute" [SIL3DC45].

Another student, however, and one SI leader did not feel that there was a

one-to-one relationship:

> I really don't see the connection between good and effective teaching
> practices [S8DC22].

> I think good and effective are two very different things [SIL12DC35].

Others bypassed the possibility of simply providing a simple "yes" or "no"

answer to the question. The issue becomes even more confusing and

admittedly confounding. Not only are there variations in viewpoint regarding the relationship, there are also variations in viewpoint regarding the impact of one upon the other. One student believes that since you are a good teacher, then you are also effective. "It's more like if you're a good teacher and you have effective teaching practices" [S8DC23]. Another student offered an opposite view by stating that "if a teacher is an effective teacher, you're probably going to say they're a good teacher" [S9DC19].

As the researcher, I was confronted with a difficult task of trying to determine, based solely on the nomination process, the relationship between good teaching and effective teaching. It became clear that the initial categorization process needed to be expanded.

There seems to be several issues to consider at this point. First, it is not possible to draw any definitive conclusions with respect to qualified responses except to say that perceptions vary widely. Second, there seems to be a chicken-and-egg argument at play that only surfaces as a result of asking the question. By simply comparing nominations of good/bad teaching with effective/ineffective teaching practices, we do not know the nature of the interplay between the two. As a result, the clues to the relationship are found in the experiential narratives that follow.

Good teaching and effective teaching practices

> I think for optimal learning you have to have both of them [SIL2DC45].

If you have effective teaching practices you're going to have a good teacher, most of the time [SIL6DC29].

[I have this one professor], he comes in and he's excited about the class and he's like, "this is what we're going to do today," and he's excited about it. And his classes are interactive, and he'll give a concept and then he'll give 5-6 examples and then he'll say, "y'all give me some examples and do you understand this?" …And he's making sure we're on the right track, and he applies it to real life, and he gets the class involved. We listen, we care. We leave the class and we're like that was such a good class. He's such a good professor. We really feel like we learn something from him [SIL4DC42-48].

Effectiveness to me is when you actually take something and you get the person who previously did not know the information to learn the information, and to learn the purpose for their learning [SIL12DC38].

Good teachers have effective teaching practices [S12DC20].

Good teaching and ineffective teaching practices

I have had teachers who have made the material interesting and who have made it…it's been fun to me in their classes, but you don't walk away with knowing very much [SIL1DC25].

I think that good teaching without effective teaching practices leads to incomplete learning [SIL2DC42].

[One of my professors] was this little amazing man with a wealth of knowledge and he taught you so much one-on-one. But when we got into class it was like he had so many ideas that he never could pick one and stick to one, a consistent one. And so he grazed over everything and never delved into anything. And so you didn't learn much even though he had the ability [SIL8DC38-41].

You can be a good teacher but you can not be able to get across what you're trying to say to the students. Because maybe you're too intelligent or overqualified for your job and you're talking over the kids' heads, and they can't understand what you're trying to say [S4DC].

You can have good professors who know what they're doing and who are easily approachable, but when they stand up there in class, they just talk [S7DC21].

You can have the best information in the world, but if you say it poorly, nobody will care [S12DC17].

Bad teaching and effective teaching practices

A bad teacher, at the college level, doesn't make himself available, doesn't seem to have a whole lot of compassion towards the material, or the students for that part. Yet, they're effective because they can present the material, they can put it on the overhead, and say this is how you do it, here's a easy way to do it, and students learn it [SIL3DC53-54].

I think that a bad teacher can be an effective teacher. It depends on the methods that they use. People may not like them. They may expect too much out of students. I think it's bad when the professor sets his expectations way too high than what the students can realistically do, but they can still have very effective teaching practices in the way that they portray the information [SIL12DC40-42].

They just get up there and read straight from the textbook and do not add any additional material. It's just verbatim per page…that's not using their resources, not encouraging questions, …but it's effective if the students can learn the material [SIL3DC60].

You can be a bad teacher, but you could get your point across [S4DC30].

Bad teaching and ineffective teaching practices

Bad teaching and ineffective teaching practices…are when the professor calls out students for being late or something that is unrelated to the class, go up to the student and make them take something off their desk or whatever because what you are doing is, you are interrupting the learning environment. …And the classroom environment is there for the students and some of the students might not have been bothered until the professor made a big deal about it [SIL9DC40-43].

> If you are not interested in that student and you are not open to them, they probably do not learn [SIL10DC36].
>
> If you are not organized and not ready and don't have the correct information then you're not going to be effective and you're going to be a poor teacher and poorly prepared [S2DC37-38].
> You can have a bad teacher who doesn't care about his students [S5DC20].

It appears that the interplay between good/bad teaching and effective/ineffective teaching practices corresponds to both the instructional and relational process of good and bad teaching. At the same time, it is teaching effectiveness that corresponds with learning. Even professors who are identified as "bad" can be effective teachers if the students feel like they have learned.

There is another issue at work. Not everyone defines good, bad, effective, or ineffective the same way. As one student commented: "It just depends on the student and how they view you and if they're going to be receptive to you or not" [S4DC33]. This view is echoed by another student who astutely observed: "Like one student may say that that one practice is effective that the teacher or professor uses, or another says, 'Oh, no, I don't like the way they teach" [S14DC35]. No, you cannot please everyone. Not only are there multiple learning styles within the classroom, these different learning styles affect perceptions of effective or ineffective teaching styles and strategies.

SI Leaders' Perceptions as to the Impact of Role on Views of Teaching

The first half of this chapter explored both students' and SI leaders' views of teaching, teaching activities, good/bad teaching, effective/ineffective teaching practices, and the relationship between the latter two. The purpose of examining their views was to identify common and varying viewpoints between students and SI leaders. If it could be shown that SI leaders have more sophisticated perceptions of the above, then perhaps they should be included in a formal comprehensive faculty evaluation system.

In order to draw conclusions and to make a case for their involvement in the system, it was important to examine the impact of their role on those perceptions, specifically as it impacted their views on teaching. In order to lend credibility to their perceptions, an examination of their role, its activities, and existing relationships with faculty needed to be explored. This next section is devoted to establishing credibility and assessing whether or not their role impacts their views on teaching.

As noted earlier, according to the SI model, the role and function of the SI leader is to serve as a facilitator in a group study, learning environment. He or she has previously taken the course and performed well in that course. He or she is considered a peer leader who assists currently enrolled students by providing them with opportunities to practice active learning strategies within the context of the course material. They are not

considered content experts and are not to re-lecture course content. Rather, they are to facilitate sessions providing attendees a variety of active learning activities (Martin & Arendale, 1993).

Research Question V

Research question five asked: How do students view their role as SI Leaders? As supervisors, my colleagues and I spend many hours visiting with and working with our SI leaders in order to provide them with the requisite skills needed to facilitate effective SI sessions. SI leaders are reminded over and over that their role is to "facilitate" and they, when speaking of their role, should never use the word "teach". Additionally, we spend many hours talking with them about the SI model and how faithfully to adapt it during their sessions. Weekly meetings with SI leaders are devoted to reviewing the SI model, introducing them to learning theories, and incorporating creative and varied active learning activities into their session plans. The hope is that the SI leaders will engage students who attend their sessions in such a way that students become active participants in the learning process. Instead of answering questions posed by students, the SI leader has been trained to mirror back to the student the question, prompting the student to answer his or her own question. If a student is unsure of the steps needed to solve a problem, the SI leader brings the student up to the board and has the student solve the problem. In the case

of any errors, fellow participants assist the student by offering clues and suggestions as to how to solve the problem correctly. Group discussion and dialogue are encouraged as it requires the participant to think and process the information. All the while, the SI leader stands back and facilitates the interaction between the participants and helps the participants stay on task. As quasi-professionals, these undergraduate students are exposed to theory and practice and subsequently that experience may alter their perceptions of teaching and effective teaching practices.

In order to determine whether or not SI leaders' views of teaching and effective teaching practices were impacted as a result, a series of questions were posed to them regarding their role, activities, and relationship with the professor. The answers to these questions would then determine whether or not their SI leader experience changed their perceptions as a result.

Describe the role of the SI leader? In a nutshell: Theory is one thing; actual practice is another. The Cheshire cat-like grin and the "quote-unquote" motion of two fingers on each hand, followed the verbal response "facilitate," was repeated in interview after interview. SI leaders know the party line.

> I know what the role is supposed to be and in our SI model we're supposed to be facilitating learning [SIL12DC49].

> The role of a SI leader, we would always like to think of it as being a facilitator and not a teacher [SIL13DC43].

I think the SI leader's job is to facilitate [SIL2DC49].

An SI leader – and this is our key phrase – facilitates learning [SIL14DC35].

But as quickly as they touted the correct term and its place within the SI model and session, they quickly followed it up with the other half of the story.

My role is different than what the traditional SI model should probably be [SIL12DC60].

My role is very different [SIL8DC47].

What is the role, if not to facilitate?

We need to get in there and teach [SIL13DC50].

So in my role, I think I'm a teacher [SIL15DC39].

They did not hide the fact that they deviated from the model, even though the researcher supervise SI leaders. Guaranteed confidentiality undoubtedly gave permission for full freedom of expression and frankness. For some SI leaders, they took matters into their own hands, and when they deemed it necessary, taught the material. This wasn't a blatant attempt to abandon the model, but an attempt to ensure that students who attended their SI sessions learned course content.

In terms of assisting students, SI leaders view their primary role in terms of a three-pronged approach. First, SI leaders' view their role as one in which they act as an advocate for students. Second, they believe their role

to be one which helps students learn the material. Lastly, part of their role is to create an environment for success.

SI leaders view themselves as advocates for students and their purpose is to assist students even though that belief, at times, results in moving beyond the traditional role. One SI leader questioned the value of just facilitating when students do not understand the material prior to coming to an SI session.

> If they're not learning by us just standing up there and facilitating a subject matter that they don't understand in the first place, then they are not learning anything [SIL13DC49].

Another SI leader noted that sometimes you have to do more than just facilitate. "I end up not lecturing, but a partial lecture and partially questioning them" [SIL12DC55]. Deviation from the model happens as a result of their desire to help the students. As advocates, they see themselves in the following roles: motivator [SIL7DC], resource [SIL6DC], peer [SIL5DC], someone who is accessible [SIL5DC], someone who fraternizes with the students [SIL 2], and someone who is available to students, any time students need help [SIL4DC]. The fact that they have taken the class for which they serve as a SI leader brings forth feelings of empathy and understanding. "I just really like to help people because I can relate to being in a class and not knowing what's going on" [SIL4DC80]. As a result, "it's not like I'm in there just trying to do my job. I really want them to do good"

[SIL4DC75]. Whether the end justifies the means, or the means justifies the end, it is apparent that SI leaders genuinely want the students to learn.

Overwhelmingly, SI leaders identify that helping students learn the material is one of their major roles and the overall goal of supplemental instruction. SI leaders are there "to help them learn and understand the material without doing it for them" [SIL3DC65]. The goal of helping students to learn is so that they will be able to "start thinking on their own" [SI2].   This is accomplished through reinforcement of the material [SIL5DC] or "covering the material again" [SIL4DC83]. In order to help the students, the SI leader must have a solid grasp of the material. "…I feel that the SI leader needs to know the material…" [SIL11DC29]. Ultimately, they feel that they are there to serve the student by facilitating "learning in a course" [SIL17DC57]. This affective view of their role results in the creation of yet another role.

SI leaders believe that it is necessary to create an environment of success. "My role is to help [students] succeed in the class…[and] to teach them how to succeed" [SIL4DC76 & 70]. Success, viewed in terms of learning the material, is accomplished by providing students with skills and strategies that will enable them to be successful in their classes. "A SI leader is someone who can relate study skills with course material…" [SIL11DC22]. By giving direction to the students attending the session

[SIL10DC], they provide "an environment where students can come together and discuss…" [SIL1DC41]. Additionally, the SI leaders also provide their peers with "tools for them to use themselves" [SIL3DC70]. These tools or study skills are viewed as universal and therefore easily adapted and applied to any course a student takes. They encourage students to study regularly and "not just once a week before the test" [SIL4DC72]. As successful students, SI leaders serve as model or ideal students and demonstrate characteristics, skills, and habits that students can emulate. In addition to the three-pronged approach to assist students with knowledge acquisition, SI leaders also identified additional functions that they carry out as part of their role.

Those functions identified consisted of meeting with the course professor [SIL8DC] and attending weekly meetings with other SI leaders [SIL1DC]. By and large, SI leaders described their classroom behaviors as a major function of their role. They describe themselves as the "model" student and as "modeling good student behavior" [SIL2DC60]. "First of all, it is my responsibility to go to class every time they meet for class" [SIL13DC51]. Once there, the SI leaders take notes [SIL4DC], listens to the professor [SIL13DC], pays attention [SIL7DC], and stays awake [SIL2DC]. As one SI leader commented:

> …a lot of people who are in my class are all freshmen, and they don't know how to sit in a lecture room. And so they see me sitting there

taking notes and paying attention and they'll just model me"
[SIL7DC48]

Once out of the classroom, they must prepare for their sessions so they create session plans [SIL1DC] and then hold their sessions [SIL8DC].

How would you define your activities as a SI Leader? In order to achieve their goal of creating an environment of success, they engage the student using a variety of activities and methods throughout their sessions. SI leaders nominated a variety of activities used in their sessions to help students learn how to learn course content. *Discussions* are the primary means by which content is learned. Attendees are asked to actively participate by dialoging with others about course content. The *Socratic Method* is used to redirect questions posed to the SI leader from a session attendee. The purpose is for the attendee to answer his or her own question, rather than the SI leader. *One-on-one interaction* is helpful when the session contains only a handful of attendees and provides opportunities for individual attention and assistance with subject matter. *Group activities* consist of games, such as bingo and Jeopardy, and dividing attendees into small groups to work on problems, or chapter outlines, for example.

SI leaders, as "model" students, also help attendees develop good study habits. These habits include helping students learn how to o*rganize* course materials into a notebook. They assist students with *text book*

reading strategies, note-taking skills, problem solving skills, and test taking strategies, such as *anticipating test questions/problems.*

SI leaders also create items that specifically address information presented in class. W*orksheets* are developed so that attendees can fill them out during the session. Worksheets include incomplete outlines, charts, word banks, and practice problems. Given the incomplete nature of worksheets, attendance at SI is necessary in order to get the needed information to complete the worksheet.

The activities in SI sessions are designed to assist students in reviewing and learning the material, where ownership of learning rests with the attendees. But as the SI leaders in this study reported, they sometimes conduct a r*eview of class material.* They stand up in front of the group and tell the students what they need to know about a particular subject. They do this by providing the attendees an a*lternative explanation of material on the "student's level"* [SIL13DC17]. The list of activities is varied and while not every SI leader identified each activity listed above, a number of them used multiple methods in and across their sessions. As one SI leader notes, it was important

> to try different activities, a variety of them. Sometimes they work and sometimes they do not. You just have to kind of experiment [SIL11DC33].

They determine which activities work best with the students who attend their sessions. Essentially, variety in session activities provides SI leaders with opportunities to address the various individual learning styles of the SI attendees. Sometimes, the choice of activity depends on the type of course and instructor [SIL9DC]. At the same time, repeated exposure to the material using mixed methods leads to better retention of the material, leading one SI leader to ultimately conclude that "activities would be just anything that I can do to help them" [SIL4DC82].

Whether it involved creating varied activities within the session, acting as a model student, creating a successful learning environment, helping students learn the material, or advocating on behalf of the students, SI leaders are aware of their impact on student learning and consequently take their responsibilities seriously. Ultimately, SI leaders "are there to facilitate learning" [SIL9DC55].

Research Question VI

Research question six asked: How has the role of an SI leader shaped, influenced, or changed the SI leader's view on teaching? The SI model lists the professor of the course as one of the three key personnel in the program (Arendale, 1998). The faculty members' level of involvement with the program and SI leaders varies, as the model does not promote specific recommendations. Arendale (1998) also notes that involvement on the part

of the professor varies widely. Some faculty may choose to announce SI

session times in class and encourage students to participate. Another

professor might arrange weekly meetings with the SI leader. Others might

work with SI leaders in creating practice problems or exams.

Our SI program encourages SI leaders to take the initiative and to seek

out the professor. We encourage the SI leaders to visit with their faculty

member regularly throughout the semester. This researcher has supervised

leaders who met with their professor for one hour every week. I have also

supervised leaders who only e-mail their professors occasionally throughout

a semester. The relationship between the faculty member and SI leader

varies widely and frequently depends on the professor's individual

preferences.

SI leaders, as part of their role, attend every class, take notes, listen,

and pay attention. After class is over, it is their responsibility to take the

information presented in class and then facilitate sessions over that

information. As day-to-day observers and session facilitators, they

experience two educational processes: knowledge transmission in the

classroom and knowledge acquisition in the SI session. This is not to say

that these are mutually exclusive endeavors, but rather to point out SI

leaders' unique positions. They serve the student by bridging the gap

between what was presented in class and what the student should do in

order to learn in a peer facilitated environment.   At the same time, they

observe what happens in the classroom and have some rather interesting

perceptions about how course content is presented.   As a result, it was

important to ascertain whether or not they communicated those perceptions

with the professor.

Did you ever discuss your observations of what happens in class with

your professor?   Before that question could be answered, SI leaders made

clear the nature of their relationship with the professor.

"…We were kind of like a liaison between the students and the

professor" [SIL12DC72]. Some SI leaders noted that they sought guidance

from the faculty member to discuss concepts they should be covering in their

sessions. "I had lots of questions about you know, how are these tests going

to decide things" [SIL7DC63]? Another SI leader "would ask for advice"

[SIL11DC42] from the professor. But most often, SI leaders provided the

professor with a description of what happened in the sessions.

I told her that students weren't coming to SI [SIL8DC72].

A number of times I would go and visit with the professor and let
them know what I am going over in SI specifically, and if it was
helping or if it was not helping them [SIL11DC41].

While they did feel comfortable going to the professor when students had

issues, many felt uncomfortable expressing their opinions about what

happened in the classroom.

In response to the question, "d*id you ever discuss your observations of what happens in class with your professor?,"* some SI leaders reported "yes", but by and large, they did not like expressing their opinions. "I felt, though, it was not my place" [SIL9DC69]. Some SI leaders do not view their role as one in which would require them to comment on what they observe in the class. For one SI leader, it is not necessary to provide feedback to professors "because they know how they're teaching" [SIL6DC70]. Yet, for those who said no, they have unexpressed opinions.

> I really don't want to say what happens in class because it's usually negative stuff [SIL6DC65].

> ...there is no way you can tell a professor like your class isn't worthy of having a tutor...[SIL8DC73].

> ...I believe that there is a boundary between what should be said, whether you want to say it or not [SIL3DC90].

> No. ...neither one of them really care what I think [SIL2DC77].

> I definitely have my opinions, but I don't really think that's my role, per se. [SIL17DC74].

Yet, there were a handful of SI leaders who did discuss their perceptions. "The professor I have now, we have a really good relationship. We talk all the time about SI and the class and everything" [SIL4DC87]. For the SI leaders who felt comfortable commenting on their perceptions, they did express their opinions.

> ...it is like he will mess up something in lecture and we will kind of laugh about it later [SIL10DC48].

> I would go in and talk to her and be like "Wow, I've never heard [the concept] explained this way. I really like the way you did it this way" and I'd tell her that I like the demos she did in class…[SIL2DC76].

> I would also let them know what I felt on the class, as far as that was going [SIL11DC43].

> I've gone in and we've talked about what to do, teaching wise, how to present it better [SIL5DC48-49].

> We discussed ways of kind of getting people to attend both lecture and SI sessions [SIL15DC68].

One SI leader was quite adamant about what happened in class and voiced that opinion to the professor. "This is what's going on and we don't know why, but something needs to be changed" [SIL12DC69]. The SI leader reported that the professor changed the book mid-way through the semester as a result.

The SI leaders, who were willing to report their observations, seem to have a rather strong relationship with the professor. At the same time, they did not identify it as one of their roles. They did, however, feel it necessary to comment on students' progress and ability in the SI sessions.

Did the professor solicit feedback from you regarding his/her teaching practices? Once again, there were SI leaders who stated that their professors did solicit feedback from them and those who did not. The question itself led to "yes" or "no" answers, and only one SI leader

commented that a professor actually solicited feedback regarding his or her teaching practices.

There was also one professor who solicited information regarding what went on during SI sessions. That SI leader noted that the professor was "always asking everyday like how many people came, what did y'all do…" [SIL4DC88]?

Whether they freely offered feedback or whether it was solicited, SI leaders' perspectives of their role places them in positions of both observer and facilitator in the learning process. Not only was it important to ascertain whether or not they communicated those perceptions to faculty, it was important to know whether or not the SI leader role impacted their views on teaching and teaching effectiveness.

Think back to the time before you became a SI leader. Has your role as a SI leader shaped, influenced, or changed your views on teaching and teaching effectiveness? If only one word could be used to describe the answer to that question, it would be "absolutely".

Overwhelmingly, SI leaders reported that their perceptions of teaching and teaching effectiveness changed as a result of their role. Only three out of 17 SI leaders reported no change in the perceptions as a result of their role.

The role of the SI leader impacts views on teaching and teaching

effectiveness in a number of ways. The most profound impact brings about

feelings of empathy.

> I see that teaching is a lot harder than it looks [SIL12DC85].

> I felt sorry for the professor [SIL13DC83].

> I just respect the amount of work they put into it [SIL8DC87].

> It's given me a great appreciation of what teachers have to go through [SIL5DC68].
> I have more sympathy for the professor [SIL1DC59].

These feelings of empathy are based on a sense of identification. Their own

role places them in situations similar to those of the professors.

> It has helped me better understand the experience of instruction or the teacher, because you do get to see those blank stares and see what it is like when people are not responding [SIL9DC76-77].

> I know being a professor you've got the good with the bad…I've had so many students who've come to my SI sessions that don't care, and they let us know that they don't care…they have an ability to put a damper on the entire SI session [SIL13DC79-81].

> There is nothing more disheartening than having people fall asleep on you. You take it personally, even though you shouldn't [SIL5DC69].

> …I never understood it until I had to get up in front of people and try to get them to do stuff [SIL1DC61].

> I've kind of walked in the shoes of a teacher and I understand how some students truly put out an effort to learn, some students kind of slack off and kind of use you as a scapegoat at the last minute and say, "Well, it's because of you that I didn't do well" [SIL15DC74].

Experiences, such as dealing with blank stares, difficult students, and

disinterested students, lead them to draw further conclusions regarding

effective and ineffective teaching practices.

I can see what they are doing wrong [SIL5DC71].

When I go to class, I'm just, like, he could teach this so much better
[SIL6DC77].

I can kind of tell when they're just flying by the seat of their pants
[SIL8DC79].

Drawing upon their experiences as SI leaders, their role reinforces

their views of good teaching and effective teaching in three ways. First, SI

leaders emphasize the importance of providing students with real life

examples. One SI leader commented about attending a science course as a

first year student. "The professor would go off on a crazy random aside

and…I used to be like he's wasting my time and this is stupid, and now I

understand how important that is" [SIL2DC83]. Providing students with

real life examples helps them remember [SIL4DC]. Second, SI leaders

recognize that not all students learn the same way. "You have to learn to

work with each student" [SIL4DC105]. Another SI leader put it this way,

"At first, when I was first a SI leader, I really didn't know all the different

varieties of learning styles that there are" [SIL16DC76]. Third, it prompts

some SI leaders to reflect and re-evaluate their previous experiences in their

classes. "The people I used to think were good teachers and that had good

teaching practices, and now that I know the definition of good teaching practices, I'm like, oh, they aren't so good now" [SIL6DC76] As a result, "being a SI leader made me more aware of what to look for as to what effective teaching really is" [SIL11DC52].

The research (Seldin, 1989) consistently points to student ratings of instruction as having a modest correlation with student learning and that means on end-of-course grades correlate, to a degree, with means on end-of-course evaluations. Repeated studies conclude that student ratings of instruction are valid (Aleamoni, 1999). Responses to research question six gave rise to the possibility that there could be an additional factor that might influence mean scores on end-of-course evaluations, thus calling into question the validity of these instruments.

Research Question VII

Research Question VII asked: What are the similarities/differences in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students? The answer to this question has been reported as part of the presentation of findings throughout each of the first four research questions.

Analysis of both students' and SI leaders' responses with respect to the first three research questions resulted in the determination that there is little difference in perceptions. Both groups defined and described teaching

and its activities virtually the same. Both students and SI leaders also defined and described good and bad teaching or good and bad teachers in virtually the same terms. The narratives and quotes presented as part of the analysis for the first three research questions clearly showed the similarities in viewpoint.

Analysis of both students' and SI leaders' responses to the fourth research question resulted in the determination that there is a difference in perception. The viewpoints regarding teaching effectiveness, the topic of research question four, differed as SI leaders identified learning as an outcome measure of effective teaching. Students did not.

With respect to research questions five, six, and eight, data was collected from only the SI leaders.

Research Question VIII

Within the naturalistic paradigm, the researcher is quite embedded in both the processes and outcomes of data acquisition and analysis. Continuous involvement with the data may, at times, bring about new lines of inquiry. The emergent nature of this process, following careful analytic processes, may result in the need to add an additional question in order to more fully capture the outcomes of the investigation. Hence, an eighth research questioned was added to the protocol.

Research question eight asked: How has the role of SI Leader shaped, influenced, or changed the SI Leader's beliefs and behaviors on end-of-course evaluations? One researcher suggested that we should ask students about their mental processes and behaviors right after they have filled out end-of-course evaluations (McKeachie, 1997). While this question prompted a more general view of their behaviors, it also provided insights into several issues that play a part when SI leaders fill out end-of-course evaluations. First, they tell us whether or not their behaviors changed as a result of the SI leader position. Second, they provide us with a pre- and current-employment view of their behaviors by way of anecdotal narratives.

Their realities are of such a nature that to break them apart according to topics or categories, at this stage, would not do justice to their perceptions. Consequently, responses from seven SI leaders are reported in their entirety, followed by analysis and summary. These seem to capture the range and scope of opinions and experiences.

> Umm, I think I'm the same. But I never used to write down comments on how to improve anything. I do now, though. Now, I usually give them, even if they're poor, the lowest I give them is a C, usually. Or whatever the middle is. I don't know. I really don't know why. Whatever the middle is. But I always give comments now, I never used to write comments. Like, you could have done this part so much better if you'd just blah, blah, blah,. Or you could have taught this better if you'd just do this or that or this…[SIL6DC84-87].

> No. They are really two different things that really have not ever come into play. Normally, in looking at a class, it is like, "Well, did this class help me learn?" You just go through the questions and

answer them. Being a SI leader has not made me hold the professors to any higher of a standard, I guess. It is still the same. I do not know if my standard was already high. That is just what I think. If they made it, yes; if they did not, they did not [SIL10DC57-62].

I do not think it has changed it. I have always thought those were very important, and I have always taken the time to fill those out, and I really get annoyed when people just fill in the bubbles and turn it in, especially when that student has been complaining about the professor all semester and then they do not have any comments to write down at the end of the semester. That is not a big part of the overall evaluation of that professor, but it still is a factor and so I have always thought it was really important to fill those out. But, certainly, it has solidified that view. I think it is important, maybe even more so. So I always take that opportunity to critique or praise that instructor, because I really like it when, on my SI survey, even if it's just a "[Blank...] is a great SI leader" or something like that. That is really what makes me feel like I have done a good job even though I could have gotten no praise. But doing a good job, it is nice to know that you have helped somebody enough that they are willing to put that on a piece of paper and put it in writing and let you know. So, I think it is important, where praise is due, to give praise and, where critical analysis of the professor is due, to point out what can be improved [SIL9DC90-102].

It depends. Well, actually, if they give it at the beginning of class and I have enough time to fill it out, yes I am more critical because [of] things like a professor being enthusiastic about the class. I used to just you know, whatever… Umm, because I thought professors really were supposed to, and now I kind of put them to a higher standard. Because I know how they can help or hurt the students by being enthusiastic in class and so I am more strict in giving out the good/high ratings and everything. Right, if I get it at the end of class and I have to be like…I mean I'll go through it pretty fast. I mean, you know, I still do it…but if it's at the beginning of class I'll really [emphasis added] look at it. So, it just depends on when they give it. If they give it at the very end of class you're supposed to be out of there by then, but that doesn't help, especially if they give it out with like 15 minutes before class is supposed to be over. Oh yea, but if I'm supposed to be gone at that point… That's what I'm saying. I'm saying if class is supposed to be out at 12:20 and they give it out at 12:20…I'm not going to sit there and go through it critically. But if I

have the time, if given the time I'm supposed to have, then yes. And I'm more critical now than I was my freshman year when I thought that professors were supposed to be cold hearted and not supposed to talk to you or anything like that [SIL7DC86-98].

Yes. I'm a lot harsher. Before I was like one of those people who never 4, 5, good, great, whatever. And now I'm like now, well this semester I had wonderful professors, but I really actually take the time to like read it because I know that... I used to, like, rate average for everybody and now I'm like, when we do our SI review, like I hate it when I get those people who like never come and they give you like a 3. And I'm, like, you don't even know. That is so frustrating. And I'm like why didn't you just read this and be truthful and so, now I can actually be well like the prof is going to see these results and I don't want to skew them because I don't feel like taking the time to read this and actually think about it. Actually, the other thing is I never put comments before because usually they give you them at the end of class and when you're done, you can leave, and so I was like 3, 3, 3, 3, 3, 3, 3. You know, like I never wrote comments. And now I take an effort to do that just because I get so much out of it when my students do it, and even if it's just to tell them I like their teaching style. At least they'll know. Just because I know how much I appreciate it, so... I think they would [appreciate] the same [SIL8DC89-103].

If anything I might be more lenient because I kind of understand what they're going through, but overall no. Instead of just saying they're a bad teacher, I'm going to rate him bad on everything. I kind of think, oh, maybe they didn't best know how to reach the students. Maybe they were not trying their hardest. Of course, me, I'm a real soft-hearted person. I want to be nice to everybody, but maybe I'm more lenient, if I changed at all [SIL12DC86-90].

I think the biggest thing about becoming a SI leader is realizing what's so hard about teaching and being able to articulate that. Before, you just said, "That professor was awful," but you didn't really know why. So now, even – and this professor that I was speaking about that I thought was so excellent, I didn't make an "A" in his class, but he was excellent. He was an excellent teacher and I learned so much from him. So I gave him an excellent evaluation. In the past, I might have said, "It was a little unfair because I made a B". But I think that was the biggest thing I learned, was how to articulate that,

because I think you don't realize until you actually experience what it's really like [SIL17DC86-87].

Those seven narratives represent the gamut of views and behaviors of the SI leaders interviewed for this study. Their responses bring forth additional insights that go well beyond ascribed views and behaviors that occurred as a result of being a SI leader. Analysis of the perceived impact of their role on end-of-course evaluations resulted in the formation of nine factors.

First, the initial response was either a yes or no. Yet, as they began to explain their behaviors, it became clear that it was not a simple yes or no answer. Yes or no answers were qualified by attitudinal, behavioral, and environmental perceptions and anecdotes. The extemporaneous nature of the response, at times, contradicted the early assertion of yes or no.

Second, the way they rated professors on end-of-course evaluations changed as a result of their role. The degree of change on end-of-course evaluations was identified as being more critical, less critical, or the same. The sense of identification with the professor, while a distinct category, played a crucial role when filling out those end-of-course evaluations.

Third, only one SI leader actually commented that the ratings were a reflection of how much she learned in the class. It's an interesting point in light of the fact that SI leaders link effective teaching to learning. It suggests, coupled with the other factors that these SI leaders consider when

completing end-of-course evaluations, not just what they learned or did not learn in class.

Fourth, SI leaders, given their role, identify with professors as they perceive that they experience similar situations in their sessions as professors in their classes. This sense of identification is taken into account when they receive their own evaluation results. Thus, when they fill out end-of-course evaluations, they are more cognizant of the impact evaluations have with respect to their role and use that experience, understanding, and identification as a measuring stick to rate their own professors.

Fifth, SI leaders seem to have a fairly good understanding of the purpose and utility of end-of-course evaluations. End-of-course evaluations serve as a forum for students to communicate experiences in the classroom, especially in terms of writing comments. Prior to becoming SI leaders, it was noted that they did not usually take time to write comments. Yet, after becoming a SI leader, lack of student comments was a source of frustration as they want comments and feedback on their own evaluations. As a result, their writing of comments on end-of-course evaluations has changed as a result of their role.

Sixth, these narratives provide detailed accounts and anecdotes with respect to their own behaviors when filling out end-of-course evaluations. It shows a sometimes complex thought process taking into account a variety of

issues that inform their decisions as to whether to award a high or low mark. None of the 17 SI leaders gave an identical description of their thought processes and behaviors. But, once again, they indicate that their role impacts their behaviors.

Seventh, these narratives also provide evidence of the behavioral anecdotes of their peers. Based upon comments from their peers, SI leaders perceive their peers as hurrying through the process, not really taking time to rate the professor adequately. It becomes another source of frustration. As a result, they indicated that they engaged in thoughtful evaluations and that their peers do not.

Eight, SI leaders take into considerations the descriptions and definitions of good and bad teaching, and effective and ineffective teaching practices. Further, they might not necessarily using learning the material as the sole criterion; they may use other factors to inform their positions.

Lastly, for one SI leader, the amount of time given for filling out end-of-course evaluations was a factor in rating the professor. If he felt that he had enough time, then he would take time to reflect critically on each question, but if he felt pressed for time, he was then likely to hurry.

Ultimately, there was no general consensus on any of the above mentioned factors. It appears that the SI leaders in this study relied on a

variety of factors that informed their attitudes and subsequent behaviors when completing end-of-course evaluations.

One of the purposes of this study was to determine whether or not SI leaders' views of teaching and teaching effectiveness had been influenced by their quasi-professional positions. Their experiences and observations of day-to-day classroom behaviors were worthy of exploration. If they could attribute their current views to their position, then perhaps their views of teaching and teaching effectiveness should be solicited and included as part of a formal evaluation process.

Traditionally, ratings have looked at mean end-of-course grades as the measure of whether or not students learned the material. Validity studies strongly support that as the best measure. Traditionally, students who earned higher grades rated their instructors favorably (Cashin, 1995); therefore, the assumption is that a relationship between grades and favorable student ratings exist. Theall and Franklin (2001) concurred by stating that conclusions from research support the position that "there should be a relationship between ratings and grades because good teaching leads to learning, which leads to student achievement and satisfaction, and ratings simply reflect this sequence" (p. 51).

If "learning" is the criteria by which effective teaching is most often determined and measured, then it is important to rate not only teachers but

to examine the student's efforts in learning. If a student earned an A in the course and provides a professor with a favorable or positive evaluation, it is important to assess the means by which the student learned the material. What happens to validity if it can be shown that students learned the material but not necessarily as a result of effective or ineffective teaching methods? The implication for professors is that high mean scores on end-of-course evaluations may not be necessarily related to classroom instruction and behaviors. Further, promotion and tenure committees may need to re-think the value of these measures when making personnel decisions.

Using final course grades as a reflection of effective teaching must be considered suspect in light of claims made by other programs that conclude that higher mean grades are due to its intervention. Supplemental Instruction has made that claim.

The National Center for Supplemental Instruction at UMKC (2000) reported that for classes that included SI, the mean final course grades was higher for students who attended SI. Further, the mean final course grade increased as a result of increased attendance at SI sessions. UMKC reported findings from data collected in winter 1996 that 1,590 students attended courses that offered SI. It was reported that 854 students did not attend SI and their mean final course grade was 2.37. For students who attended 8-11 sessions, their mean final course grade was 2.88. The difference between the

two means was statistically significant (p > .01). The implication of this finding suggests that SI positively impacts student learning as measured by end-of-course grade means.

At the same time, comparisons of end of course grade means to student ratings of instruction mean scores in multi-section validity studies have also shown positive correlations. Abrami (2001) reported a .47 correlation coefficient based upon aggregates from 741 correlations coefficients found in forty-three studies. He argued then that student ratings "do reflect how much students learn from instructors, to a moderately positive degree," albeit within an imperfect relationship (p. 65).

Looking at the relationship of effective teaching and Supplemental Instruction together as by-products of learning may yield new information for those who research student ratings of instruction. One cannot help but wonder what type of influence this outside-of-class resource has on teaching effectiveness measures? Does a student who sought outside-of-class assistance rate an instructor as effective even though he or she spent time accessing course material and perhaps learning the material through outside-of- class resources? These questions must be answered to either support or refute the strength of the degree of the relationship that exists between effective teaching and learning.

Further, there may be a difference between those resources put in place by the professor or department. For example, a professor may hold an outside-of-class review session prior to the examination. There are math professors at this university who hold weekly "week-in-review" sessions (termed used by the math department at this university) where the professor and the students "review" material presented in class in preparation for taking an exam. There are also departmentally-sponsored outside-of-class assistance programs. Science classes such as physics, chemistry, and math, for example, provide "help desks" staffed by graduate students; "help desks" are housed in specific locations on campus and are used by students needing additional assistance in these particular subjects.

The SI program at this institution is not affiliated with any academic department and exists as part of the academic assistance center on this campus.   Some departments provide funds to hire SI leaders for the courses in their departments; others do not.   By and large, the SI program operates as an independent entity with support from faculty and administrators in departments that choose to make SI part of their courses.

 How would one evaluate and interpret the professor's impact on learning if a student earned an A in physics, for example, and reported that he or she attended class regularly, sought help by visiting the "help desk", and attended SI on a regular basis?

What happens when a student chooses to go off-campus for help with a particular course? At present there are two off-campus, paid tutoring services in the community. How would the outside-of-class resources where the professor has no role, such as an off-campus paid tutoring service, impact ratings? It is important, then, to assess the impact of these resources not only in terms of learning, but how they impact student ratings of instruction.

At this point, anecdotal evidence supports the necessity to investigate whether or not a relationship exists between class attendance, students' use of outside of class resources, such as SI, and student ratings of instruction. Teaching effectiveness assumes that teachers are measured on some demonstrable and observable characteristics. How can students' adequately rate that which they do not experience or observe if they are not present in class? This researcher supervised one SI leader during fall 2001 through spring 2002 who reported that students were attending SI in lieu of going to class. There was no attendance policy in place at the start of the semester. It was of such concern that halfway through the semester the professor announced in class and posted on the course web page an attendance policy notice. Could results ratings by students who do not attend class on a regular basis be considered suspect in terms of rating teaching effectiveness? If some students chose not to attend class and attend SI instead, one might argue that regular attendance at SI might be a reflection of poor or

ineffective teaching since the students are choosing to attend SI instead of class.

The research on the effectiveness of SI supports the program's claim that regular attendance at SI results in higher mean final grades (Congos & Scheops, 1998). The research also supports the claim that there is also a modest relationship between student learning, as reflected by mean end-of-course grades for a course, and teaching effectiveness (Centra, 1987). There is more research needed with respect to mean end-of-course grades and their relationships to factors identified in this study.

As a SI supervisor I am provided with statistical reports that indicate SI attendance and end-of-course grades for SI leaders that I supervise. As an assistant lecturer at this institution, I am also provided with statistical reports that indicate means and written comments from end-of-course evaluations. A consequence of the intersection of the two roles, and SI leaders' perceptions that their role impacts their views on teaching, to a degree, was the realization that first, their role may also impact their behaviors on end-of-course evaluations, and second, that claims of validity with respect to mean end-of-course grades may require further scrutiny.

The study examined two major issues. The first half of the study looked at students' and SI leaders' perceptions of teaching, its activities, and faculty teaching effectiveness. The second half of the study focused on the

role of a SI leader, session activities, the relationship between the SI leader
and professor, and whether or not they believe that their role impacted,
changed or altered their views on teaching and end-of-course evaluations.
What follows are the findings as related to those issues.

Findings

Research Question I: How do students and SI leaders define teaching?

1. Both SI leaders and students define teaching in a similar fashion and
   seem to hold similar beliefs. Both state that learning is an outcome of
   teaching. The SI leaders take it one step further by linking the
   learning process to the goals of teaching.

2. Real world or real life applications in teaching are identified as
   essential component of learning for both students and SI leaders.
   Both students and SI leaders desire a connection between an abstract
   concept and a concrete real life example. Rather than reading from
   books, they want their professors to take the information presented in
   the text and relate it to something that they can understand. The SI
   leaders, in particular, understand the importance of real life
   application and provide SI attendees with such examples.

*Research Question II: How do students and SI leaders describe the activities
that make up teaching?*

1. SI leaders and students identified a variety of teaching activities. Lecture is perhaps the most pervasive method of instruction that both groups experience. Using visual aids, engaging students in discussion, and providing students with opportunities to practice concepts garnered the most nominations by SI leaders.

2. When SI leaders speak of the activities that are used in SI sessions, many identified in this research question are again found in research question five. Discussion and practice are described as teaching activities; they are also described as SI session activities. The activities that both students and SI leaders described are activities that are not always employed in large lecture classes, but are used extensively in SI sessions.

Research Question III: How do students and SI leaders describe good teaching, and how do they describe bad teaching? Alternatively, how do students and SI leaders describe a good teacher or a bad teacher?

1. Good teaching and bad teaching are defined as both instructional and relational processes. Bad teaching is seen as the opposite of good teaching.

2. SI leaders nominated more characteristics of both good and bad teaching than did students, but overall their views of good and bad teaching did not differ significantly from students.

3. Both the relational and instructional aspects of teaching mirror closely the views held by SI leaders with respect to their role as identified in research question five. SI leaders indicate that they are advocates for students and want to create an environment where students can be successful. They also have a strong desire to help students learn the material. Good teachers exhibit similar characteristics of good SI leaders.

Research Question IV: How do students and SI leaders define and describe faculty teaching effectiveness?

1. Applying concepts to real world and real life, presenting concepts on the student's level, engaging students in discussions, recognizing and teaching using a variety of learning styles, and student learning are characteristics of teaching effectiveness. Giving incomplete explanations, not caring about students, failing to identify with the students, and forgetting why the professor is in the classroom are characteristics of teaching ineffectiveness.

2. Good teaching is effective; bad teaching is ineffective. Ineffective teaching practices are defined as opposite of effective teaching practices, especially with respect to learning. Side-by-side comparisons of nominations of good teaching with effective teaching practices and bad teaching with ineffective teaching practices yield

similar definitions and descriptions, with one major exception. Learning or failure to learn is reported as an outcome measure with respect to effective or ineffective teaching practices. The SI leaders, but not the students, made this distinction.

3. Relationships between good/bad teaching and effective/ineffective teaching practices are identified by both groups. Sometimes the relationship is viewed as a one-to-one relationship. Sometimes the relationship is qualified. The degree of impact of one upon the other is also at odds. The student's ability and willingness to learn the material, once again, is what separates effective teaching practices from ineffective teaching practices. Ideally, it is better to have both good teachers and effective teaching practices. It is acceptable to have a bad teacher who may have, for example, a poor teaching style such as monotone voice and who might be unorganized, but who does a good job explaining the material and relating it to real world examples if the student learns nonetheless. SI leaders also made that latter distinction.

Research Question V: How do students view their role as SI leaders?

1. SI leaders, though quite familiar with the theory of SI and its implication within the model, abandon their role as a "facilitator" from time-to-time. Instead of just facilitating a session, they say that they

are teaching during the session. This happens when they are fearful that the students may not learn the material. Deviation from the traditional role is warranted in their view, especially in situations where they deem students incapable of learning the material within the traditional framework.

2. Another issue related with respect to facilitating is the distinction between facilitating and teaching. There seems to be a fine line between the two, as activities that take place in SI also take place in the classroom. Developing discussion topics, worksheets, practice problems, and redelivering course content are activities consistent with teaching (see McKeachie [1994] for reference to activities that can be considered both teaching and facilitating).

3. SI leaders identify three aspects of their role: to act as advocates, to help students learn the material, and to create an environment of success. All three are consistent with the goals of SI. At the same time, these can be overshadowed if these aspects compete with the SI leader's perceptions of the student's perceived inability to learn the material. When that happens, the SI leaders will forgo the model and teach.

4. The purpose of SI, like teaching, is to help students learn the material. SI leaders, like professors, are knowledgeable about the

subject as they have previously taken the course. The peer nature of the SI program provides those who attend with a student perspective of how to learn the material. The process of learning the material through SI is by actively engaging the student. SI leaders are there to help students learn the material. As both a student and a SI leader, there is a sense of identification with other students. When they sense that the student is having difficulty understanding or applying concepts, they step in and teach.

5. SI leaders feel quite strongly about their position and the responsibilities that it entails. As students themselves, they empathize with the students who attend their sessions. The feelings of identification and empathy play heavily into their belief that they want students to learn.

6. As the "model" student, SI leaders can take their experiences as a student and combine it with learning strategies promoted in the SI model. The intersection of the two provides students opportunities to mimic appropriate "modeled" classroom behaviors and learn and adapt skills that will aid them in the learning process.

7. SI leaders nominate a variety of facilitative and teaching activities they use in their sessions. They indicate that they are willing to adapt and change those activities based on the needs of the students who

attend their sessions. They further note that students retain more as a result of the use of varied activities. The nomination of session activities correlates with nominations of teaching activities.

Research Question VI: How has the role of an SI leader shaped, influenced, or changed the SI leader's views on teaching?

1. SI leaders view themselves as liaisons between the students and the professor. When they visit with the professor, they often speak of issues that have arisen in their sessions.

2. The nature of the relationship between SI leader and professor is pivotal and determines how much information the SI leader shares. The SI leaders who have developed a relationship with the professor seem more open and willing to voice concerns, when warranted. By and large, however, SI leaders do not believe that it is their place to provide feedback regarding teaching. From the SI leader's perspective, however, only a handful of professors solicited feedback from them regarding their teaching practices.

3. While most said that they are comfortable discussing issues that arise in their sessions, they are hesitant to approach the professor about negative observations of what happens in class. They feel it is not their place to comment on issues of content delivery or the professor's behavior in class, for example, even when they feel that those

contribute to students' inability to learn and understand course content.

4. SI leaders overwhelmingly feel that their perceptions of teaching and faculty teaching effectiveness have been impacted as a result of their role. They are more empathetic. They also identify with the professor as they perceive that they experience situations in their sessions that are similar to what professors' experience in class. Further, they also perceive that they are better able to point out effective and ineffective teaching practices. It also brings home to them the importance of both the instructional and relational aspects of good teaching and effective teaching practices.

5. SI leaders state rather unequivocally that their perceptions of teaching, its activities and faculty teaching effectiveness have absolutely changed as a result of their SI leader roles. Their roles place them in situations similar to that of their professors and bring about feelings of empathy and a sense of identification, which has both positive and negative consequences. It impacts the facilitation aspect of the model and their behaviors on end-of-course evaluations.

Research Question VII: What are the differences/similarities in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students?

1. There is virtually no difference in perceptions between students and
   SI leaders with respect to defining and describing teaching, its
   practices, and what constitutes good or bad teaching or a good or bad
   teacher.

2. SI leaders identified that learning is an outcome measure of teaching
   effectiveness. Students, on the other hand, did not.

*Research Question VIII: How has the role of SI Leader shaped, influenced, or
changed the SI Leader's beliefs and behaviors on end-of-course evaluations?*

1. A number of SI leaders noted that their behavior, when completing
   end-of-course evaluations, has changed as a result of their role. The
   research supports a small relationship between learning and student
   ratings on end-of-course evaluations.

2. These SI leaders point to a variety of factors that they take into
   account when completing those end-of-course evaluations. The degree
   of change prior to becoming and after becoming a SI leader is
   verbalized by way of anecdotes that reflect both behaviors and thought
   processes.

   In summary, students and SI leaders conceptualize teaching, its
activities and faculty teaching effectiveness in virtually the same way. What
distinguishes the SI leaders from students is their perception that learning

is tied to teaching effectiveness. The notion that the two are tied was not made by the students.

The original purpose was to determine and document differences in perceptions between the two groups. If difference in perceptions could be found, then perhaps it was due to the SI leader's role and could pave the way for including SI leaders in a larger, more comprehensive teaching evaluation process.

The emergent design of naturalistic inquiry provided two new areas of investigation. First, it was not the difference in viewpoints between SI leaders and students that was central. Rather, it was the similarities in viewpoint, coupled with the SI leaders' assertions that their role impacts those views that may have resulted in SI leader's teaching during their SI sessions, rather than facilitating. Second, SI leaders also indicated that their role impacts their behaviors on end-of-course evaluations.

Chapter V consists of a summary of these findings, conclusions, discussion of the implications with respect to policy and practice, and concludes with recommendations for future research.

CHAPTER V

SUMMARY OF FINDINGS AND CONCLUSIONS,
RECOMMENDATIONS FOR POLICY, IMPLICATIONS FOR PRACTICE,
AND RECOMMENDATIONS FOR FUTURE RESEARCH

This chapter provides a brief summary of both the purpose and findings of this study. Conclusions, based upon the results of the research, are presented. A discussion of the implications for policy and practice are also addressed. Recommendations for policy and future research are also listed.

The purpose of this study was to identify whether or not the role of the SI leader impacted their views on teaching, teaching practices and faculty teaching effectiveness. In order to make a determination of impact, their views were compared to views of other students. Consequently, if it could be shown that SI leaders' views differed from students' views, then perhaps their views should be solicited as part of a comprehensive faculty evaluation system. Thus, the following research questions addressed that issue.

Research question seven asked: What are the differences/similarities in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students? Below is a summary of findings and brief discussions for research questions one through six and eight. As previously mentioned, research question seven was addressed as part of research questions one through four.

Summary of Findings

Research Question I

How do students and SI leaders define teaching? Both SI leaders' and students' defined teaching as a three-fold process. First, teaching involves a transfer of knowledge from one who knows, the professor, to someone who does not, the student. Second, in order for students to be able to learn and understand the material, the course content must be presented using real life or real world examples. Third, the goal of teaching should be student learning.

Neither the students nor the SI leaders were provided with any operational definitions with respect to teaching and how it is defined in the literature. The definitions provided by the students and SI leaders were based upon their own constructions. While students may not come into a class with an understanding of course content, they do come into class with expectations that they will learn the content as a result of instruction.

Real world or real life applications in teaching are essential components of instruction for both students and SI leaders. Both students and SI leaders desire a connection between an abstract concept and a concrete real life example. Rather than reading from books, they want professors to take the information presented in the text and relate it to something that they can understand. The purpose of SI is to assist students

with ways to help them learn course content. The SI leaders, in particular, understand the importance of real life application and provide SI attendees with opportunities to explore such examples in their own SI sessions.

Research Question II

How do students and SI leaders describe the activities that make up teaching? SI leaders and students noted that many activities make up teaching. These activities fell within three categories: process or teaching measures, application of knowledge, and outcome measures.

While they identified 11 different types of teaching methods, lecture was identified as the most pervasive method of instruction that both groups experience. Interestingly, using visual aids, engaging students in discussion, and providing students with opportunities to practice concepts garnered the most nominations by SI leaders.

Once again, the notion that knowledge should be applied to real life or real world examples surfaced again as an activity. Application of knowledge, according to both students and SI leaders can be accomplished through use of discussion and visual aids.

Last, varying the teaching methods, for students and SI leaders, aids in learning and understanding. Lecture, for example, is a one-way process where students sit and listen passively. It does not afford students the opportunity to be actively engaged.

Both students and SI leaders nominated a wide variety of teaching activities without aid of any operational definitions. There were no differences in viewpoint. It is an important finding given that SI leaders lead a double life as both a student and quasi-professional who help other students learn.

When SI leaders speak of the activities that are used in SI sessions, many identified in this research question are once again found in research question five. Discussion and practice are described as teaching activities; they are also described as SI session activities. The activities that both students and SI leaders described are activities that are not always employed in large lecture classes, but are used extensively in SI sessions. These activities are supported and encouraged in the SI model. If these activities could be found in both class and SI sessions, it is then necessary to provide even more extensive training for SI leaders with respect to pedagogy.

Research Question III

How do students and SI leaders describe good teaching, and how do they describe bad teaching? Alternatively, how do students and SI leaders describe a good teacher or bad teacher? Students, for the most part, agree with SI leaders on what they consider good teaching and bad teaching. Both identify that good professors have some instructional and relational methods. As purveyors of knowledge, it is expected that the professor will

set the tone and atmosphere. Neither group particularly identified their own behaviors as a necessary component of teaching nor linked them with good or bad teaching.

It is important to go back to the literature and take note of Centra's (1996) comment that some teachers are good or bad, but are defined as such by particular students. At the same time, the students' and SI leaders' nominations mirror those found in Feldman's (1988) research.

Armed with definite opinions of "good" and "bad" teaching provides SI leaders with reasons to abandon the model. If they are sitting in a class and observe characteristics that they deem "bad", then perhaps they are likely to counter those "bad" characteristics in their own SI sessions. The SI leaders in this study stated unequivocally that if they feel that students did not understand a particular concept due to poor instruction, they will attempt to re-teach it. As part of SI leader training, both SI leaders and the professors need to devise a plan for communicating SI leader's observations of what happens in the class especially with respect to concepts that SI attendees are having difficulty grasping. It is imperative that the professor be given the opportunity to decide whether or not to re-teach content.

Research Question IV

How do students and SI leaders define and describe faculty teaching
effectiveness? Learning is viewed as an outcome of effective teaching. If
students walk away from the class and feels as though they had learned,
they would then identify that professor as effective. The research supports
that conclusion. Students, in this study, did not pick up on learning as an
outcome measure of teaching effectiveness. The SI model, in which the SI
leaders are quite versed, is designed to facilitate learning. The interplay
between their role and the model leads to a more sophisticated
understanding that learning is an outcome of teaching effectiveness. As a
result of that belief, SI leaders are more likely to teach instead of facilitate
when they perceive teachers as ineffective, and less so when they view a
teacher as bad, but effective.

The SI model has yet to address a central issue: SI leaders are
providing instruction, adapting instructional activities when needed, and
taking it upon themselves to instruct students when they deem the
instructor ineffective. Consequently, this reality becomes more about a
particular professor rather than a commentary about the historical nature of
a difficult course. The fact that a SI leader may deem the faculty member
ineffective translates into moving beyond the role of facilitator.

Research Question V

How do students view their role as an SI leader? SI leaders want students who attend their sessions to learn the material; it is their goal for students. They also identify learning as a goal of teaching. The intersection between the goals of learning, with respect to both teaching and SI conflict, at times. It is, after all, *supplemental instruction*. When they perceive that the student has not learned the material due to poor instruction, they feel responsible and feel that they have to step in and teach. This level of awareness also manifests itself through criticisms of the professor and his or her teaching style. They know what works well in terms of activities in their SI sessions. When they feel that a certain activity does not work well, they change the activity. They view this change as an attempt to meet the needs of their students.

This research question has only scratched the surface of the issue as to how SI leaders perceive their role. In this instance, interviews provided only half of the picture. Ongoing observations, along with interviews, will aid in completing the picture. At the same time, the SI model needs to address, once again, the issue of instruction within SI sessions. To argue that SI leaders are not providing instruction does a disservice to the nature of the SI session.

Research Question VI

How had the role of an SI leader shaped, influenced, or changed the SI leader's views on teaching? SI leaders state rather unequivocally that their perceptions of teaching, its activities and faculty teaching effectiveness have absolutely changed as a result of their SI leader roles. Their roles place them in situations similar to that of their professors and bring about feelings of empathy and a sense of identification, which has both positive and negative consequences. It impacts the facilitation aspect of the model and their behaviors on end-of-course evaluations.

SI leaders who have a stronger relationship with the professor are more likely to provide comments and concerns to the professor about student progress in SI sessions. Generally, they do not feel that providing feedback about what they observe in class is part of their responsibility. As both students and SI leaders, they are rather astute and know when students do not understand a concept. A consequence, however, is that a lack of communication forces them to take on more responsibility in their sessions and they end up teaching or re-teaching the material. As liaisons between the faculty and students they have an excellent opportunity to provide feedback, but many chose not to or chose to handle it by teaching the concepts themselves.

The SI model forces SI leaders into a rather precarious position. The model must re-evaluate the role of the professor and the relationship between the professor and the SI leader. As once again, when the SI leader perceives that a professor is ineffective, they forgo the model. The professor, rather than being on the periphery, should play a more significant role within the SI model. The SI model identifies the professor as a key player, but in reality has little to no effect when he or she is not consulted by SI leaders or vice versa. In the context of SI in a given semester, for a given course, the historical nature of SI is secondary to the everyday reality of having SI in a particular course, taught by a particular professor.

Research Question VII

What are the differences/similarities in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students? There was virtually no difference in viewpoints between students and SI leaders with respect to defining teaching, describing its activities, and describing good and bad teaching or good or bad professors. SI leaders, unlike students, did identify that learning is an outcome of effective teaching.

The quasi-professional role of the SI leader does place them in a position of facilitating learning for their peers. Yet, they themselves are students. The duality of their experiences as both students and as SI leaders

impacts how the view their role as SI leaders and their own behavior on end-of-course evaluations.

Research Question VIII

Has your role as an SI leader shaped, influenced, or changed your behavior when filling out end-of-course evaluations? There are a number of factors taken into consideration when SI leaders complete end-of-course evaluations. Those ratings do not necessarily reflect the amount of learning that took place. Rather, they may reflect the SI leader's sense of identification and empathy with the professor. They may also reflect a new view of what it means to be good, bad, effective, or ineffective based on their quasi-professional positions and familiarity with the SI model.

If SI leaders are taking on greater responsibility and teaching, instead of facilitating, students who attend SI on a regular basis, then it is likely that these students will have higher mean end-of-course grades based on SI theory and research. At the same time, teachers who are seen as more effective generally have higher means on end-of-course evaluations. The claims of validity with respect to effective teaching and repeated attendance at SI, both of which claim to correlate with higher means on end-of-course grades is suspect, at best.

Conclusions

When evaluating the responses of both students and SI leaders it was important to look at them simultaneously and within the context of the larger picture, rather than just at the individual research question level. While conclusions can be drawn with respect to each individual research question, each question is part and parcel of a much larger and broader conclusion. It is much more difficult to draw conclusions on research questions that are not mutually exclusive, but the constructivist nature of this study and the constructivist nature of the questions themselves, demands a more holistic evaluation.

With respect to research questions one (How do students and SI leaders define teaching?), two (How do students and SI leaders describe the activities that make up teaching?), and three (How do students and SI leaders describe good teaching, and how do they describe bad teaching?), this researcher concluded that in terms of defining teaching, its activities, and what constitutes good bad teaching or a good or bad teacher, that students and SI leaders provided definitions and descriptions similar to those found in the literature (Feldman, 1988; Macdonald, 1987; Pascarella & Terenzini, 1991; Speed-Chabot & Bell, 1999; Wotruba & Wright, 1975). At the same time, it was also possible to conclude that SI leaders, armed with the same basic understanding of what constitutes teaching, its activities, and clear

opinions about good and bad teaching, moved beyond the role and scope in their SI sessions as a result. The sense of identification with their peers, in fact, leads SI leaders to move beyond the role and scope of their position. It would seem that the role and scope of the SI leader needs more clarification and the SI model needs to be expanded as a result.

With respect to research question four (How do students and SI leaders define and describe faculty teaching effectiveness?), this researcher concludes that when SI leaders deem a professor ineffective, they moved beyond the role and scope and taught, rather than facilitated, their SI sessions. SI leaders attempted to make up for instructional deficiencies in their SI sessions. The SI model does not provide a remedy for such occurrences, other than to simply reinforce the SI model. Failure on the part of SI leaders to follow the model can be a result of poor supervision and/or failure to reinforce the model. At the same time, the SI model needs to reconsider the professor's role as well as the SI leader's role.

With respect to research question five (How do students view their role as an SI leader?), this researcher concludes that the SI leaders in this study are quite well versed in the model and have a clear understanding of their role. Their descriptions of the role and activities mirror closely those found in the literature (Congos & Scheops, 1998; Congos & Stout, 2001; Martin, Arendale, & Associates, 1993). It impossible to conclude that only

poor training or supervision led SI leaders to abandon the model, but rather there seems to be a case that it was their identification and empathy for students and their perception that a faculty member was ineffective that led them to abandon the model.

With respect to research question six (How has the role of an SI leader shaped, influenced, or changed the SI leader's views on teaching?), this researcher concludes that the nature of the relationship between the SI leader and the course faculty member also played a role when SI leaders abandoned the model. When the SI leader had a poor relationship with the professor and deemed the professor ineffective, the SI leader was more likely to abandon the model. While the model proposes a relationship, it leaves the level and amount of involvement to the faculty member unspecified (Martin, Arendale, and Associates, 1993). The model does not provide a remedy for SI leaders, who deem their professors ineffective and who have a limited relationship with the professor.

With respect to research question seven (What are the differences/similarities in perceptions of teaching, teaching practices, and teaching effectiveness of SI leaders and other students?), this researcher concludes that are virtually no differences in perceptions between the two groups with respect to the definition of teaching, its activities and practices.

With respect to teaching effectiveness, the SI leaders identified learning as an outcome measure; students did not.

With respect to research question eight (Has your role as an SI leader shaped, influenced, or changed your behavior when filling out end-of-course evaluations?), this researcher concludes that more research needs to be gathered on the validity of end-of-course evaluations and the impact of SI and other outside-of-class help sessions on mean end-of-course grades. The SI leaders reported that they were more likely to abandon the model when they deemed a professor ineffective. It is not possible from the data gathered to tell whether or not that impacted end-of-course evaluations.

The conclusions above lead into a much larger and broader conclusion. Ultimately, students have clear and definite opinions and beliefs about teaching and its activities. Based upon years of experience as students, they feel that they are able to distinguish good teaching from bad teaching and to gauge whether or not what they observe in the classroom is effective. As professional teachers and staff, we welcome and solicit feedback by asking students to reflect on those perceptions on end-of-course evaluations. Faculty and those who research student ratings of instruction have definite opinions and beliefs about the utility and validity of these instruments. To date, no consensus has been reached on what constitutes effective teaching as it has been virtually impossible to define the concept adequately. Suffice

it to say, multiple dimensions of teaching are identified. There are serious reservations, however, about students' abilities to rate certain dimensions of instruction. It has been argued that students do not have the requisite knowledge needed to make judgments on certain aspects of instruction, such as subject matter knowledge. Throughout the late 1980s and 1990s there has been a movement to create a more comprehensive faculty evaluation system, drawing evaluations and feedback from a variety of individuals.

SI leaders are quasi-professionals who assist students enrolled in courses that are historically defined as difficult due to high D, W, and F grades. The students have taken a course for which they are hired, and have done well in the course. Like students, they observe the classroom on a daily basis. Their views on teaching and faculty teaching effectiveness are worth exploring in light of their role as SI leaders. Further, comparing their views to students' view is equally worth exploring. It was important to determine whether or not SI leaders' views differed from students in order to support the premise that SI leaders, as quasi-professionals, should play a role in a comprehensive evaluation system?

A secondary purpose arose as part of the emergent nature of this study. This issue of evaluation, specifically with respect to end-of-course evaluations surfaced as a result of SI leaders' perceptions that their role impacts their views of teaching and behaviors on end-of-course evaluations.

How is validity on those instruments potentially impacted by the SI leader's role?

Lastly, questions as to the issue of instruction within SI have also arisen due to the emergent nature of this study. Basically, SI is in reality another term for of instruction or teaching. Teaching, in this case, is carried out by students hired as quasi-professionals.

Recommendations for Policy

Revise the SI model

There seems to be an alignment issue with respect to the role of the SI leader and the purpose of SI. According to Congos and Scheops (1998), the SI model focuses on the acquisition of skills and its application to the course content. The SI leader's role is to help the students apply effective learning strategies to the course content. The SI leaders in this study indicated that they did that, but admitted that they go further and end up teaching too.

SI leaders are hired using a number of criteria such as having earned an A or B in the course, having at least a 3.0 cumulative GPA, and having mastered the subject matter including using correct terminology (Congos & Stout, 2001). What seems to be missing in their list is mastery of learning strategies and skills. I dare say that just because a student has performed well, it does not necessarily mean that it was as a result of using good, sound, and effective learning strategies. During the interview process,

potential SI leaders should be asked to provide examples of their notes and other study aids that they developed when taking the course. SI leaders are expected to use a variety of techniques in their sessions. It is important to ascertain whether they use a variety of techniques when learning the material themselves? If an SI leader never created or used an incomplete outline, for example, when studying for the class, is it likely that the SI leader will be able to use it in the SI session? Can SI leaders be expected to use Socratic dialogue effectively if they have never been exposed to it prior to training? The answer to those questions is maybe, perhaps and hopefully eventually. Until the SI leader is comfortable using a variety of strategies, he or she is likely to forgo the model. Two days of training prior to the semester is not adequate in terms of addressing the acquisition of learning skills and weekly meetings with the SI supervisor is not enough to ensure that the SI leaders are following the model. Observations, while certainly helpful, are so infrequent that it is not possible to prohibit SI leaders from teaching. SI leaders are going to teach and they teach for reasons that the SI model does not yet address.

As a result, the need to revise the SI model clearly becomes more than a just a supervisory issue; it's a conceptual issue that needs to addressed. We expect the SI leaders act as the model student, yet we hire students who

may or may not be able to model effective learning strategies and fall back on teaching or re-lecturing course content in their sessions.

The SI model does little to promote the relationship between the SI leader and the professor and that is another conceptual issue that needs to be addressed.

Redefine the Role of the Professor

Rather than using SI leaders as part of a large scale comprehensive evaluation system, the relationship between SI leader and professor needs to be redefined and fostered by SI program administrators. SI programs should mandate that professors attend training, just like their SI leaders. The professors should be given a co-supervisory role as they are the only individuals who observe whether or not the SI leader is attending class, taking notes, and acting as the model students on a day-to-day basis. Input from faculty in terms of SI leaders' job performance would be invaluable.

While the SI model focuses on the historical nature of SI as justification for having SI in a particular course, ultimately, the course is under the direction of a particular professor. By bringing the professor into the administrative and supervisory role, both the program and the students who attend SI will benefit.

Examine SI Retention Statistics and Their Impact on End-of-Course

Evaluations

One of the major tenents of SI is that it aids in retention (National Center for Supplemental Instruction, 2000). By examining mean end-of-course grades and SI attendance, it is clear that students who attend SI on a regular basis do better overall in the course. Mean end-of-course grades are used to determine teaching effectiveness. The use of mean end-of-course grades is the primary measure that both camps use. It is not the issue of retention that is critical, but use of end-of-course grade as the primary measure.

A major finding in this study suggests that SI leaders do not differ in their views from the views of their peers with respect to teaching and its activities. Generally, both groups identified similar characteristics, aspects, and behaviors. They also agreed on what constitutes good teaching and bad teaching. Where they seemed to part ways was in their views regarding learning as an outcome measure of faculty teaching effectiveness. This belief was reinforced by their positions as SI leaders.

The manifestation of that belief brought about two major results, the second of which is how it impacted beliefs and behaviors on end-of-course evaluations. The following is an important consideration that must be addressed with respect to the validity of student ratings of instruction,

especially in light of SI leaders' claim that their behaviors on these end-of-course evaluations have been impacted by their role. Mean end-of-course grades are correlated to teaching effectiveness and to regular attendance at SI. It is important to ascertain whether or not attendance at outside-of-class resources, such as SI, impacts student ratings of instruction. Questions regarding attendance at outside of class sessions, in class attendance, and perceived level of impact of those outside-of-class resources on learning, should be included on end-of-course evaluations.

Retention is a major focus at this institution. It is imperative that university administrators identify all the factors that lead to higher retention. SI is a retention program that has a direct impact on student performance and it is necessary to further examine that impact in light of the teaching effectiveness argument.

Take the Schizophrenia of Instruction out of SI

The program itself needs to admit that SI is indeed another form of instruction. This in no way implies that it is the primary form of instruction, but that what happens in SI sessions is actually instruction or teaching. The SI leaders teach. They admit that they teach. To deny the fact is to do a great disservice to the program. The central argument has always been that SI leaders are not content experts, so therefore what they should do is facilitate. It is the position of this researcher that in the larger picture, the

fact that the SI leader is not a content expert is a relatively minor point. In fact, the SI leaders agree with that point. The larger and more central issue is that supplemental instruction is another form of instruction, plain and simple. SI leaders engage in activities that are defined as teaching. The quasi-professional role and the sense of identification with the professors and with their peers placed them, at times, in a position of teaching rather than just facilitating.

As a result, the SI program needs to find a better way to bridge classroom instruction and supplemental instruction so that students attending both derive maximum benefit. Supplemental instruction is no longer supplemental, but rather integral to the process of instruction and subsequently learning.

Implications for Practice

The SI Model Needs to Rethink the SI Leader and Professor Relationship

SI leaders' voices do, indeed, need to be heard, but mainly by the professors for whom they serve as an SI leader. Their role within a comprehensive evaluation system would benefit the professor in terms of formative, on-going assessments throughout the span of a semester. The professors need to be made aware of what these SI leaders observe not only in class, but what issues surface in their sessions, concurrent to offering the course.

The nature of the relationship between the SI leaders and professors varied widely. Some SI leaders reported that they had good relationships with their professors, whereas others reported that they had virtually no contact at all. Regardless of the nature of the relationship, SI leaders sometimes took matters into their own hands and taught the material. While certainly more knowledgeable about the content than their peers, as they have previously taken the course for which they serve as SI leaders, they are not considered by professors in the model to be content experts. The professors are the content experts. When they decided or felt that students did not understand certain concepts, they decided to take matters into their own hands and taught rather than facilitated. They admitted that they went beyond the role and scope of their positions. Is moving beyond the traditional model of facilitating necessarily a step in the wrong direction? Perhaps, it might be worthwhile to re-think the idea of facilitating, and look at SI as another form of actual, real instruction and teaching, or at least, tutoring and practice.

Some stated that they did not feel it was their place to talk about what happens in class with the professor. Others stated that they talked with the professor. One SI leader felt that her comments to the professor resulted in changes in the course. The nature of the relationship determined the level and type of communication. Providing feedback to professors is

crucial. It gives the professor an idea of which concepts students find easy and concepts with which some students struggle. Subsequently, the professor has a choice of whether or not to address concerns in class.

SI leaders are encouraged to establish relationships with the professors, but that is merely a request. SI leaders are encouraged to take the lead and seek out the professor, send emails, and leave messages. The burden of establishing a relationship is placed upon the student. However, the professor's willingness to meet with their SI leader or level of involvement cannot be guaranteed. That is left to the discretion of the professor.

The SI model is quite explicit as to the role of the key players within the program. It does not go quite far enough with respect to the relationship between the SI leader and professor, which directly impacts learning.

Involve the Faculty Member

It was found in this study that SI leaders do not always have a strong relationship with the professor. SI program administrators should communicate to both SI leaders and professors the importance of building and maintaining a relationship. Involving the professors in the process, from hiring, to training, to co-supervising, may result in stronger working relationships. It would also have a positive impact on collaboration around diagnosing student weaknesses. The more comfortable the SI leader is with

the professor, the more likely the leader will be to communicate issues to the professor. As a result, the SI leader may be less like to take matters into their own hands and would follow the facilitation model rather than teach.

The goal of SI is to help students learn how to learn within the framework of what to learn. The professors, as the content experts, should be told when students are having difficulty. It is beyond the scope of the SI leader's role to teach. That is the professor's responsibility.

Recommendations for Future Research

SI leaders and students voiced their opinions about aspects of teaching, its activities, and faculty teaching effectiveness. SI leaders commented on their role, relationships with their professors, and the impact of their role on views of teaching and behaviors on end-of-course evaluations. It would also be worthwhile to explore the perceptions of the professors of the SI leaders interviewed for this study. It would be interesting to see how they perceive both questions on teaching and teaching effectiveness, as well as how they perceive their relationships with SI leaders.

It would also be worthwhile to interview SI attendees about specific aspects that SI leaders address in their sessions that professors do not address in class or vice versa. Similarities and differences can be explored. Students could be asked to comment as to which they deem more effective, classroom instruction or SI.

It is important to examine the relationship between student learning and the impact of Supplemental Instruction. This can be accomplished by keeping track of class attendance rates in a course for which there is SI, SI attendance rates, end-of-course grades, and results of student ratings. It is important to assess the student's perception of how they learned the material. Additional questions on end-of-course evaluations could be added. Students could be asked if they attended an outside-of-class help session, such as SI. They could also be asked to quantify the impact of classroom instruction and the impact attending SI on their learning. If they felt like they learned, was it as a result of what happened in the classroom or was it as a result of attending SI or a mixture of both?

A new study involving Marshall's (1994) outline for faculty development should be undertaken at this university. In the Marshall study, faculty and SI leaders were brought together on weekly basis. The purpose of these joint meetings was to improve faculty teaching effectiveness, but it would also help students learn course content. Revisiting this research project at the subject institution should provide all three key players with new resources and skills that will aid in student success, and ultimately in retention.

Lastly, it would worthwhile to take the research questions asked in this study, and conduct a nationwide study. A nationwide study would

potentially identify common attitudes, thoughts, and behaviors. It would

potentially identify characteristics not found only at the subject instutition.

Another study worth undertaking would be to hire students who have

exhibited throughout their college career the use of effective learning

strategies, who have used a variety of learning strategies in their own

courses, and hire that student to act as an SI leader for any course that had

an opening. In other words, they would not have had to take and made an A

in the course in order to be the SI leader for the course. It would be

interesting to see whether or not they would end up teaching or if they would

focus more on the acquisition of skills given their lack of familiarity with

course content and what type of relationship with the professor would

develop as a result.

In conclusion, the success of SI, in terms of assisting students in

traditionally difficult classes, is well documented in the literature (UMKC,

2001). SI positively impacts student performance; it works with students

with a variety of academic abilities and learning styles; it acts as an agent in

retaining students at the institution; and it has positive impact on

graduation rates (UMCK, 2001). SI has been instrumental in assisting

students and in doing so the SI program fulfills its retention mission.

Further, the SI program crosses many disciplines and promotes a

program where students can and do attain academic success. It has

positively impacted students and SI leaders, alike, who dream of graduating

from this institution. The issue of retention at universities nationwide is at

the forefront of many institutional missions. University administrators

should seek out sound retention initiatives, such as SI.

At the same time, the SI program should implement initiatives that

assist SI leaders with developing the skills that are currently used in the

session, given that SI leaders teach. As supervisors and program

coordinators, we should instruct our SI leaders in pedagogy, test

construction, and assessment of student learning. Teaming up with centers

that focus on university teaching would also prove beneficial to the three key

players in the SI program.

It is time to expand and redefine the SI model to truly reflect the

impact it has on learning and ultimately retention.

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APPENDIX A

Informed Consent and Audio Release

Federal regulations require that informed consent be obtained from individuals participating in research. The following is provided to meet that requirement. I understand that I have been invited to participate in the research study entitled *"Perceptions of Teaching, Teaching Practices and Effectiveness of Supplemental Instruction Leaders and Selected Students at a Research I Institution",* by Kathleen D. Speed. I have been informed that the study is being performed in cooperation with the Department of Educational Administration and Human Resource Development and under the guidance of Dr.'s Carol L. Patitu, Associate Professor of Educational Administration and Yvonna S. Lincoln, Professor of Educational Administration.

The purposes of this study are:

1. To investigate student perspectives regarding teaching, teaching practices and effectiveness, and the role of the faculty.
2. To investigate SI leaders' perspectives regarding teaching, teaching practices and effectiveness, and the role of the faculty.
3. To investigate whether the student's role as an SI leader shaped, influenced, changed their views on teaching.

I understand that:

1. The study will be conducted during Summer/Fall 2002.
2. At least 40-50 interviews will be held and will take approximately 30 – 45 minutes each.
3. I can ask a question at any time. I can refuse to answer any question that makes me uncomfortable without penalty.
4. My participation is voluntary and I can stop answering the questions and withdraw at any time.
5. The anonymity of the participants is critical to the success of the study and, consequently special steps have been taken to assure that anonymity is guarded throughout the study.
6. Only individuals directly involved in the research project will review the responses of the participants.
7. I voluntarily agree to be **audio-taped** during the experiment being conducted. I understand that the tapes will be used only for recording the answers I voluntarily give during the interview. These tapes will identified by the date of the interview, subject numbers and first names. After data is collected the tape will be kept in a secure area.
8. I have the right to ask that I **not** be audio-taped and that principal investigator take only hand written notes of the interview.
9. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
10. I have been given a copy of the consent form.

"I understand that this research study has been reviewed and approved by the Institutional Review Board- Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, I can contact the Institutional Review Board through Dr. Michael W. Buckley, Director of Support Services, Office of the Vice President for Research (979) 458-4067."

I, _____, understand what the researcher told me and agree to participate in the study.

Signature _____   Date _____

_____
Kathleen Speed
Principal Investigator

Contact Information:

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APPENDIX B

Interview Protocol

Good (evening/morning/afternoon). I am Kathleen Speed, an Assistant Lecturer with the Center for Academic Enhancement as well as a graduate student in the department of Educational Administration and Human Resource Development at Texas A&M University.

The purpose of our discussion is to elicit from you your opinions about teaching, teaching effectiveness, what you see as the role of the faculty in terms of teaching, and if your experiences as an SI leader has impacted your thoughts about teaching and teaching practices. For the questions I'll be asking, there are no right or wrong answers.

You should feel comfortable to comment on any matter. Your responses will remain anonymous. No specific reference will be made to you by name or by the course for which you SI. While I may use your name today, all future references will simply state that a particular comment was made by an "SI leader" or an assigned pseudonym.

In order to have an accurate record of this conversation, I am both audio-taping and writing down notes of our interview.   I expect our discussion to last approximately 30 - 45 minutes. Do you have any questions?

Students and SI leaders will answer the following questions:

A. Introductory Question:

Tell me your first name, your classification, major.

B. I would like you to think about what constitutes teaching.

1. What is teaching?
2. What activities make up teaching?

C. I would like you to think about good teaching versus bad teaching.

How would you describe "good" teaching and conversely, how would you describe "bad" teaching?

D. I would like you to think faculty teaching effectiveness.

1. How do you define and describe effective teaching practices?
2. How do you define and describe ineffective teaching practices?
3. Since you have provided me with a definition of teaching and teaching practices, I want you to think about these four situations:
    a. good teaching and effective teaching practices
    b. good teaching and ineffective teaching practices
    c. bad teaching practices and effective teaching practices
    d. bad teaching and ineffective teaching practices
Do you think there a relationship between good/bad teaching and effective/ineffective teaching practices?   What type of examples can you come up with where you have experienced one or more of the above situations?

SI Leaders only will answer the following questions:

E. Tell me about your role as an SI leader at Texas A&M

1. Is this your second, third, fourth, or fifth semester as an SI leader?
2. Describe the role of the SI Leader.
2. How would you define your activities as an SI Leader?

F. Tell me about your views of teaching and the role of the faculty in light of your experience as an SI leader?

1. Did you ever discuss with the professor for whom you SI, your observations of what happens class? Did you ever provide feedback regarding teaching practices? Did the professor solicit feedback from you regarding his/her teaching practices?
2. Think back to the time before you became an SI leader, has your role as an SI leader shaped, influenced, changed your views on teaching and effective teaching practices?

This concludes my portion of the interview. Do you have any questions you would like to ask? Do you have any further comments you would like to make regarding our discussion? Thank you very much for participating in this discussion.

APPENDIX C

Respondent Reference Codes

As part of the audit trail, I developed a coding system that identified the respondents interviewed for this dissertation. Throughout chapter 4, a bracket containing a code followed each reference or direct quote from one of the respondents. The code, [SIL4DC2-5], for example, followed a quote on page 75 of this dissertation. Inside the bracket is a code that identified the respondent by the following: SI leader (SIL) or student (S), the number assigned to that respondent, 1-17 for SI leaders, and 1-20 for students, notation that the quote was from the data card (DC), followed by a data card number.

VITA

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Education

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Present   Supervisor, Center for Academic Enhancement,
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January 1998-   Graduate Assistant, Department of Educational
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Summer 1997   Temporary Undergraduate Counselor
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