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**Identification of valid, reliable, discriminating criteria for use in
developing evaluation instruments for substitute teachers**

Green, C. Allen, Ph.D.

Iowa State University, 1990

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**Identification of valid, reliable, discriminating criteria
for use in developing evaluation instruments
for substitute teachers**

by

C. Allen Green

**A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
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1990**

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CHAPTER I. INTRODUCTION

Reason for the Study

The public education system in this nation comes under close, continual scrutiny. From the conversations over the backyard fence to the comprehensive examinations of schools at the national level, educators face a gallimaufry of reports, both praising and criticizing the system. This gallimaufry, or collection of reports, covers a wide range of educational issues. One topic of conversation that often arises in discussions concerning school issues, but rarely surfaces at the research level, is evaluation of substitute teachers (Wallendorff, 1989). Traditionally, theorists devote very little attention to substitute teaching because of its relative "unimportance" in relation to the multitude of issues surrounding regular full-time classroom instructors (Steltenpohl, 1974). There is minimal research available on any of the aspects of day-to-day substitutes (Grieder, 1972). Before 1978, the scarcity of research on the topic of substitute teachers further increased the need for attention to this neglected educational population (Jentzen and Vockell, 1978).

The research indicates a dearth of attention to the population, but considerable agreement is apparent among educators that something should be done about the problem (Pascale, King, & Mastrian, 1984). One research report in 1981, showed that during one school year, substitutes throughout the nation taught nine million teacher days (Dahlin, 1981). Projecting this figure to today, it surely represents a higher number, accenting the need for providing quality teaching experiences for students in the classroom without the regular classroom teacher. It is essential that those nine million teacher

days not be wasted. Attention to evaluation of substitute teachers can and should be made an integral part of the evaluation system of a district (Sime, 1989). Although evaluation of substitute teachers has been largely ignored, much attention has been paid to areas of proficiency for substitute teachers.

Nine dimensions were identified as essential in orientation programs for substitute teachers: student information, community characteristics, building staff personnel, school philosophy, physical facilities, building procedures, curriculum and instruction, lesson plans, and classroom discipline (Pascale, King, & Mastrian, 1984). Other researchers have expanded this list by stressing that substitute teachers should be flexible, have teaching experience, subject area knowledge, and be able to manage classroom adversity (Warren, 1988). A study emphasizing the importance of increasing substitute teacher pools stressed the need for curriculum training, teaching strategies, classroom management, and a knowledge of policies and procedures (Hinkemeyer, 1988). All these dimensions deserve scrutiny. Other areas have also been explored.

Non-education graduate students working as interns have served as substitute teachers after receiving training in classroom management, record keeping, and questioning strategies (Soares, 1988). It has been hypothesized that substitutes are generally ineffective in achieving classroom success. One study which explored this hypothesis determined that lack of behavior management training was the reason (Willerman & McGuire, 1986). Substitute teachers working in learning disabilities resource rooms must know: school policy, schedules, specific student information, classroom procedures, daily plans, and alternative activities (Platt, 1987). While hardly a

complete list, the problem does become evident. The literature repeatedly proposes a multitude of ideas for helping substitute teachers. What is needed is a way to distinguish which ideas really are effective.

Statement of the Problem

Substitute teachers have many opportunities to make important contributions to providing quality instruction to students in public schools. Like all staff members, they can grow professionally from regular and constructive evaluation of their performance. This problem is not addressed in the research. The problem addressed in this study will be to identify a pool of discriminating, reliable, and valid items, for use in developing evaluation instruments for substitute teachers. Multiple, knowledgeable raters will be used to determine the reliability of the pool of items. Discriminating, reliable, and valid items need further clarification for use in this study. Valid items means finding items that measure effective substitute teacher performance. Reliable items must show internal consistency of the instrument across raters and over time. Discriminating items are items having the ability to differentiate among those being appraised.

The practicality of using the multiple rater procedure was introduced by Menne (1972) and Menne and Tolsma (1971). Use of multiple raters helps reduce individual bias and increase reliability. Statistically and practically significant results can be obtained, resulting in identification of items that pinpoint the characteristics of high performers. Using multiple raters to measure performance is frequently practiced. No matter who does the rating,

Menne (1972) stated that these conditions must be present in order to ascertain if anything has been measured:

- a) there must be more than one rater;
- b) the raters must closely agree in their ratings;
- c) the ratings must indicate differences between teachers (Menne, 1972, p. 5).

Multiple raters are needed to increase reliability (Medley & Coker, 1987; Thompson & Melancon, 1982). However the multiple raters must be knowledgeable in the area being rated or the ratings will be meaningless.

Items for teachers, counselors, principals, assistant principals, and superintendents have all been identified in this manner. The procedure has been used to identify 94 teacher evaluation items that discriminate among high, medium, and low performing teachers (Hidlebaugh, 1973, p. 89). A total of 139 (out of 360) items were identified as being proper for use in rating a teacher's performance (Hidlebaugh, 1973, p. 92). Use of this same procedure resulted in identification of 73 of 74 valid items which produced significant discriminating characteristics among the performance levels of a sample of 58 counselors (Uhl, 1988, p. 33). Applying the same methods with students as raters, it was possible to identify 57 items at the high school level and 18 items in the upper elementary grades that could be used in teacher evaluation instruments (Judkins, 1987, p. 101). Utilizing the same formula and appropriate statistical procedures with a minimum of fifteen raters, 49 of 50 items significantly discriminated between the performance of principals (Look, 1983, p. 72). In addition, 50 of 50 items were identified as appropriate for use in evaluation of assistant principals (Edwards, 1989, p. 47). Also, 71 of 87 items designed to discriminate the performance of superintendents were

found to be significantly discriminating (Lueders, 1987, p. 136). The use of this methodology in different educational settings strengthens subsequent findings.

The use of multiple raters is a practical approach when fifteen or more raters are used. If at least fifteen raters reach the same conclusion concerning an item, chances of being in error are extremely remote. It is, however, important to confirm that the criterion items describe behaviors that raters have been able to observe (Hidlebaugh, 1973). Information obtained without observation loses credibility. The substitute teacher does come under close scrutiny by a variety of raters who would be capable of supplying valid conclusions. The availability of fifteen knowledgeable raters who have observed the substitute teacher in action might include students, teachers, or administrators. Teacher and administrator ratings of substitute teachers is more common than student ratings, but student ratings should not be overlooked. Student ratings are widely used in measuring the performance of teachers and are sometimes used in making administrative decisions (Judkins, 1987; Murphey, Balzer, Kellam, & Armstrong, 1984).

Identification of valid items could come from literature reviews, research on teaching, teacher job descriptions, school policy books, substitute teacher time logs, and research findings about substitute teachers. The teaching behaviors of substitutes closely parallel the behaviors of regular classroom teachers, providing a wealth of information on proper items for this body of educators. The difference lies in the almost total lack of valid, reliable,

discriminating criteria for use in developing evaluation instruments for substitute teachers.

The Hypotheses

This investigation will attempt to identify discriminating, reliable, and valid items which can be used by schools to create evaluation instruments for substitute teachers. Specific null hypotheses being tested are:

1. There will be no significant difference in the discriminating power of the items on the substitute teacher performance criteria questionnaire.
2. There will be no significant difference in substitute teacher appraisal ratings based on the rater position of principals/supervisors, teachers, or students.
3. There will be no significant difference between the items which discriminate for male raters and the items that discriminate for female raters.

Definition of Terms

These definitions are presented to give clarity to their use in this investigation:

Discriminating item - In order for an item to discriminate, the within-group variance should be low in relationship to the between-group variance (Menne and Tolsma, 1971, p. 5). This means identification of items capable of eliciting similar responses from raters and maximum differences in ratings of substitute teachers.

Discriminating power - Criteria that can separate high substitute teacher performance from that of average and poor performance.

Evaluation - To judge, determine or rate the quality of a given performance based on certain criteria.

Knowledgeable rater - A rater who has been determined capable of making a decision on the quality of a given performance, based on observation of the individual being rated.

Multiple raters - The use of at least fifteen individuals to rate the performance of certain substitute teachers.

Rater - A school employee or student, who after receiving proper instructions, can estimate or determine a rating of specific listed behaviors on an instrument designed for the purpose of identifying criteria to use in development of evaluation instruments for substitute teachers.

Rating - Assigning a performance ranking to specific, identifiable tasks or behaviors exhibited by the substitute teacher.

Reliability - As applied to educational measurements, refers to internal consistency or stability of the measuring device over time (Borg and Gall, 1983).

Reliable item - A criterion item is considered reliable if there is low variance within the rater groups.

Valid - Means determining if the device measures what it presumes to measure.

Delimitations of the Study

There are several delimitations in this study. Efforts to insure that this study will be rigorous and make a valuable contribution to the scientific

knowledge base on teaching research, necessitate careful scrutiny of the following delimitations:

- This study will not attempt to determine substitute teacher effectiveness as determined by outcomes. The questionnaire will contain items found in literature reviews, teacher job descriptions, school policy books, and interviews with principals, superintendents, associate superintendents and professors. No attempt will be made to assess the relative value of each item based on the discovery procedure of the literature review or interview process.
- Substitute teachers chosen for this study will have had to work for the district for at least ten school days prior to administration of the survey to ensure adequate visibility to raters.
- Substitute teachers for this study were selected from 24 large, medium, and small school districts, in Virginia, Iowa, and Wyoming, to ensure securing enough practicing substitute teachers who met the necessary minimum requirements.
- Certification requirements for substitute teaching in Rockingham County Public Schools, Harrisonburg, Virginia, require only that the substitute teacher hold the equivalent of a high school diploma. Certification requirements for substitute teaching in Iowa, require that the substitute be certified to teach in any area. Substitute teachers in Wyoming are required to complete a minimum of sixty college credit hours in any subject to gain appropriate certification as a substitute teacher.

- Students filling out the survey will have had the substitute teacher in the classroom for a minimum of ten school days before qualifying as appraisers. They also will be students 14 and older, selected from the middle school and high school, who can read and understand the survey form.

- Administrators, teachers, and students who are selected as raters for this research will be knowledgeable concerning the substitute teachers being rated. This study will not attempt to determine if the raters have authority to evaluate, only that they are knowledgeable about the substitute teacher.

- Appraisers will be asked to complete a 50-item questionnaire in December, 1989 and January, 1990, using a five-point scale to rate a minimum of 30 substitute teachers.

- The Iowa State University Committee on the Use of Human Subjects in Research insists that researchers confirm that the rights and welfare of the human subjects are adequately protected, that risks are outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data is assured, and that informed consent was obtained by proper procedures. These procedures (approved by the committee on December 1, 1989) will be closely followed in this study. Consent to participate in the project in the form of modified consent, will be assumed by those voluntarily completing and returning the questionnaire.

CHAPTER II. REVIEW OF LITERATURE

Introduction

Little research information or data are available on substitute teaching (Collins, 1982). Systematic research efforts, case studies, and reviews of literature are scarce, but articles are abundant on the plight of substitute teachers. Numerous explanations have been offered detailing the problems of substitute teachers, coupled in some instances with a variety of ideas on how to solve the problems they encounter. A review of position articles show a disturbing picture of the perceptions, treatment, and misunderstanding of the people who serve as substitute teachers in today's classroom. The objectives of this chapter are to:

1. Define the roles of substitute teachers.
2. Explain how classroom management by substitute teachers is related to student learning.
3. Describe the teaching skills that make substitute teachers effective teachers.
4. Review the type of recruitment, training, and pay necessary to make substitute teaching more effective.
5. Examine evaluation practices currently used for substitute teachers.

The public, teachers, administrators, students, and substitute teachers themselves generally view substitute teaching in a negative fashion. This negative view is perpetuated by long-standing misconceptions and misunderstandings about the importance of the substitute teaching role. A

clearer understanding, providing positive benefits for substitute teachers, should emerge from the literature search.

Roles of Substitute Teachers

The role of the substitute teacher in public education is considered one of the lowest in the educational profession. A substitute teacher is the spare tire in most classrooms; called to patch things up in an emergency; put away when the regular teacher returns (Drake, 1981; Lester, 1973). Substitute teaching is essential; no school could run without it. Yet, substitute teaching is one of the most maligned jobs in American education (Hartung, 1972; Rundall, 1981). Furthermore, when the substitute teacher leaves, little notice is taken of his/her absence. "Pity the poor substitute teacher!" states Ress (1973, p. 31), who then expands by saying that the best one can do is to pitch the plans, try to establish rapport, give students some mental stimulation, and tell a few dumb jokes. This unprofessional, self-defeating attitude is contrasted by Secor (1974) who postulates a more universal, reasonable plea that substitute teachers are real teachers who can teach and should be part of the educational team.

Negative views of substitute teachers

Substitute teachers are not viewed as important members of the education team. In most systems little concern is felt for the quality of the job done by the substitute teacher (Esposito, 1975). Although thousands of people undertake the duty of substitute teaching every week, this responsibility has been given very little attention formerly by educational theorists because of its relative "unimportance" vis-a-vis the problems of the regular full time class

instructor (Deay & Bontempo, 1986; Grieder, 1972). As one educator stated, substitute teachers occupy a position regarded in other professions as essential, yet in education, as almost meaningless (Freedman, 1975). Generally, they are not organized, have no effective lobbying voice, and do not participate in professional organizations (Hartung, 1972). There is some movement nationwide to organize substitute teachers (Manatt, 1990) but the literature review did not reveal articles specifically mentioning this population. However, writers continually downgrade the substitute teacher, ignoring the fact that schools cannot function unless people fulfill this role.

Substitute teachers in general

In other walks of life, the word "substitute" takes on a totally different meaning. Substitute teachers are low class while substitute or relief pitchers in baseball are often the best (Jentzen & Vockell, 1978). Freedman (1975) further clarifies:

No one else in our society is called "substitute" which means less than the real thing. We call doctors, 'covering doctors,' office workers, 'temporaries'. Even margarine is not 'substitute butter'. How about guest teacher, reserve teacher, special day teacher, resource teacher, temporary teacher, or alternative teacher? The time has come to take the 'substitute' out of substitute teaching (p. 97).

Calling the substitute teacher by a different name might become fashionable, but reality dictates that they face extremely difficult challenges in today's classroom. The substitute teacher, lacking the authority of the regular teacher, gets discipline problems on a "fast forward" basis, with greater frequency and intensity (Friedman, 1983). They are called upon in situations where they do not know where or when they will teach, yet with certainty, the

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call will be on short notice. Eighty percent of the time there is no lesson plan, or it is so carelessly formulated it is useless as an instructional guide (Reynolds & Garfield, 1971). Writers are consistently critical of both substitute teachers and the educational system in which they function.

One long-time teacher said, "From my own experiences from years of observing substitutes in action while I was a full time high school teacher, I must admit that substitute teaching is primarily a useless, expensive service doing more harm than good!" (Robb, 1979, p. 30). The public perception of substitute teachers is even featured in a negative fashion, shown by this cartoon by Browne (1989).

The picture painted is bleak. Substitute teachers themselves are often acutely conscious of their low status, working in isolation, always looking for a step somewhere higher up the ladder (Stashower, 1974). Studies show that substitute teacher professional job satisfaction ranks consistently at only 30 percent (Rawson, 1981, Reynolds & Garfield, 1971; Stashower, 1974). Yet, because of haphazard planning, substitute teachers never have a chance to become part of the school team. They act as babysitters with a poor image in

the eyes of public, peers, and pupils (Clifton & Rambaran, 1987; Grieder, 1972; Miller, 1974; Steltenpohl, 1974; Woods & Woods, 1974; Zunin & Zunin, 1972). Their usefulness is overshadowed by everyone's perception of their uselessness.

Substitute teachers as service people

Substitute teachers are viewed as service people by teachers and students. Their status does not equal that of teachers, although they are expected to perform similar functions. Students perceive substitute teachers in an entirely different light. "The sight of a substitute teacher often means play day in the minds of many students. Most students have a very negative attitude about substitutes" (Nelson, 1983, p. 98). Students view substitute teachers as open season for pranks, challenges, and cutting class. To students substitute teachers are service workers, temporarily intruding into their classroom life, usually with little authority and rarely with proper rapport. "In the eyes of students, substitutes are perceived as being incompetent teachers who cannot do anything other than just supervise" (Clifton & Rambaran, 1987, p. 317).

The sociological effect the substitute teacher has on children has been explained by Becker (1952):

The major problems of workers in the service occupations are likely to be a function of their relationship to their clients or customers, those for whom or on whom the occupational service is performed. Members of such occupations typically have some image of the 'ideal' client and it is in terms of this fiction that they fashion their conceptions of how their work ought to be performed, and their actual work techniques (p. 453).

The 'ideal' client in this description is the classroom teacher. In the eyes of students, rarely can anyone replace the teacher. The substitute teacher faces an uphill battle in even trying. Thus, even their role as service people is difficult to fulfill.

Substitute teachers in fiction

Even writers of fiction play havoc with the role of substitute teachers.

Teachers can be Clobberers (say coaches that strike the problem) (students), Slumberers (those who act as though the problems were not there), Rumlbers (those who constantly complain about the problems), Fumblers (those who do not know what to do about the problems), and Slobberers. The Slobberers appeal to the decency and/or chivalry of the students, telling them (in effect) that they (the teachers) are just poor slobs trying their best to do their jobs and imploring students to help out and give them a break in doing so (Hunter, 1954, pp. 201-202).

One writer then used Hunter's descriptions in an article describing how substitute teachers attempt to survive in the classroom:

Substitutes often start out as Fumblers in order maintenance, but the fact and demand that they must be able to achieve and maintain order so quickly probably lends itself to a Slobberer appearance in the short term, which usually will succeed with most students. (Also, Clobbering may be prohibited, Slumbering is unacceptable to administrators, Rumbling is unproductive and indefinite Fumbling is not conducive to getting through a good day.) (Friedman, 1983, p. 121).

Perceptions have not changed much since 1954. This new description offers four more "stereotypes":

The commander comes on barking orders, relying on his particular brand of rigidity. He rarely smiles, announces the "rules," and expects to handle the class like a Marine drill instructor. Except in a totalitarian country (or school district), these efforts are doomed. No class, from elementary to college level, will tolerate the impression given by the commander that they are robots and initiative is illegal. Almost nothing is taught, and almost nothing is learned.

The milksop enters the classroom, trailing loose ends, and gives the instant impression that he is "wishy-washy." He may apologize for being there unprepared and admit that substituting is a difficult job, implying that he isn't up to it. Unless students are extraordinarily mature and self-sustaining, their response will be apathetic, if not outright defiant or unruly. They feel they deserve better and they do.

The trivia chatterbox introduces himself with a barrage of extraneous facts or wanders about the subject under discussion like a verbal drunkard. He may tell stories of past experiences to fill time and attempt rapport, but his manner soon becomes soporific.

The lovebird, usually a female, is a real sweetheart who tries to make everyone in class love her in the first thirty seconds by saying how glad she is to be there and how lovely and charming everyone in the room must be. This type is most prevalent in the lower grades where children are more likely to be conned on a temporary basis. The lovebird is as transparent as the misfits described above, and usually is seen quickly to be a hypocrite.

The pal is buddy-buddy, the male version of the lovebird. He masquerades as a long-lost friend, but his presumptuous declarations usually fall on deaf ears. Students realize that friendship cannot be applied like a coat of paint (Zunin & Zunin, 1972, pp. 231-232).

The "commander" is the "clobber" of earlier times. The "milksop" is the "slobberer" of old. In their pointblank descriptions, writers do more damage than good to substitute teachers, but they point out the need for changes in the system.

With these descriptions as role models, it is little wonder that substitute teachers are relegated to the ranks of the lower working class (Robb, 1979). The literature search reveals that day to day substitutes have been the forgotten men and women of the teaching profession for a long time (Bear & Carpenter, 1961; Reynolds & Garfield, 1971). The saddest reality of all is that substitute teachers of every type, including the most qualified and dedicated available, are seldom successful in their stand-in roles (Drake, 1981). The consistently negative impressions of substitute teaching paint a picture that would discourage even the most persistently optimistic person interested in giving substitute teaching a try.

Roles in the classroom

Recent graduates, looking for a permanent job, have the greatest vested interest in fulfilling the substituting role effectively, since looking forward to an opportunity for a permanent position is one of their highest priorities. Faced with this opportunity, they want as much as possible to "fill the shoes" of the regular classroom teacher when in the classroom, keeping in mind that even a relatively successful experience could help them get a job later on. However, it has been observed that in the classroom substitute teachers usually fulfill one of two roles, either closely following the plans of the teacher, or babysitting with an emphasis on discipline (Grieder, 1972).

Clarifying these roles, he states:

Both of these approaches are obviously indigenous to their proponents, the first being most suitable to the needs of the regular teacher and the second being most suitable to the administrative person whose only concern is the immediate one *viz.* getting somebody to fill the vacancy left by the regular teacher (p. 98).

These roles describe people who are not interested in substitute teaching as a long time career. Rarely does anyone make a career of substitute teaching. "Starting a career in substitute teaching is a little like going on a blind date. You open the door, hope for the best, and if it doesn't work out, you get a headache!" (Pronin, 1983, p. 65). Substitute teaching is a temporary, stepping-stone job, yet substitute teachers should attempt to fulfill this position in a responsible manner, keeping in mind that students will benefit from a good teaching experience.

Classroom Management and Student Learning

Little formal attention has been given to the relationship between substitute teaching and student learning. However, it has been suggested that ". . . the current method of obtaining and training substitute teachers does not benefit either substitute teachers or students" (Tracy, 1988, p. 87). The main problem is the unseen wall students place between substitutes and themselves. They resent, and are sometimes frightened by, the intrusion of a stranger in their classroom (Benedict, 1987; Grutzmacher, 1976; Rawson, 1981). When substitute teachers enter the classroom, the curtain goes down on student receptivity, students retreat, and learning diminishes.

Establishing better relationships

Some writers have attempted to help substitute teachers improve the negative attitude of students. To establish a better relationship with students, Benedict (1987) naively suggested that substitute teachers should give students a questionnaire. Basic questions he suggested for inclusion were:

1. What kind of substitute teacher do you like?
2. How do you behave with a substitute teacher in the room?
3. List reasons for misbehavior.
4. How should rudeness be handled?
5. When is it reasonable for substitute teachers to lose their temper?
6. What is the long term effect of the substitute teacher on grades?
7. What kind of substitute teacher would you be?
8. How would you want to be treated?
9. How would you handle discipline?
10. Would substitute teaching be worth your time?

He suggested that use of the questionnaire would help the student learn to value the substitute teacher, showing them that the substitute teacher has many of the same qualities of the absent teacher. On the contrary, the questionnaire might serve to perpetuate the "milksop" image offered by Zunin and Zunin (1972). This approach might possibly work with some students, but most, particularly middle school and secondary students, would interpret the questions in ways not intended by the author. However, this article does point out the problems that substitute teachers face when the class is unruly.

There are other more reasonable options the substitute teacher can consider. Brophy (1986) advocates a much more practical approach for establishing credibility and maintaining discipline in the classroom. He advocates these classroom management techniques:

1. Analyze classroom tasks.

2. Analyze the classroom from the student perspective.
3. Monitor student behavior.
4. Instruct on rules and behavior.
5. Monitor compliance with rules.
6. Develop accountability for work.
7. Communicate information.
8. Organize instruction.

Benedict's (1987) and Brophy's (1986) lists highlight the wide range of options available to substitute teachers; on one end, activities that could increase student disrespect, and on the other end, practical solutions that could eliminate the tendency for students to block receptivity to the substitute teacher.

Substitute teacher status in the classroom

Substitute teachers are not accepted as legitimate teachers in the classroom. The primary reason for the lack of acceptance may be a breakdown of communication as suggested by Recker (1985). This breakdown of communication is apparent in the school as a whole and the classroom within the school. Substitute teachers are not given adequate preparation for teaching in the classroom. The plight of substitute teachers in the school would be improved if they were accepted by students and school personnel as full-fledged teachers with legitimate authority, rights and responsibilities. They can gain this status when administrators and teachers give them the recognition they need. Assigning them (substitutes) to specific subjects and grades could help them to understand school rituals and perhaps gain

acceptance (Clifton & Rambaran, 1987). Improved communication and professional acceptance is essential if substitute teachers are to perform effectively.

Cannon (1984) noted four beneficial objectives that could help the substitute teacher improve communication in the classroom:

1. Place emphasis on providing positive classroom climate.
2. Perform diplomatically and purposefully.
3. Convey the impression that something important is happening in the room.
4. Be directive to students.

These four objectives compare favorably with Brophy's (1986) classroom management techniques. Substitute teachers themselves must take responsibility for carrying out worthwhile objectives, providing the school attempts to inform them of the importance of doing so. The key to their success is getting known, then earning the respect of kids and teachers (Brenner & Hendee, 1980). Substitute teachers can enjoy their jobs if others in the school help them assume a more professional role, and if they are made aware of common sense classroom management techniques that will help them improve their status.

Changing student perceptions must be one of the substitute teacher's highest priorities. Several writers have suggested ideas. Surveying classrooms to see what kinds of worthwhile instruction they want during the absence of the regular teacher, gives students ownership in the success of substitutes (Deutchman, 1983). The surveys though, must realistically deal

with the age, maturity, and understanding of the students involved. Drake (1981) advocates selecting substitute teachers on their ability to easily adapt to new situations with students, their ability to quickly establish rapport, their ability to be likeable and congenial, and their ability to maintain discipline respectfully. These are workable concepts contingent upon adequate substitute teacher preparation. In addition, the need for substitute teachers to expect high performance from students is viewed as essential (Brophy, 1986; Cannon, 1984; Evertson, 1986; Freedman, 1975). Students will view substitutes in a positive way, making it possible for them to enjoy their jobs more, when the initiative to do so is fostered by all members of the school community.

Enjoying substitute teaching

Zunin and Zunin (1972) found that many substitute teachers who appear to enjoy their work and communicate well with students, have these qualities:

1. They like children.
2. They like teaching and see substitute teaching as a challenge, not a chore.
3. They are prepared either for the course at hand or with supplemental materials that can be used after or instead of the regular teacher's course outline.
4. They anticipate many of the verbal pranks and distractions innate in students and head them off in less than four minutes by offering the impression of calm, knowledgeable authority.
5. They take initiative, rather than expecting directions from the class. They consider the feelings and needs of student, and they also confer with the class about topics to be taught, but they don't offer the steering wheel to anyone who requests it. They stay in control, no matter how many twists there are in the road.

6. They state the ground rules and keep the list short. Students feel most comfortable knowing the limits of behavior beyond which they may not depart. The substitute is in command but as a civilian, not a "chicken colonel."
7. They stick with lesson plans whenever possible, offer ideas and stimuli that are related, share talking and listening, are friendly and smile genuinely, and they do not demean either students or the regular teacher by direct criticism or inference (p. 232).

Comparing this list to Brophy's list of classroom management techniques, several similarities are noted: (1) the substitute teacher must be prepared before entering the classroom; (2) reasonable rules and procedures must be outlined to students; (3) the substitute teacher must see the classroom from the student perspective (but in a professional manner); and (4) good communication skills are essential to success. Students will be more likely to react in a positive way to substitute teachers prepared with these good teaching techniques.

Teaching Skills and Needs of Substitute Teachers

Substitute teachers replace regular teachers in the classroom more and more frequently as teachers take advantage of contract provisions for personal and professional leave time, coupled with the usual sick leave allowances (Bontempo & Deay, 1986; Steltenpohl, 1974). As this classroom time increases, the potential impact substitute teachers have on students also increases. Substitute teachers must possess effective teaching skills if students are to learn. They can attain these skills only when school officials understand and provide for their classroom and teaching needs.

Substitute teacher concerns

To overcome the misleading "babysitting" image, substitute teachers must acquire teaching skills that help them perform effectively in the classroom. "To keep students productively engaged in learning activities during the absence of the classroom teacher, substitutes must thoroughly understand and execute not only emergency lesson plans but also effective management techniques and strategies" (Cannon, 1984, p. 1). To increase their effectiveness, substitute teachers must carry with them their own "bag of tricks" (Brenner & Hendee, 1980; Garwood, 1976; Grutzmacher, 1976). They must enjoy the challenge of varied teaching assignments (Drake, 1981; Wilson, 1985).

Districts must affirm that substitute teachers are more than 'casual laborers,' that they are teaching professionals who are expected to maintain and extend the curriculum endorsed by the district and planned by the absent teacher (Collins, 1982, p. 232).

Brophy (1987) further clarifies that student achievement is determined not only by curriculum content but by the amount and quality of instruction that students receive from their teachers. They must be there at the bell ready to assume the professional role of a teacher. "In view of the opportunities that substitutes have to influence instruction, it is important for school district personnel to provide them with the information and skills necessary to effectively manage and instruct classroom activity in the teacher's absence" (Platt, 1987, p. 29). Augustin (1987) emphasizes that the regular teacher also plays a vital role in the success of substitute teachers, particularly in the area of planning. Regular teachers should plan and overplan to the point that anyone could figure out what to do when entering the classroom.

The problems substitute teachers face in the classroom are numerous. A survey of 175 substitute teachers by Bontempo and Deay (1986) identified five situations that substitute teachers feel least prepared to deal with: discipline maintenance; classroom plans and procedures; knowledge of subject matter, learner differences, and school rules. Discipline maintenance is identified as a high priority by many substitute teachers, teachers, and administrators. Maintaining order in the classroom demands the same skills as regular teachers, although demands are intensified because of the substitute teacher's temporary status (Friedman, 1983). Mastrian and Others (1984) constructed a 50-item questionnaire to assess the needs and concerns of substitute teachers. Three hundred twelve elementary school substitute teachers responded to the questionnaire. Factor analysis yielded nine broad categories that corroborated to some extent the conceptualization of a panel of judges who had reviewed the questionnaire. The nine areas of concern were: student information, community characteristics, building staff personnel, school philosophy and policies, school building physical facilities, district and/or building procedures, curriculum and instruction, lesson plans, and classroom discipline. Discipline, lesson plans, procedures, and knowledge of subject matter were commonalities between the two studies.

Several authors have categorized the particular items that are of greatest concern to substitute teachers, teachers, and administrators. The seven most prevalent are:

1. Lesson plans: (Augustin, 1987; Deay & Bontempo, 1986; Friedman, 1983; Frosch, 1981; Funk, 1974; Mastrian and Others, 1984).

2. Seating charts: (Augustin, 1987; Frosch, 1981; Funk, 1974).
3. Discipline procedures/student management: (Augustin, 1987; Bontempo & Deay, 1986; Brophy, 1986; Brophy, 1987; Cannon, 1984; Drake, 1981; Everly, 1979; Evertson, 1986; Friedman, 1983; Good, 1979; Grieder, 1972; Gunderson and Others, 1985; Mastrian and Others, 1984; Rundall, 1981; Warren, 1988).
4. Knowledge of subject matter: (Bontempo & Deay, 1986; Drake 1981; Mastrian and Others, 1984; Soares, 1988).
5. Awareness of learner differences: (Deay & Bontempo, 1986)
6. Awareness of school rules and regulations: (Augustin, 1987; Deay & Bontempo, 1986; Drake, 1981; Frosch, 1981; Keller, 1976; Mastrian and Others, 1984; McIntire & Hughes, 1982).
7. Organizing/managing learning experiences: (Deay & Bontempo, 1986; Garwood, 1976).

These concerns surface repeatedly as problem areas. The list could easily be a list of essential skills necessary for the success of the regular teacher in the classroom. The skills are essentially the same, yet the opportunities for training to strengthen the skills are decidedly different. Teachers have numerous opportunities for training and inservice. Substitute teachers have relatively few opportunities.

Substitute Teacher Recruitment, Training, and Pay

Recruitment, training, inservice, and pay of substitute teachers is mentioned briefly in the literature. The brief mention in the literature falls

far short of the attention substitute teachers deserve. Substituting is important because a large percentage of the teaching labor force each day, about 10 percent, is made up of substitutes. What American education amounts to every year is in no small part determined by substitute educators (Friedman, 1983). Substitute teacher use lends itself to increased training, inservice, and evaluation of substitute teachers. Before this increase can happen, substitute teaching must move into a higher professional realm.

The concept of substitute teaching needs to move from what it is to what it can become; from discipline to instruction; from maintenance to growth; from indifference to involvement; from nonprofessionalism to professionalism; from improvisation to preparation; and from getting-through-the-day to applying the knowledge and skills of professional training (Drake, 1981, p. 80).

Recruitment

Koelling (1983) surveyed 1728 school districts and noted that the low par and uncertain status afforded substitute teachers was widespread. He also concluded that 70 percent of the school districts required no minimum professional training of substitute teachers and 97 percent required no previous teaching experience. Very few of these substitute teachers planned to pursue this line of work for any length of time but were using it as a "holding ground" until they could become established in another career. This reaffirms that substitute teaching is one of the surest routes to a permanent job and excellent experience in public schools (Brenner & Hendee, 1980; Koelling, 1983). This presents school districts with the continual problem of finding more substitute teachers for their list. It has been observed that districts fill their substitute teacher mainly from these five categories:

1. Recent graduates: (Brenner & Hendee, 1980; Friedman, 1983; Jentzen & Vockell, 1978; Washington, 1972).
2. People who do not want fulltime work: (Jentzen & Vockell, 1978).
3. Non-certified teachers: (Jentzen & Vockell, 1978; Washington, 1972).
4. Retired teachers and homemakers: (Friedman, 1983; Jentzen & Vockell, 1978; Washington, 1972).
5. Persons from business/military: (Friedman, 1983).

Lists like the one above change in numbers as the demand for regular teachers increase or decrease. When the supply of teachers is high, the substitute lists are longer. When teachers are in short supply, substitute teachers are also in short supply, increasing their importance.

Studies show that the statistically average student will have seven to ten of their total classroom days each year supervised by a substitute teacher (Benedict, 1987; Drake, 1981; Freedman, 1975; McIntire & Hughes, 1982). In twelve years of schooling this amounts to over half a year of substitute teacher exposure. More than a quarter of a million people serve as substitute teachers each year, one for every eight regular teachers. This use has not diminished. Teacher absences have increased over the years because of better sick leave benefits, release time for professional growth and improved personal leave opportunities (Kraft, 1980). This increase in use causes districts headaches in keeping good substitutes available.

Pay and absenteeism

Substitute teachers are expected to do an effective job, yet the pay they receive indicates that not much is expected of them. Instead of lamenting the low pay of substitute teachers, a growing body of research points with alarm at the increasing costs of teacher absenteeism (Bridges, 1980; Elliot, 1979; Elliot, 1982; Spencer, 1988). "The costs to schools and school systems arising from

teacher absenteeism is astounding" (Elliot, 1982, p. 5). Actual costs are impossible to figure. Statistics do not exist for the total dollar costs of teacher absenteeism (Elliot, 1982). One research study at Stanford University did report that the loss of time from teacher absences cost more than one-half billion dollars for substitutes and \$120 million in fringe benefits that teachers received whether or not they were in their classroom (Bridges, 1980). In addition the median minimum daily pay for substitutes increased by 13 percent and the median maximum rates by 8.6 percent from 1977-1979 (Elliot, 1982). Concentrating on increased expenses will not help substitute teachers gain ground on increasing pay or help districts solve the problems of substitute shortages.

One Pennsylvania school district solved the substitute shortage problem by paying substitute teachers on a sliding scale: \$60 per day for the first 15 days; \$75 per day for days 16 through 25, and \$80 per day for the rest of the year. This program was unique because consecutive days were not required, allowing the district access to plenty of substitute teachers during the most critical time of the year (spring) McAdams (1989). This program was initiated in a district of 2460 students for an additional \$10,000 expense. Their yearly expense for substitute teachers before initiating the program was \$80,000. Giving substitute teachers this recognition clearly helped them gain prestige.

Many districts face the challenge of finding adequate numbers of substitute teachers. Some districts have taken steps to solve the problem. Advertising may be the simplest way for districts to build substitute lists (Augustin, 1987; Hinkemeyer, 1988). Building a list will not guarantee it will

remain adequate. After building the lists, it has been recommended that districts maintain two lists, a preferred one and a general one (Augustin, 1987; Kraft, 1980). To encourage better performance and a more stable workforce, pay the substitute teacher on the preferred list more money. Substitute teachers could easily be paid on a scale of degree-nondegree, short term-long term. "Paying the same flat rate makes about as much sense as paying all teachers the same" (Hartung, 1972, p. 5). Substitute teachers should be acknowledged as "permanent" professionals in today's education (Warren, 1988). They can become permanent professionals if they are paid a suitable wage. Substitute teachers cannot do much about the pay issue even if they feel it is unfair (Koenig, 1988). Their highest priority is getting called back. Their highest priority should be doing an effective job in the classroom.

Training and inservice

Writers have dealt briefly with the topic of training substitute teachers. Criticism of current programs (or the lack thereof) is readily apparent. Substitute teacher training programs are loosely organized, inadequate and ineffective. The training role of substitute teachers should be clearly defined, with establishment of training programs in each local school district (Augustin, 1987). A few states mandate training. However, a gap exists between content of the presentations and real concern for the substitute teachers (Deay & Bontempo, 1986). Although much thought and expense goes into a variety of inservice programs for regular teachers, the training of substitutes has received little attention (Chu & Bergsma, 1987). Chu and Bergsma (1987) advocate following four guidelines:

1. Provide a workshop for potential substitutes.
2. Provide a handbook on basic school information for substitutes.
3. Provide a guided tour of the building.
4. Systematize a procedure for evaluation and placing substitutes.

Substitute teachers will be more effective teachers with increased training. The likelihood of students benefiting from more effective teaching is a positive outgrowth of increased training.

Substitute teachers, like teachers, do not want to fail. "Today educational practitioners are looking less for prescriptions and more for principles that will increase their effectiveness" (Porter & Brophy, 1988). Better planning by administrators would help substitute teachers (Esposito, 1975). Seventy percent of school districts require no minimum professional training. Ninety percent of school districts require no previous teaching experience (Koelling, 1983). Orientation and training early in the year in inductive techniques, use of audiovisual equipment, how to devise word games, puzzles and other intellectual exercises, and how to utilize provocative recent news for discussion, would clearly help the substitute teacher (Esposito, 1975). McIntire and Hughes (1982) found that twenty two-hour inservice training classes on classroom management, behavior modification, principles of learning, communication skills, motivation, policies and laws, and planning on short notice, helped substitutes in Houston become more effective. Districts who have invested in worthwhile training programs have reaped the benefits of increased prestige for substitutes, better performance in the classroom, and

increased student receptiveness to the disruption of normal classroom routines.

Evaluation of Substitute Teachers

"Substitute teaching is probably the most difficult job to do well. It is also probably the easiest thing to get away with doing poorly" (Parsons & Dillon, 1980, p. 27). Educators have written in some detail on criticisms of the educational community for lack of research and attention to the topic of substitute teacher evaluation. Several authors have concluded that the recruitment, inservice training, selection, and evaluation of substitutes must be improved (Drake, 1981; Chu & Bergsma, 1987; Warren, 1988). "In order to strengthen and improve his or her service, the substitutes' work should be evaluated at regular intervals" (Kraft, 1980, p. 83). Evaluation historically has dealt with classroom housekeeping rather than actual learning (Drake, 1981). Many writers recommend change. Few formulate any plans to initiate change.

Teachers could play a more important role in evaluation. "Optimal teacher initiated evaluation dealing with task acceptance and performance, summary of accomplishments, and maintenance of the physical environment could provide added incentive to substitute teachers as well as serve as an excellent source of feedback" (Rawson, 1981, p. 83). If teachers carefully analyzed the impact of the substitute teacher on the students in the classroom, they would take a far more active role in evaluating the performance of the substitute teacher (Rosenshine, 1976).

The standards for substitute evaluation should center around effective teaching skills. Standards suggested by Drake (1981) are:

1. Ability to arouse pupil interest and enthusiasm.
2. Demonstrate a knowledge of the subject being taught.
3. Recognize and attempt to provide for varied student abilities within the limits of the classroom situation.
4. Allow students opportunity for appropriate, independent and small group participation.
5. Incorporate operations that give students visual, tactile, and auditory learning experiences.
6. Stimulate creative and original thought.
7. Provide appropriate reinforcement for positive student behavior.

The Strathcona County School District in Alberta, Canada, uses these areas in their substitute teacher evaluation form:

1. Knowledge of subject matter.
2. Planning.
3. Lesson presentation.
4. Learning environment.
5. Human relations.
6. Professional responsibilities.
7. Personal appearance.

Common areas between Drake's (1981) list and the Strathcona evaluation form were: knowledge of subject matter, planning, and human relations. The Strathcona evaluation form emphasized student-centered activities and

responsibilities in every section. Drake (1981) did the same thing. The important message is that substitute teachers themselves must assume responsibility for helping students and evaluation must center around training them for this responsibility.

In one of the few comprehensive collections of data on substitute teachers, Koelling (1983) drew information from a 19-state sample of North Central Schools. Only a little more than one in four reported having a formal evaluation plan for substitute teachers. Plans were more likely to occur in large districts. Of 831 districts which had an evaluation system, participation in the evaluation process was as follows:

North Central Schools substitute teacher participation in evaluation				
Students	Central Office	Teachers	Principals	Others
13	86	287	421	14

Districts reporting once a year evaluations were 24.6 percent.

Districts reporting twice a year evaluations were 11.6 percent.

Districts reporting other procedures were 62 percent.

Districts providing a written substitute teacher guide were 33 percent.

The most compelling summary of the study; most school districts do not have in place a comprehensive, systematic and effective substitute teacher program, let alone pay any attention to the evaluation of these staff members.

One unfortunate side effect of the way administrators and regular teachers fail to help the substitute teacher is the continual supervision some substitute teachers are given while in the classroom. This continual checking projects a sense of incompetence in the eyes of substitute teachers and students alike.

As both substitute teachers and students know, competent and expert professionals do not have to be supervised and evaluated, especially in front of students, who are supposedly subordinates. Several substitutes mentioned that administrators and regular teachers made it a habit of checking up on them. Many substitutes consider this behavior to be threatening and irritating. In some schools, it was observed that the vice-principal made several trips to a substitute teacher's classroom. Occasionally the vice-principal would stand at the back of the room for a few minutes, or would just open the door and ask the substitute whether there were any problems. This behavior served as a clear indication, to both the substitute teacher and the students, that the substitute teacher was not seen as being capable of handling the situation. Moreover, it cannot help but undermine the legitimacy of the substitute teachers' authority (Clifton & Rambaran, 1987, p. 319).

Observation of substitute teachers can be overdone but the evaluation of the school might very well be the substitute teacher's willingness to return there to work (Rundall, 1981). Unfair treatment may cause them not to return.

Summary

The focus of this chapter has been to help define the role of substitute teachers and substitute teaching in today's public schools. Five areas of substitute teaching were explored: roles; classroom management and student learning; teaching skills; recruitment, training, and inservice; and evaluation practices. Understanding in these five areas is essential for development of a pool of items that can be used in developing evaluation instruments for use with substitute teachers.

Measurement of substitute teacher performance can be accomplished if the potential criteria for evaluation instruments are established as valid, reliable, and discriminating. Evaluation procedures for substitute teachers are scarce. The few plans available are not well researched. Large districts are

more likely than small districts to have some kind of evaluation plan, but in most cases the plans in large districts are not adequate. Evaluation of substitute teachers is an area needing careful scrutiny. The criteria in this study can provide districts with the start they need in developing an instrument. The criteria must provide for close agreement among raters while indicating differences between substitute teachers. Questionnaire items were selected to attempt to accomplish this purpose. In an effort to produce a questionnaire that would be reasonably easy to complete, items had to be limited. Potential items for the questionnaire far exceeded the final fifty selected.

Items were selected to provide a well-rounded picture of substitute teacher performance, covering the literature review, the field test, and four teaching areas. The four teaching areas covered in Table 1. are productive teaching techniques, structured learning environment, positive interpersonal relations, and professional responsibilities (Manatt & Stow, 1984).

Table 1. Substitute teacher questionnaire items by category

<u>Literature Review</u> Items	<u>Productive Teaching Techniques</u> Items	<u>Structured Learning Environment</u> Items	<u>Positive Interpersonal Relationships</u> Items	<u>Professional Responsibilities</u> Items
1, 2, 6, 11, 15, 17, 18, 19, 20, 22, 24, 25, 26, 28, 30, 31, 33, 34, 35, 36, 38, 39, 46	4, 5, 13, 23, 27, 29, 33, 40, 42, 43, 44, 47, 48, 49, 50	5, 6, 7, 9, 19, 37, 38, 39, 41, 45	1, 3, 8, 14, 16, 21, 25, 32,	10, 12, 14, 15, 22, 28

Some overlapping between these areas was unavoidable, but the ultimate goal was to provide sufficient criteria for districts to develop a good instrument.

The role of substitute teachers in today's school is clearly negative. Entering the classroom, substitute teachers face a bewildering array of problems. Low pay, personal insecurity, isolation, and a sense of inadequacy are roadblocks they must face. The negative, often uncaring attitudes of school personnel, students and the public further complicate the issue, causing substitute teachers to view their position as unworthy. Faced with these problems it is little wonder that school districts are confronted with large turnovers in substitute teaching numbers, and no surprise that substitute teaching is not viewed as a long term solution to unemployment.

Substitute teachers can significantly change these negative perceptions if they arrive to teach well prepared. A knowledge of effective classroom management techniques can help them establish better rapport with students. Expectations for high performance from students, giving students ownership in instructional opportunities, and demonstrating purposeful, professional performance in the classroom can help substitute teachers gain respect and better recognition. Substitute teachers survive in a marginal situation, with little authority and usually an even weaker understanding of the rituals of the classroom. This is not what they want. They want professional recognition as worthy staff members. Even more than professional recognition, they want and deserve higher pay. Districts nationwide are not paying well so they are not getting much in return. Pay per day approximating that of regular teachers will place the responsibility for quality instruction squarely on the

shoulders of the substitute teacher. Quality instruction is one of the keys to student gains. The "babysitting image" must be abolished. Substitute teachers who receive the training, pay, and recognition they deserve stand a better chance of helping students learn more in the classroom.

Quality instruction can occur only when substitute teachers possess effective teaching skills. In addition, flexibility in accepting various teaching assignments is essential. Substitute teachers must possess the same teaching skills that classroom teachers possess. Following lesson plans and implementing effective management techniques and strategies, rank high on the list of necessary skills substitute teachers must possess. Currently, they do not have sufficient opportunities to acquire the training necessary to gain these skills. This will not change until school districts accept responsibility for providing training opportunities for substitute teachers.

Regular teachers have many opportunities for training and inservice. Substitute teachers have few opportunities. Yet those districts who have dedicated the time and money necessary to provide training have reaped the benefits of better prepared and happier substitute teachers. Paying substitute teachers an equitable pay based on experience and performance can help districts retain suitable numbers of substitute teachers. Any effort districts make to raise the standards and working conditions of substitute teachers raises the possibility that students will be more receptive and learn more in the classroom. This work will make a contribution towards strengthening evaluation processes and the professional role of substitute teachers.

CHAPTER III. METHODS

This study identified criteria for the evaluation of substitute teachers which may be used by local schools to build evaluation instruments to provide a more accurate assessment of substitute teacher performance. A questionnaire was developed and administered to substitute teachers, teachers, administrators, and students to test the criteria based on item discrimination power. The development of the questionnaire, subjects participating, procedures for data collection, and the statistical analysis used are examined in this chapter.

Questionnaire Construction

Item selection for the questionnaire was based on a review of evaluation instruments, job descriptions, substitute teacher's skills, performance criteria listings, and literature describing desirable substitute teacher behaviors. This process yielded numerous duplications and many similar items. While creating the criteria pool, hundreds of possible performance behaviors were identified. The fifty criteria used for the Substitute Teacher Performance Item Discrimination Questionnaire (Appendix A) were primarily selected on the basis of priority and frequency of appearance in the review of literature.

Teachers, the immediate supervisor of the substitute teacher being rated, students, and substitute teachers completing a self-evaluation, all responded to exactly the same survey. The instructions for completing the questionnaire asked a minimum of fifteen raters to evaluate the performance of the

designated substitute teacher on each item utilizing a five-point scale: never or strongly disagree, seldom or disagree, sometimes or neither agree nor disagree, often or agree, and always or strongly agree. Unable to observe, no response, or no mark entered equaled a six for scoring purposes (Hidlebaugh, 1973, p. 69). Directions and examples were supplied on every questionnaire. Raters were asked to fill in the proper circle on the answer sheet. Questions were randomly ordered so any categorization of items would not be apparent to the rater.

On October 14, 1989, the questionnaire was administered to a volunteer group of graduate students majoring in Educational Administration at Iowa State University. These students played the roles of substitute teacher, teacher, administrator, and student in order to give appropriate feedback on the construction of the questionnaire. Because of this field test, which took 15 minutes to complete, several refinements and clarifications were made in the introduction, instructions, and wording of items.

Sample Selection and Collection of Data

Subjects who participated in the study were from two public school systems with student populations of more than 5000 and several school districts in Iowa and Wyoming. Listings of the districts, enrollments, and number of substitute teachers participating are in Appendix D.

A contact person was established in each district during the fall of 1989. Each contact person was mailed a survey: Rockingham County Schools in November, 1989, and 23 Iowa and Wyoming public schools in January, 1990,

asking for school district background data, plus the following information for each school with a substitute teacher involved: name of each substitute teacher, sex of each substitute teacher, enrollment, telephone number, and name of the person designated to receive and return the envelopes with the answer sheets.

When the information on participating substitute teachers was received at Iowa State University, the questionnaire packets were prepared. On December 5, 1989, a box of materials was sent to Rockingham County Schools with a separately bound packet for each participating substitute teacher in their district. Each of these bundles contained 18 envelopes with the name of the substitute teacher being rated written in the upper right-hand corner. The assistant superintendent of schools asked to have the materials prepared so he could sort and deliver them to the participating schools himself. Self-addressed envelopes, prepared for mailing the answer sheets back, were included with each packet. Inside each rater's envelope was a questionnaire, instructions, and an optical mark score sheet.

In late December, 1989, the Assistant Superintendent of Rockingham County Schools indicated by telephone that he was having difficulty persuading administrators in the secondary schools to use students as raters. The principals were reluctant to use classroom time to complete the surveys. They refused to allow the distribution of the surveys to students because they did not think they would be returned. The assistant superintendent indicated that the principals were confident they could get 18 raters without using students. The principals were unhappy about filling out the survey before

vacation, especially since unusually poor weather had forced the closing of school for six days, resulting in a backlog of all school matters. Only one school indicated they were going to use student raters. The request letter to use students in the Iowa and Wyoming schools was modified in an effort to increase returns (Appendix B). Procedures for collecting data were left exactly the same for both districts. Data were collected in December, 1989, January, 1990 and February, 1990. Only those questionnaires returned by February 6, 1990, were utilized in this study.

Treatment of Data

Edward's (1989); Hidlebaugh's (1973), Judkins' (1987), Look's (1983), Lueders's (1987), and Uhl's (1988) employment of the Menne and Tolsma (1971) methodology for determining item discrimination power was used in this study to analyze the 50 criteria on the Substitute Teacher Performance Item Discrimination Questionnaire.

The pattern of between-group and within-group variances was used to determine which items discriminated (Menne & Tolsma, 1971). A certain percentage of the total sum of squares must be due to between-group variance in order for an item to discriminate. Hidlebaugh (1973) asserted that:

Since the ratio of between to within-group mean squares, under the usual analysis of variance assumptions, varies as the F statistic and is also influenced by the size sample, it is more pragmatic to use the percentage of total sum of squares due to between-groups as an appropriate discrimination index (pp. 41-42).

A between-group minimum percentage of the total sums of squares sufficient to discriminate at the .05 level of significance is 13 percent. Table 2

displays the sources of data analyzed in determining item discrimination. An 18 rater minimum was used to provide for a cushion of three extra raters since there was no way to control those who might return the questionnaire blank. At least 15 raters were necessary to meet the requirements of the Menne-Tolsma (1971) test. The 13 percent was computed algebraically as follows:

<u>Source</u>	<u>DF</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Between groups	2-1 = 1	x	$\frac{x}{100-x/28}$	$\frac{4.20}{1}$
Within groups	2(15-1) = 28	<u>100-x</u>		
Total	29	100		

Therefore:

$$\frac{\frac{x}{100-x}}{28} = 4.20$$

$$x = 4.20 \quad \frac{100-x}{28}$$

$$28x = (4.20) (100-x)$$

$$28x = 420 - 4.20x$$

$$(28 + 4.20)x = 420$$

$$32.2x = 420$$

$$x = 13.04$$

$$100 - x = 86.96$$

This minimum situation assumes the item is to distinguish between two groups with a minimum number of at least 15 raters per group.

Table 2. Analysis of variance for two groups with 15 subjects per group

Source	DF	SS	MS
Between groups	2-1 = 1	13%	13
Within groups	2(15-1) = 28	87%	$\frac{87}{28}$
Total	29	100%	

*The critical F value with 1 and 28 degrees of freedom at the .05 level is 4.20.

Table 2 is an illustration of the minimum number of subjects (30) needed in order to establish a critical F value of 4.20 at the .05 level of significance. The between-group minimum percentage of the total sums of squares sufficient to discriminate at the .05 level of significance is 13 percent. A between-group minimum percentage of the total sums of squares sufficient to discriminate, at the .01 level of significance, is 22 percent. Both minimum percentages assume the item is to distinguish between two rates being rated by at least 15 raters each. The Menne and Tolsma (1971) formula reasons that:

If an item is a discriminating one in a situation involving a few small groups, then it will also be capable of discriminating among more numerous and/or larger groups. The reverse, of course is not true (Menne & Tolsma, 1971, p. 6).

A Cronbach Alpha reliability coefficient was computed for all criteria established as discriminating at the .05 level of significance to provide an estimate for internal consistency. This procedure assesses the inter-item consistency or homogeneity of the items and is used for measures which have

multiple-scored scales. Reliability coefficients were calculated for all discriminating items as a whole, then recalculated using the groupings from Table 1. Item 10 was not discriminating and was not used in these calculations.

An analysis of variance (ANOVA) was used to test the statistical significance of group means for each item by rater position and school enrollments. ANOVA is the method for testing the null hypothesis $H_0: \mu_1 = \mu_2 = \mu_3$ "Using one-way ANOVA, the equality of all population means can be tested simultaneously while maintaining the preestablished Type I error rate" (Hinkle, Wiersma & Jurs, 1988, p. 357). The Scheffé multiple range test was calculated for each item that discriminated to determine which group means differed significantly. The Scheffé post hoc test is used in research settings in which a researcher is interested in testing complex hypotheses to determine where the significant differences between groups occur (Hinkle, Wiersma & Jurs, 1988). In addition, descriptive data explaining shrinkage, rater return, rater position, no responses, and district location and size are described in Chapter 4. Each substitute teacher was assigned an identification number at the onset of the study and these numbers were used to report all results.

Data were coded on the computer scored sheets to allow for analysis of: individual rater returns, school location by state, school size, male or female substitute, substitute teacher identification number only, and sex of raters, Coding of data allows flexibility in reporting and analyzing results so special efforts were made to ensure accurate results. All computer scored answer

sheets were counted and tabulated by hand prior to computer analysis. These results were checked against the computer results to ascertain errors in coding. Much time is saved by careful adherence to these procedures prior to computer analysis of the data. The special codes section of the computer scored sheet was utilized for the coding in this fashion:

Letter K	Letter L	Letter M	Letter N	Letter O
0=Substitute	0=Iowa	0=Small School	0=Male	0=>15
1=Administrator	1=Virginia	1=Medium School	1=Female	1=<15
2=Teacher	2=Wyoming	2=Large School		
3=Student				
4=No rater given				

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected, that risks were outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data was assured, and that informed consent was obtained by appropriate procedures.

CHAPTER IV. FINDINGS

Introduction

This study's major focus was the identification of criteria, based on item discrimination power, that could be used in the development of an evaluation instrument for substitute teachers. Data were collected by using a 50-item questionnaire which was developed utilizing both a thorough review of the literature on substitute teachers and effective teaching skills applicable to this study. Item reliability and validity measures were also carefully analyzed in this study.

In December, 1989, and early January, 1990, questionnaires for this project were sent to 64 substitute teachers in 24 school districts in Virginia, Iowa, and Wyoming. Requests were made to rate each of the substitute teachers by eighteen knowledgeable: teacher, immediate supervisor (administrator), or student. Those choosing not to answer the questionnaire were asked to return the answer sheet in the sealed envelope provided, in order to protect their anonymity. There was a potential of 1152 responses: 558 from Virginia, 432 from Iowa and 162 from Wyoming. A detailed analysis of each hypothesis appears immediately following the analysis of all returns.

Analysis of All Returns

By February 6, 1990, the cutoff date for computer analysis, computer scored answer sheets were returned by 757 raters, 714 of them completed and 43 unmarked. There were 232 questionnaires not returned from Virginia; 155

Table 3. Summary of substitute teacher questionnaire return totals

Substitute Returns	M	F	Sub. Self Eval.	Adm.	Tch.	Stu.	No Rater Given	Blank Return	Returned Completed
Grand Total									
All returns	5	48	39	74	538	47	16	43	714
Minimum of 15 raters (IA)	0	15	15	21	187	24	0	0	247
Minimum of 15 raters (VA)	2	10	10	22	161	2	2	1	197
Minimum of 15 raters (WY)	1	6	7	7	79	14	4	1	111
Grand total Minimum of 15 raters	3	31	32	50	427	40	6	2	555

not returned from Iowa and 50 not returned from Wyoming. Three of 31 substitute teachers from Virginia, five of 24 substitute teachers from Iowa, and two of seven substitute teachers from Wyoming (180 questionnaires total) did not have a single questionnaire returned by February 6, 1990. A total of 43 (3.73%) questionnaires were returned blank and 395 (34.38%) were either not returned at all or returned after the deadline for computer analysis.

This provided a total rater response to the questionnaire of 65.71 percent. The return in percentages from each state was: 58.42 percent from Virginia, 64.12 percent from Iowa and 69.13 percent from Wyoming. Returns were received on 53 of a potential 64 substitute teachers.

Table 4. Substitute teacher and rater questionnaire returns for Iowa

Substitute Id # (IA)	M	F	Sub. Self Eval.	Adm.	Tch.	Stu.	No Rater Given	Blank Return	Returned Completed
01 ^a		1	1	1	15	0	0	0	17
02 ^a		1	1	1	15	0	0	0	17
03 ^a		1	1	0	17	0	0	0	18
04 ^a		1	1	1	15	0	0	0	17
05 ^a		1	1	1	14	0	0	0	16
06		1	1	1	8	0	0	0	10
07		1	1	2	1	7	0	0	11
08 ^a		1	1	1	14	0	0	0	16
09 ^a		1	1	0	15	0	0	0	16
10 ^a		1	1	1	13	0	0	0	15
11 ^a		1	1	0	1	16	0	0	18
12 ^a		1	1	2	13	0	0	0	16
13 ^a		1	1	2	13	1	0	0	17
14 ^a		1	1	3	13	0	0	0	17
15 ^a		1	1	3	11	0	0	0	15
16		1	1	0	8	0	0	0	9
17 ^a		1	1	1	13	0	0	0	15
18 ^a		1	1	4	5	7	0	0	17
19-24									0
Totals-(IA)	0	18	18	24	204	31	0	0	277

^aMinimum 15 raters returned.

Eighteen raters were asked to evaluate each substitute teacher's performance by completing the 50-item questionnaire. A minimum of fifteen ratings was obtained on 34 of the subjects in the study, meeting the requirements of the Menne and Tolsma (1971) test for determining item

Table 5. Substitute teacher and rater questionnaire returns for Virginia

Substitute Id # (VA)	M	F	Sub. Self Eval.	Adm.	Tch.	Stu.	No Rater Given	Blank Return	Returned Completed
25		1	0	2	9	0	0	5	11
26		1	0	2	8	0	0	3	10
27		1	0	2	8	0	0	6	10
28		1	1	1	4	0	0	0	6
29 ^a		1	1	1	16	0	0	0	18
30	1		0	2	3	0	0	7	5
31		1	0	1	2	0	0	1	3
32 ^a		1	1	2	14	0	0	0	17
33		1	0	2	9	0	0	0	11
34		1	1	1	7	0	0	6	9
35		1	1	2	7	0	0	1	10
36 ^a		1	1	1	16	0	0	0	18
37		1	0	1	10	0	1	3	12
38		1	0	1	4	0	0	0	5
39		1	0	1	5	0	2	5	8
40 ^a		1	1	1	12	0	1	0	15
41		1	0	2	6	0	0	4	8
42	1		0	0	5	0	3	0	8
43 ^a	1		1	2	12	0	1	1	16
44 ^a		1	1	1	16	0	0	0	18
45		1	0	0	4	0	4	0	8
46 ^a		1	1	3	13	0	0	0	17
47 ^a		1	1	2	13	0	0	0	16
48		1	1	1	3	0	0	0	5
49 ^a		1	0	2	13	0	0	0	15
50 ^a		1	1	2	13	0	0	0	16
51 ^a		1	0	3	13	0	0	0	16
52 ^a	1		1	2	10	2	0	0	15
53-55									0
Totals (VA)	4	24	14	43	255	2	12	42	326

^aMinimum 15 raters returned.

Table 6. Substitute teacher and rater questionnaire returns for Wyoming

Substitute Id # (WY)	M	F	Sub. Self Eval.	Adm.	Tch.	Stu.	No Rater Given	Blank Return	Returned Completed
56 ^a	1		1	1	13	0	1	0	16
57 ^a		1	1	1	12	1	1	0	16
58 ^a		1	1	1	12	0	2	0	16
59 ^a		1	1	1	14	0	0	0	16
60 ^a		1	1	2	11	2	0	0	16
61 ^a		1	1	1	11	3	0	0	16
62 ^a		1	1	0	6	8	0	1	15
63-64									0
Totals-(WY)	1	6	7	7	79	14	4	1	111

^aMinimum 15 raters returned.

discrimination power. The mean of rater return per substitute teacher, including those not meeting the fifteen rater minimum was 13.47. The mean return of those returning at least fifteen completed forms was 16.32 (Table 7).

The distribution of all returns from the schools involved is presented in Tables 3, 4, 5, and 6. A list of districts, enrollments, and number of substitute teachers asked to participate can be found in Appendix D. The positions of raters who completed the questionnaire and the numbers of raters who rated each substitute teacher are displayed in Table 7 and Table 8. It was difficult to obtain a minimum of fifteen ratings on each substitute teacher as this study progressed. The majority of people who filled out the questionnaire, except

for the students, did not spend much time in the classroom directly observing the substitute teacher. More often than not, teachers had to base their judgement on knowledge gained after the fact from the writing of the substitute, the reports from students and other teachers, and the comments of administrators. It was discovered that a large number of the items dealing with classroom instruction were left blank.

Data were reported in Tables 3, 4, 5, 6, and Appendix C, summarizing all of the questionnaires returned, but only 77.73 percent of the total returns were used in the Menne and Tolsma (1971) analysis. Total data on all substitute teachers were reported to demonstrate shrinkage. The group of schools

Table 7. Number of raters who rated each substitute teacher^a

	Number of substitute teachers	Number of raters for each substitute teacher	Number of ratings
	5	18	90
	8	17	136
	14	16	224
	7	15	105
	<u>18</u>	<u><15</u>	<u>159</u>
Totals	52 ^b		714 ^b
	34 ^c		555 ^c
	64 ^d		1152 ^d

^aMean number of raters per substitute teacher: total raters = 13.47; minimum of 15 raters = 16.32.

^bTotal returns including those with less than 15 raters.

^cReturns with a minimum of 15 raters per substitute teacher.

^dPotential returns.

representing medium sized schools accounted for only 5.88 percent of the return. Large schools accounted for 73.24 percent and small schools accounted for 20.86 percent. Slightly more than half of the potential raters (53.13%) returned sufficient questionnaires to utilize the Menne and Tolsma (1971) formula (Appendix D). Potentially, 64 substitute teachers could have returned the self rating. Ratings were received on only 53 substitute teachers and only 39 returned a self rating. Iowa had only one substitute not filling out a self rating and Wyoming returned all of theirs. Virginia returned only 14 self ratings. Of the 34 substitute teachers used in the Menne and Tolsma (1971) analysis, only two did not have a self rating. Both were from Virginia. The total return rate of 65.71 percent could not be used in the item discrimination analysis. Only 48.18 percent, or the number with a minimum of 15 raters was used to calculate the item discrimination analysis.

The first 28 items in Appendix F summarize those items that did not show any significant differences between rater groups. The last 21 items in the same table show those items with significant differences. Item 12, "Demonstrates appropriate grooming and attire," had the highest grand mean of 4.70. Item 43, "Uses visual, tactile, and auditory instructions," had the lowest grand mean of 3.88. Seven items not measuring significant differences between groups had grand means < 4.00. Two items measuring significant differences between groups had grand means < 4.00. A total of only nine items had grand means < 4.00. All other items had grand means \geq 4.00.

Table 8. Position of raters who completed the substitute teacher performance item discrimination questionnaire

Rater Position	Number	Percent
Substitute Teachers (self rating)	39	3.39
Administrators	74	6.42
Teachers	538	46.70
Students	47	4.08
Rater position not given	16	1.39
Questionnaire not returned/blank	<u>438</u>	<u>38.02</u>
Totals	1152	100.00

Students might have provided a better measurement of classroom instruction, but the difficulties in obtaining student ratings were far greater than any other rater population. Principals in Virginia hesitated to even give the ratings to students, claiming the research effort did not justify the interruption in classroom time. They also refused to distribute the questionnaires to students on a random basis, claiming the return would not be worthwhile. In fact, the whole project was placed in jeopardy in Virginia when school officials were urged to obtain some student ratings. Rather than face the prospects of not getting a return, school officials were urged to maintain efforts to complete the questionnaires, but not insist on student ratings. This difficulty did not arise until late in the school year (December). Considerably higher return rates could have been collected if the district would have alerted everyone of the magnitude of this problem earlier in the school year.

Item Discrimination Questionnaire Analysis

A five-point scale was used to rate the substitute teacher performance on the 50-item questionnaire. The directions stated that any item left blank would be treated as a "not observed" in the analysis. Points one through five on the scale were presented on the questionnaire in this fashion:

Rating Scale

Never or strongly disagree	Seldom or disagree	Sometimes or neither agree or disagree	Often or agree	Always or strongly agree
1	2	3	4	5

(Unable to observe, no response, or no mark is entered=6 for scoring purposes)

Please fill in the appropriate circle on the answer sheet.

A frequency count was recorded for each of the answers counting a six for no mark. The "unable to observe or no response" rater response for the 50 items ranged from .7 percent to 19.7 percent. Appendix G illustrates the number and percent of evaluators for each survey item who indicated that substitute performance was not observable. The same results can be found in Appendix H with the items ranked from low to high.

Research hypothesis 1

Research hypothesis 1 stated that there will be no significant difference in the discriminating power of the items on the substitute teacher performance criteria questionnaire. The Menne and Tolsma (1971) methodology for determining item discrimination power for questionnaires using group responses was applied to the 50 items for 34 substitute teachers. Each substitute teacher used in this part of the statistical analysis had a minimum of fifteen ratings.

Analysis revealed that 49 of the 50 items discriminated or measured differences between substitute teachers. The null hypothesis was rejected on all but item number 10, "Shows dependability and punctuality". The analysis indicated that 49 items had a sum of squares between-group variance equal to or exceeding 13 percent of the variance for total sums of squares, the criterion established for discriminating at the .05 level of significance. Item discrimination values ranged from 12 percent, Item 10, "Shows dependability and punctuality", to 29 percent, Item 11, "Possesses appropriate certification and teaching experience", for each of the 50 criteria (Appendix J). The item discrimination values are displayed for all substitute teachers in Appendix I and in rank order in Appendix J.

The Cronbach Alpha reliability coefficient to determine internal consistency was .9740 for the 49 items with a discriminating value of 13 percent or greater. Reliability coefficients were analyzed for all 49 items first, then broken down by subgroups to further verify and analyze the results.

Table 9. Cronbach Alpha reliability coefficients for Hypothesis 1^a

<u>Literature Review</u> Reliability 23 Items	<u>Productive Teaching Techniques</u> Reliability 15 Items	<u>Structured Learning Environment</u> Reliability 10 Items	<u>Positive Interpersonal Relationships</u> Reliability 8 Items	<u>Professional Responsibilities</u> Reliability 5 Items
.9488	.9261	.9044	.9084	.7688

Hypothesis 1 Total Alpha Cronbach for 49 items and 335 cases was .9740

^aCategories from Table 1. minus Item 10. (Item 10 was originally under professional responsibilities.)

Substitute teacher ratings must be relatively free of error variance if they are measures of true differences in substitute teacher performance. Note that high Cronbach Alpha reliability coefficients may indicate that all items are measuring the same thing, a Gestalt measurement so to speak. To protect against this, the reliability coefficients for each subgroup were also analyzed. The high test results that resulted provide reasonable assurance that the ratings can be used in evaluation instruments.

Research hypothesis 2

Research hypothesis 2 stated there will be no significant difference in substitute teacher appraisal ratings based on the rater position of principals/supervisors, teachers, or students. An analysis of variance (ANOVA) and a Scheffé multiple comparison were utilized on the 49 items identified as having the power to discriminate. The 555 rater responses were divided into four position categories which included 32 substitute teachers, 50 administrators, 427 teachers, and 40 students (Table 3, last line). Only 549 rater responses were used for this part of the analysis. Those indicating no rater were not used.

This treatment of the data revealed significant differences between the means of rater positions on 14 of the questionnaire items (Appendix E). Treatment of the data also revealed significant differences between rater positions on 21 of the questionnaire items (Appendix F). Thirteen items were significant at the .05 level and eight items were significant at the .01 level. The critical F ratio for the difference in the means of the four rater groups was 2.60

at the .05 level of confidence and 3.78 at the .01 level of confidence. The 49 items in rank order from low to high by ANOVA F ratio for the combined rater positions are reported in Appendix F.

The Scheffé multiple range test was applied to each item that discriminated to determine which of the rater group means were significantly different at the .05 level. The rater position group ratios which differed significantly are displayed in Appendix F, with means underlined in Appendix E. Item 3, "Sensitivity in relating to students," had the highest F ratio of 9.4411. Item 50, "Uses closure where appropriate," had the lowest F ratio of .06.

Seven of the 21 significantly different items were rated lower by the student raters than by the substitute teacher self evaluation (Appendix E). Students also had significantly different means than teachers on seven items: (Appendix E). On two items, Item 12, "Demonstrates appropriate grooming and attire," and Item 3, "Demonstrates sensitivity in relating to students," students rated substitute teacher performance significantly lower than administrators. Administrators rated Item 28, "Demonstrates ability to write in a clear, accurate manner," significantly lower than teachers, and Item 9, "Accepts different racial, ethnic, cultural, and religious groups," significantly lower than substitute teachers. Teachers ratings for substitute teacher performance were significantly lower than substitute teachers on two items, Item 9, "Accepts different racial, ethnic, cultural and religious groups," and Item 21, "Respects confidences". It is noteworthy that only Item 3, "Demonstrates sensitivity in relating to students," had three groups which

were significantly different. Students on this particular item produced significantly lower ratings than substitute teachers, administrators, and teachers.

Research hypothesis 3

Research hypothesis 3 stated there will be no significant difference between the items which discriminate for male raters and the items that discriminate for female raters. The Menne and Tolsma (1971) methodology for determining item discrimination power for questionnaires using group responses was applied to the 50 items for the 198 male and 317 female raters. Forty raters were not included in this portion of the analysis because they did not designate gender. The analysis indicated that all 50 items had a sum of squares between-group variance equal to or exceeding 13 percent of the variance for total sums of squares, the criterion established for discriminating at the .05 level of significance. However the results were not valid because the number of male and female raters did not produce the minimum number of raters needed to make the formula work correctly. These spurious results could not be used. Therefore Hypothesis 3 could not be tested.

There is no way of ascertaining if the high rate of blank returns from Virginia (Table 5) can be attributed to the uneasiness caused by the initial insistence on getting as many forms as possible returned. The difficulties with Virginia caused a slight modification in the initial request letter to the Iowa and Wyoming schools participating in the study. The letter of request was

modified, but the directions, questionnaire and all materials presented to the raters remained exactly the same.

CHAPTER V. SUMMARY, CONCLUSIONS, LIMITATIONS, DISCUSSION, AND RECOMMENDATIONS

This study identified a pool of items for use in evaluation instruments for substitute teachers. There were 555 substitute teachers, administrators, teachers and students who rated 34 substitute teachers from 24 school districts in Virginia, Iowa, and Wyoming. Data were collected through utilization of a 50-item questionnaire with a minimum of 15 raters for each substitute teacher, using a five-point rating scale to complete each item.

The Menne and Tolsma (1971) methodology was applied to the participant's responses to determine item discrimination power. A sum of squares between-groups difference equal to or exceeding 13 percent of the variance for total sums of squares was the criterion established at the .05 level of significance. The Cronbach Alpha reliability coefficient was calculated on items with discriminating values of 13 percent or greater to determine the internal consistency of the substitute ratings. Items were grouped into four categories and reliability coefficients calculated in several ways to reaffirm the original results.

Analysis of Data

1. Forty-nine of the 50 items on the questionnaire discriminated or measured significant differences between the 34 substitute teachers involved in the final data analysis. Item 10 "Shows dependability and punctuality," was the only item failing to meet the 13 percent criteria.

2. Item by item, rater observability of substitute teacher performance varied considerably. The "unable to observe" or blank rater response ranged from .7 to 19.7 percent of the 555 ratings for each of the 50 items.

3. A total of 21 of the questionnaire items produced significant differences in the means of rater positions. Seven items had a significant difference between the students' group mean and the substitute teachers' self-evaluation group mean and on all of these items, students rated substitute teacher performance lower than substitute teachers. Students also had significantly different means than teachers on seven items. On two items students rated substitute teacher performance significantly lower than administrators. Administrators rated one item significantly lower than teachers, and one item significantly lower than substitute teachers. Teachers ratings for substitute teacher performance were significantly lower than substitute teachers on two items. Only one item had three groups which were significantly different. Students rated this particular item significantly lower than did substitute teachers, administrators, and teachers.

4. "Uses closure where appropriate," was the item which received the lowest discrimination value for all substitute teachers.

5. "Sensitivity in relating to students," was the item which received the highest discrimination value for all substitute teachers.

6. Item discrimination values utilizing gender as a discriminator could not be determined because of insufficient numbers of male raters for the analysis.

Conclusions

The following conclusions are offered concerning the analysis of the data and compilation of information collected in the review of literature.

1. The Menne and Tolsma (1971) methodology for determining the discrimination power of items on instruments using group rater responses can be used to identify discriminating items for the purpose of developing a pool of substitute teacher evaluation items based on groups of 15 raters.
2. A pool of 49 items was identified as each having the quality to measure differences among substitute teachers based on groups of 15 or more raters.
3. A Cronbach Alpha reliability coefficient for the pool of 49 items was calculated to be .9740. Cronbach Alpha coefficient interpretations encompass a number of considerations including at least: (1) length of test-the longer the test the greater the reliability or more representative it should be of the true scores of the persons who take it; (2) ability of individuals-the ability of the individuals taking the test to read and interpret the items; (3) minimum acceptable reliability-must be as good or better than the reliability of competing measures (Ary, Jacobs, & Razavieh, 1985). Cronbach Alpha coefficients for pools of items on similar studies utilizing the same methodologies are important for comparison: Edwards (1989) reported a coefficient of .992; Look (1983) a coefficient of .982; Lueders (1987) a coefficient of .992; and Uhl (1988) a coefficient of .996. These high reliability coefficients strongly indicated the items contained in the pools were consistently measuring what they intended

to measure. The same is true for the factor of substitute teacher performance in this study.

4. Performance evaluation of substitute teachers can be done by 15 to 18 raters in the same school.

5. Not all raters can adequately observe the performance of substitute teachers. Item selection must carefully consider the ability of raters to observe performance.

6. Discrimination power of the items used in this study varied considerably.

7. Students were by far the most severe raters of all groups.

8. School employees resist and, in many cases, resent taking time to evaluate substitute teachers. They would rather ignore this group of people.

Limitations

A number of limitations were imposed by the design of this study. They were:

1. Participation in this study was voluntary on the part of substitute teachers. This decision may have influenced the selection of substitute teachers who were asked to participate.

2. Individual participation of administrators, teachers, and students was on a voluntary basis. The composition of the groups varied widely, but was composed primarily of teachers. This may have influenced the results.

3. The performance level of the substitute teachers was not assessed independent of the questionnaire results. The investigation focused on the

items, not the substitute teacher as the unit of study. However, selection of long term substitute teachers narrowed the field of selection to a much smaller field.

4. The difficulty in achieving a minimum of 30 substitute teachers rated by a minimum of fifteen raters necessitated broadening the original field to include both small and medium sized schools in three states. This was due in large part to the difficulties in collecting data faced by the district administrator in Virginia. Some principals there were reluctant to participate.

5. Administrators participating in the study, particularly those involved in the selection of substitute teachers, were almost universally full of praise for the substitute teacher selected. Their opinions could have affected the ratings of administrators.

6. Substitute teachers participating in the study were promised confidential reports on their means and the group means of the 15 or more raters who filled out the same questionnaire on their behalf. This knowledge could have affected their self ratings.

7. Each school district participating in this project did so on a voluntary basis. The very act of agreeing to take part could be an indication that the district is more interested in securing an evaluation instrument for substitute teachers than a district selected randomly.

8. The low rate of returns necessitated considerable effort on the part of administrators to get the forms completed and returned. This could have had a negative bearing on the ratings by individuals who may have reacted to this pressure.

9. The study concentrated on items that described specific, observable substitute teacher behaviors. Item selection, not substitute teacher performance was the focus. No attempt was made to deal with substitute teacher effectiveness as measured by outcomes.

10. The number of male substitute teachers involved in this study was considerably lower than desired.

11. The 555 raters had difficulty appraising some of the criteria they were asked to rate. Ten of the items had 12 percent or more of the raters leave the item blank, indicating that they were unable to observe the substitute teacher behavior. This may have influenced the results.

12. The last page of the questionnaire (items 43-50) was left blank by several raters. This may have indicated that the questionnaire was tedious to complete and that some raters merely quit.

13. The poor return rate affected the computer analysis of Hypothesis 3 and may have influenced the results in other areas.

14. Some of the data were eliminated from the Menne and Tolsma (1971) treatment and the treatment of Hypothesis 2 because the sample size was lower than the minimum number of 15 rater per substitute teacher necessary for correct results. Inclusion of these data, if it would have been appropriate, could have changed the results.

15. This methodology only provides a means to determine how well an item measures differences in substitute teacher behaviors.

16. The 40 items in Appendix K were selected based on data analyzed on substitute teachers rated by 15 or more raters. The same items may not be discriminating among substitute teachers rated by fewer than 15 raters.

17. Small (N) cell size on some items affected the significance of differences between means of some groups. Larger (N) sizes may have changed some of the outcomes.

Discussion

When perfection is the ultimate goal, often it becomes a moving target. This was the case in this study when it came to collecting enough data to perform a computer analysis. Collecting questionnaires on substitute teachers in the public schools is an extremely difficult task. Often school employees do not willingly give of their time for research projects in the first place, and in the case of substitute teachers, in some instances actually resented having to complete the questionnaire. Administrators were forced to exert pressure to receive a minimum of fifteen ratings, and the poor return rate indicated apathy on the part of raters.

Item selection for the questionnaire for the most part was very good since 49 of 50 items discriminated at least at the .05 level of significance. These results support the findings of the Menne and Tolsma (1971) methodology employed by Edwards (1989), Hidlebaugh (1973), Judkins (1987), Look (1983), Lueders (1987), and Uhl (1988). However, not all the results turned out as anticipated. Hypothesis 3 had to be discarded because of spurious results. This

is part of the scientific process though and is not reported shamefully. Robert Pollack said it best.

Published error is at the heart of any real science. We scientists love to do experiments that show our colleagues to be wrong and, if they are any good, they love to show us to be wrong in turn. By this adversarial process, science reveals the way nature actually works.

Science differs from politics, or religion, in precisely this one discipline: we agree in advance to simply reject our own findings when they have been shown to be in error. There is no shame to this. The freedom to make and admit mistakes is at the core of the scientific process. If we are asked to forswear error, or worse, to say that error means fraud, then we cannot function as scientists (p. 149).

Although all results did not meet expectations, the study was still worthwhile.

In the literature, there is a body of knowledge outlining evaluative criterion that are characteristic of effective teachers. This study supports and strengthens that body of knowledge. Hidlebaugh (1973), Judkins (1987), and Uhl (1988), all identified certain criterion that this study reaffirms. A comparison of their results with the results of this study show similarities in the characteristics of effective teaching in these areas: (1) establishing good rapport with students, other teachers, and administrators; (2) preparation, knowledge of subject matter, and lesson presentation; (3) sensitivity to student needs and ability to establish a positive working relationship with students, and (4) ability to establish firm, fair classroom procedures and an atmosphere of confidence, understanding, and respect. In these studies, the key to success is, and still remains, the teacher's ability to center their professional expertise on meeting the needs of students.

This study will give all interested readers a different, clearer view of substitute teachers, especially if they consider the feelings and opinions of students. No longer should administrators and teachers ignore substitute teachers, but should try to look at them as students do. Students see substitute teachers in a different light than do administrators and teachers. Although students often rated substitute teachers highly, they rated them significantly lower than administrators, teachers, and substitute self ratings on some items. Students rated substitute teacher performance lower in areas dealing with perceptions, feelings and personal issues. To see the whole picture, it is important to consider all the areas in which students rate substitute teachers significantly lower than others.

Students do not think that substitute teachers support school regulations and policies as closely as teachers and administrators do. This suggests that there is a different set of rules in operation in the classroom when nobody is watching. Students do not think substitute teachers are nearly as patient, understanding and courteous as teachers do. Maybe teachers feel guilty when they give the substitute teacher high marks in this area. Teachers might want to listen to the students more than the substitute teachers, since students rate substitute teachers' listening skills significantly lower than teachers do also.

Students sense that substitute teachers are not particularly sensitive about relating to students. Substitute teachers, administrators, and teachers all missed the mark in this area, giving significantly higher marks to substitute teachers than students did. Students are closer to the action. Their vote should count for more. At the same time, perhaps the negative perceptions

substitute teachers bring with them into the classroom, based on the way they traditionally have been treated, causes them to be defensive. It is difficult to be sensitive about the needs of others when your own needs are in need of attention. Both teachers and substitute teachers rated items significantly higher than students in this area, indicating again that students are more aware of what is really happening in the classroom.

Teachers and administrators rated the performance of substitute teachers in a similar matter on most items. The question then becomes who is the best rater group for substitute teachers? If administrators and teachers are in agreement and students rate significantly lower, student ratings would appear to be more indicative of the actual performance of substitute teachers.

Recommendations for Practice

1. Appendix K outlines a list of 40 discriminating criteria recommended for inclusion in an evaluation instrument for substitute teachers. All items are unidirectional with "never or strongly agree" always number one and "always or strongly agree" always number five.

2. Discrimination value and item observability should be carefully considered in selecting substitute teacher evaluation criteria from this study. Forty items are recommended but all items on the original questionnaire should be considered to see if they could be compatible with the districts' philosophy. Before item selection for use in substitute teacher evaluation instruments, districts should always carefully consider the policies, procedures, and philosophies of the district.

3. School boards need to address the procedures for substituting at all grade levels and wherever possible, establish specific guidelines for all staff members to follow in allowing substitute teachers to perform their assignments in a meaningful way.

4. Substitute teachers should be observed and evaluated on a regular basis, particularly through means of student evaluation forms.

5. Multiple raters do provide a safeguard for persons being evaluated. In the case of substitute teachers, multiple raters lend an opportunity for them to gain recognition for their teaching efforts. Even if only students were used, the feedback to substitute teachers would be meaningful and helpful in promoting their professional growth.

6. District personnel should keep accurate, yearly records on substitute teacher performance, particularly since these individuals can provide a valuable potential pool of fulltime teachers.

7. Using the results of multiple raters, districts could create a specific job description for substitute teachers tailored to the needs and philosophies of the district.

8. Wherever possible, substitute teachers should be assigned to specific buildings on a regular basis so they can become better acquainted with the staff and students.

9. Substitute teachers should be provided regular, ongoing inservice training in effective teaching and proper student decision making practices.

10. Substitute teachers should have access to all activities and training opportunities that all teachers can access on the local level. Policy should specifically address this issue.

Recommendations for Further Research

1. The perceptions of substitute teachers and their roles and functions in schools need further scrutiny.

2. Studies need to be conducted on the effectiveness of short term substitute teachers and the impact these persons have on students in the classroom.

3. The results of this study need to be verified. The author was unable to locate any other research effort centered on developing items specifically for the evaluation of substitute teachers. A verification should consider several changes in order to provide an even stronger study.

Research could be conducted on specific substitute teachers to compare the results by observation of the behavior of substitute teacher effectiveness as measured by student outcomes. Here again, only long term substitute teachers could be used. Strong consideration should be given to using students as the primary raters in any further studies. A study should examine the possibilities of hypothesizing if elementary students rate differently than secondary students. The questionnaire items could be redesigned to exclude those items with high returns of "not able to observe". A large district should be selected that has a pool of 40 or 50 long term substitute teachers available. The district should plan on conducting the study over the course of a year

with all staff fully aware of the procedures. Self evaluation forms could be collected as the substitute teachers exit the classroom. Students could fill out the forms at the same time, greatly increasing the number of data for analysis.

Substitute teachers need and deserve more professional treatment in schools. In many cases they are underpaid, inadequately trained, poorly treated and completely ignored when it comes to evaluation. Creating opportunities for legitimate evaluation, using criteria matching well developed job descriptions, would increase their chances of obtaining legitimacy in public education circles. Ultimately the use of such an instrument in school districts would depend upon the district establishing an evaluation philosophy, and premises to go with that philosophy that recognized the worth of substitute teachers.

For substitute teachers, the future holds great promises for improvement. We must not forget or ignore them as significant contributors to the education of our children. They are teachers and lest we forget what good teachers are, consider these words.

And what do I mean by a good teacher? One to whom teaching isn't a profession but a passion, one who is not a professional (a cold word here) but an artist and lover of teaching. One who feels with Thomas Hardy that "all the little ones of our times are collectively the children of us adults of the time, and entitled to our general care". And that there is no joy deeper than being handed a paper plate with tissue flowers pasted on it and the words "Please come back" crayoned beneath (Hayes, 1975, p. 272).

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First, I thank my Savior for allowing me to journey this far in my life. Some say I should not be here, that given my background, statistically the chances of making it this far are remote. One persistent professor in statistics 552 and 553 taught me that it is possible to be two standard deviations from the mean. My success in this program reaffirms the possibility of that calculation. I learned you can beat the odds, but I acknowledge a power greater than my own in allowing me to win this race.

Second, I owe my success to my wife, Shirley, who has supported me unwaveringly through the trials of all my educational endeavors. She has been "putting me through school for the last twenty years" and it is about time I finished! When I walk across that stage, she walks in spirit and soul with me, and will continue to do so for eternity. No man could ask for a finer companion, friend, cheerleader, coach, or proofreader. Next, I thank my children Brandon and Amber. The sacrifice they have made by having to leave their home in Rock Springs and live through this adventure has been a great growing experience for them. I know they will appreciate it a lot more in a few years.

My mother, my wife's family, my brothers, sisters, nieces, nephews, aunts, uncles, cousins and extended family the Eardleys have supported and cheered me on from the sidelines, many times with more faith in my abilities

than I could see. They all continually reaffirmed that I could accomplish this milestone. For all of you and for all of my many friends who helped me in so many ways, I express my heartfelt thanks.

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And finally, if you were to ask me if all the sacrifice, study, financial hardship, typing, proofreading, hours in the library, etc., was worth it, the answer is, "Yes!"

APPENDIX A.

SUBSTITUTE TEACHER PERFORMANCE ITEM DISCRIMINATION
QUESTIONNAIRE

Substitute Teacher Performance Item Discrimination Questionnaire

Professor Dick Manatt heads a research team at Iowa State University that has spent the better part of the last twenty years researching various aspects of education. One of the most profitable areas of research has been the identification of performance evaluation items to be used in the development of evaluation instruments for teachers, principals, superintendents, and counselors. Currently other researchers are working on instruments for other educational professionals. The focus of this research effort is to develop reliable and discriminating items for use in developing evaluation instruments for substitute teachers.

We have been fortunate to receive excellent cooperation from schools involved in this research. You too can play a prominent role in the development of an improved instrument for the evaluation of substitute teachers through the completion of this questionnaire. Rest assured that your responses will be carefully analyzed and scrupulously protected. All responses will be treated confidentially and every effort will be made to protect the disclosure of individual ratings. This 50-item survey will take approximately 15 minutes of your time to complete. Those items that are identified as having the ability to discriminate among substitute teachers will be used by countless professionals to improve performance of substitute teachers. Potentially many items might be identified; however, this questionnaire is not intended to assess the relative value of each item.

Each substitute teacher who participates in this project will receive upon request, a confidential report of the means of his/her ratings and the means for the total group of substitute teachers rated. Only substitute teachers will receive this information.

If you choose not to participate, please place the unmarked answer sheet in the envelope provided, seal it, and return it to the designated building person. Thank you very much for your help in this research effort.

Please read all the instructions carefully before beginning the questionnaire. Instructions:

1. The substitute teacher being rated will complete this questionnaire as a self-evaluation.
2. Others completing this questionnaire are asked to respond to each statement keeping in mind the substitute teacher being evaluated.
3. A computer scored answer sheet is enclosed to record your responses to the questionnaire items. Follow these directions for marking the answer sheet:

EXAMPLES	IMPORTANT DIRECTIONS FOR MARKING ANSWERS
<p style="text-align: center;">WRONG</p> <p>1 ① ② ③ ④ ⑤</p> <p style="text-align: center;">WRONG</p> <p>2 ① ② ③ ④ ⑤</p> <p style="text-align: center;">WRONG</p> <p>3 ① ② ③ ④ ⑤</p> <p style="text-align: center;">RIGHT</p> <p>4 ① ② ③ ● ⑤</p>	<ul style="list-style-type: none"> Use black lead pencil only (No. 2 or softer) Do NOT use ink or ballpoint pens Make heavy black marks that fill the circle completely Erase cleanly any answer you wish to change Make no stray marks on the answer sheet

4. Please do not enter your name on the answer sheet.
5. Print your current position title: "PRINCIPAL," "IMMEDIATE SUPERVISOR," "TEACHER," "SUBSTITUTE TEACHER," or "STUDENT," in the blank spaces under the title "NAME" in the upper left hand corner of the answer sheet. See example below. You do not need to fill in the circles under the letters.

NAME (Last, First, M. I.)															S E X M F
P	R	I	N	C	I	P	A	L							
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	

6. Please complete the box titled, "SEX."

QUESTIONNAIRE

**REMINDER: PLACE RESPONSES ON COMPUTER SCORED
ANSWER SHEET ENCLOSED.**

SUBSTITUTE TEACHER PERFORMANCE ITEM DISCRIMINATION QUESTIONNAIRE

Rating Scale

Never or strongly disagree	Seldom or disagree	Sometimes or neither agree or disagree	Often or agree	Always or strongly agree
1	2	3	4	5

(Unable to observe, no response, or no mark is entered=6 for scoring purposes)

Please fill in the appropriate circle on the answer sheet.

- | | | | | | |
|---|---|---|---|---|---|
| 1. Develops a positive working relationship with students. | 1 | 2 | 3 | 4 | 5 |
| 2. Assists students in developing a positive self concept. | 1 | 2 | 3 | 4 | 5 |
| 3. Demonstrates sensitivity in relating to students. | 1 | 2 | 3 | 4 | 5 |
| 4. Respects the personal worth of each student. | 1 | 2 | 3 | 4 | 5 |
| 5. Demonstrates ability to arouse pupil interest and enthusiasm. | 1 | 2 | 3 | 4 | 5 |
| 6. Recognizes and attempts to provide for various student abilities within the limits of the classroom situation. | 1 | 2 | 3 | 4 | 5 |
| 7. Allows students opportunities for appropriate independent and small group participation. | 1 | 2 | 3 | 4 | 5 |

Rating Scale

Never or strongly disagree	Seldom or disagree	Sometimes or neither agree or disagree	Often or agree	Always or strongly agree
1	2	3	4	5

(Unable to observe, no response, or no mark is entered=6 for scoring purposes)
Please fill in the appropriate circle on the answer sheet.

8. Creates an atmosphere in which confidence, understanding, and respect result in a helping relationship. 1 2 3 4 5
9. Demonstrates understanding and acceptance of different racial, ethnic, cultural, and religious groups. 1 2 3 4 5
10. Shows dependability and punctuality. 1 2 3 4 5
11. Possesses appropriate certification and teaching experience. 1 2 3 4 5
12. Demonstrates appropriate grooming and attire. 1 2 3 4 5
13. Demonstrates evidence of personal organization. 1 2 3 4 5
14. Seeks appropriate help or advice with a difficult or serious problem. 1 2 3 4 5
15. Supports school regulations and school policies. 1 2 3 4 5
16. Demonstrates patience, understanding, consideration, and courtesy. 1 2 3 4 5
17. Demonstrates a sense of humor at appropriate times. 1 2 3 4 5

APPENDIX B.

**SUBSTITUTE TEACHER PERFORMANCE ITEM DISCRIMINATION
QUESTIONNAIRE PROCEDURES AND INSTRUCTIONS**

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School Improvement Model
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October 25, 1989

Edward M. Manifold, Ph.D
 Assistant Superintendent, Administration
 Rockingham County Public Schools
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 4 South Main Street
 Harrisonburg, Virginia 22801

Dear Dr. Manifold:

At last I have reached the place in my dissertation research on substitute performance criteria where I can send you some information. I have developed the survey and a copy is enclosed. I piloted the survey here on campus and made a few minor revisions. Please feel free to make any corrections or additions you feel are necessary and send it back to me. Write right on the survey if you want. When I finish this whole project, I will naturally give you a corrected copy of everything. Now the real work begins! I really appreciate the time and effort you have agreed to expend on behalf of this research effort.

In order to conduct the research, I need some preliminary information from your district as soon as possible. If you would be so kind to fill out the enclosed forms and return them to me, I will begin to assemble the packets to mail back to you for distribution to appraisers.

First I need you to complete page one of the enclosed background data form (Form A), and return it to me. Page two of Form A can be filled out later by individual building principals.

Immediately following Form A are two pages designed to list the names, addresses, and sex of the substitute teachers being rated (Form C). Completion of Form C is vital for the success of the project. This form only needs to be filled out one time for the entire district. Identify the substitutes to be included in this study, and enter their names on Form C. For this study we will be using substitute teachers from your district who meet the criteria outlined in the initial research proposal. For your information, this criteria is:

- Substitute teachers selected for this study will have had to work for the district for a minimum of ten school days prior to administration of the survey, to ensure adequate visibility to raters.
- Students filling out the survey will have had the substitute teacher in the classroom for a minimum of ten school days prior to qualifying as appraisers.

These addresses will be used only to send the results to the substitute teachers after the statistical analysis has been made. Each of these substitute teachers will have to be evaluated by a minimum of 18 "knowledgeables": principals or immediate supervisors, teachers, or students of the district, selected at random from a pool of appropriate candidates. In the past we have used students from the fourth grade on up in this pool of appraisers, as well as teachers and principals. At this time I do not need to know who the appraisers will be, but you will need to compile a list of each of these three groups of appraisers for random selection in the near future. Naturally the student list will be the largest, but the number of appraisers from each category should be the same. In other words, each substitute teacher should be appraised by six students, six teachers, and six administrators, all selected from their respective groups on a random basis.

You may wonder what happened to Form B. Form B is a list of the eighteen appraisers for each substitute being evaluated. It will not be necessary for you to fill it out at this time.

If for any reason you need to discuss this matter with me don't hesitate to call:
(Office - 515-294-5450 or Residence - 515-232-0087).

Again, thank you for your support of this project. I look forward to working with you.

Sincerely,

C. Allen Green
Research Associate

Professor Dick Manatt
Director **SIM**

Enclosures

BACKGROUND DATA FORM

To Be Completed By Central Office Personnel

SUBSTITUTE TEACHER PERFORMANCE CRITERIA STUDY

SCHOOL DISTRICT BACKGROUND DATA

Official name of the School District: _____

Name of Superintendent of Schools: _____

District enrollment as of November 1, 1989: _____

School district field representative (Contact Person) for this project:

Name: _____

Position: _____

Address: _____

Telephone Number: _____

BACKGROUND DATA FORM

To Be Completed By Building Principal or Personnel

SUBSTITUTE TEACHER PERFORMANCE CRITERIA STUDY

SCHOOL BUILDING INFORMATION

A. Name and address of this school building: _____

B. Name of building Principal: _____

C. Enrollment of this school as of November 1, 1989: _____

D. Grade span served by this school: _____

E. Name, position, and telephone number of the person who is responsible for
evaluation of the substitute teachers in this building: _____

F. Person who will be designated to receive and return the sealed envelopes
with the questionnaire answer sheets for this school building: _____

G. Telephone number of person designated to complete item (F): _____

Substitute Teachers Being Rated		
Name	Address	M/F
1.		
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SIM Projects
College of Education
Iowa State University
E005 Lagomarcino Hall
Ames, Iowa 50011

School Improvement Model
Professor Dick Manatt/Director
Shirley Stow/Co-Director
Katy Rice/Program Assistant
515-294-5521

January 8, 1990

Bob Olson
Superintendent-Clarion
3rd Avenue North East
Clarion, Iowa 50525

Dear Bob:

Thank you for helping me with my dissertation. I am working with Professor Dick Manatt at Iowa State University on a study of substitute teacher performance criteria. The purpose of this study is to use a 50-item survey to identify items that could be used in developing an evaluation instrument for substitute teachers. After the research is conducted and the items have been identified, those districts participating will receive a copy of the instrument for their own use. This instrument will be ready for use in the 1990-91 school year.

Procedures for conducting the research are as follows:

For this study we would like to use one substitute teacher and a minimum of fifteen appraisers from your district who meet these criteria:

- The substitute teacher selected for this study will have had to work for the district for a minimum of ten school days prior to administration of the survey, to ensure adequate visibility to raters. Most school districts easily can find a long term substitute who meets these qualifications.
- The substitute teacher would have be evaluated by a minimum of 15 "appraisers" (through completion of the survey): principals or immediate supervisors, teachers, or students of the district, selected by the district. The substitute would also fill out the questionnaire

as a self evaluation, making sure I know which one is his/hers. I need at least 15 completed forms returned, thus I have given you three extra.

- If the district also wished to use students as appraisers, they would have to be age 14 and older, and the substitute teacher would have had to be their teacher in the classroom for a minimum of ten school days. Teachers and administrators filling out the survey would have to have a knowledge of the substitute's work in the classroom.
- The survey itself is printed back-to-back on three pages with detailed directions. An answer sheet is enclosed with each survey and appraisers would need approximately 10-15 minutes to complete the questionnaire.

I already have the information I need on your district (student population etc.). Confidentiality of all of the information will be strictly protected. Only the substitute teacher will receive information back on the actual results of the study.

If for any reason you need to discuss this matter with me do not hesitate to call: (Office - 515-294-5450 or Residence - 515-232-0087).

Again, thank you for your help on this project. I really appreciate it!

Sincerely,



C. Allen Green
Research Associate

Enclosures

PROCEDURES (Copy to be given to each substitute participating)
USE OF HUMAN SUBJECTS FOR THE DISSERTATION
RESEARCH OF C. ALLEN GREEN

Professor Richard Manatt has worked for the past twenty years on developing a series of performance appraisal instruments for professional educators. School Improvement Model researchers (in the Research Institute for Studies in Education), have participated in this endeavor under Professor Manatt's supervision. A new instrument to be used for the evaluation of substitute teachers is being developed by researcher C. Allen Green, using the methodology employed by previous researchers in the School Improvement Model Project.

Performance criteria for substitute teachers will be selected after a thorough review of the literature, careful analysis of related school operating procedures and policies, plus a review of any existing evaluation instruments. The selected criteria will be statistically tested for discrimination power and reliability.

The methodological steps in this project include:

1. Securing the cooperation of schools interested in assisting with the project.
2. Selecting appropriate substitute teachers for the research.
3. Identifying a minimum of 15 knowledgeable appraisers (including the substitute teacher) at each school site to conduct the rating of selected substitute teachers on each of the criteria on the questionnaire.
4. Collecting the data and conducting an appropriate computer analysis.

5. Analyzing the data using the Menne-Tolsma formula to determine performance items which demonstrate discrimination power. Reliability coefficients will be calculated on all items identified as discriminating at the .05 level of significance to provide an estimate of internal consistency. The procedures used for distributing and collecting the substitute teacher performance questionnaire are designed to assure maximum confidentiality for all participants and will include:
 6. Each envelope for appraisers contains:
 - A. An answer sheet.
 - B. A questionnaire with instructions for completion of the answer sheet. Emphasis on completing all of the information on the questionnaire is included in the initial directions.
 7. Each person (appraiser) is requested to place the answer sheet in the envelope provided, seal it, and return it to superintendent, regardless of whether or not he/she completes it. In human subjects research, each person has the right to choose not to participate. Since all are required to follow the same procedure in returning the envelopes, this protects the identity of those who choose not to participate. The questionnaire itself does not have to be returned.
 8. Consent of appraisers and substitute teachers is gained through the submission of a completed questionnaire.
 9. Upon return of the envelopes, they are mailed in the envelope provided to Professor Manatt at Iowa State University for analysis.

10. All responses are treated confidentially and every precaution is taken to protect the individuals involved and to protect disclosure of individual responses.
11. When the envelopes are received at Iowa State University, they are sent to the processing center where the researcher opens the envelopes and removes the names of each substitute teacher, replacing the name with a number in order to assure anonymity.
12. Each substitute teacher being evaluated will receive a confidential report of the results of his/her ratings along with means on each item and total means of the group being evaluated. They need to provide me with their name and address. Only substitute teachers receive this information (mailed directly to them).
13. The district receives a final revision of the instrument to use in subsequent years.

APPENDIX C.

**SCHOOLS AND EMPLOYMENT POSITION OF RATERS WHO WERE
ASKED TO PARTICIPATE AND RATERS WHO ACTUALLY COMPLETED
THE QUESTIONNAIRE**

Table C. 1. Schools and employment position of raters who were asked to participate and raters who actually completed the questionnaire

	Substitute Self Raters		Adm. Raters	Teacher Raters	Student Raters
1 Rockingham County Public Schools Harrisonburg, VA	31 ^a	14 ^b	43 ^b	255 ^b	2 ^b
2 School District No. 1 Rock Springs, WY	7 ^a	6 ^b	7 ^b	73 ^b	6 ^b
3 Ames Community Schools Ames, IA	4 ^a	4 ^b	3 ^b	60 ^b	0 ^b
4 Urbandale Community Schools Des Moines, IA	1 ^a	1 ^b	0 ^b	1 ^b	16 ^b
5 Winterset Community Schools Winterset, IA	1 ^a	0 ^b	0 ^b	0 ^b	0 ^b
6 Humbolt Community Schools Humbolt, IA	1 ^a	1 ^c	0 ^b	8 ^c	0 ^b

^aIndicates the original number of substitute teachers given a questionnaire to complete.

^bIndicates the actual number of completed forms returned from each district by rater category by February 6, 1990.

^cIndicates forms returned after the February 6, 1990 deadline (not used in any analysis).

Table C. 1. Continued

	Substitute Self Raters		Adm. Raters	Teacher Raters	Student Raters
7 Whiting Community Schools Whiting, IA	1 ^a	1 ^b	0 ^b	15 ^b	0 ^b
8 School District No. 1 Thermopolis, WY	2 ^a	1 ^b 1 ^c	0 ^b	6 ^b	8 ^b 8 ^c
9 Colfax/Mingo Community Schools Colfax, IA	1 ^a	1 ^b	1 ^b	15 ^b	0 ^b
10 Tri-Center Community Schools Neola, IA	1 ^a	1 ^b	4 ^b	5 ^b	7 ^b
11 Clarion Community Schools Clarion, IA	1 ^a	1 ^b	1 ^b	8 ^b	0 ^b
12 Malvern Community Schools Malvern, IA	1 ^a	0 ^b	0 ^b	0 ^b	0 ^b
13 English Valley Community Schools North English, IA	1 ^a	1 ^b	1 ^b	14 ^b	0 ^b

Table C. 1. Continued

	Substitute Self Raters		Adm. Raters	Teacher Raters	Student Raters
14 Anita Community Schools Anita, IA	1 ^a	1 ^b	0 ^b	8 ^b	0 ^b
15 Baxter Community Schools Baxter, IA	1 ^a	1 ^b	1 ^b	13 ^b	0 ^b
16 Harris Lake Park Community Schools Lake Park, IA	1 ^a	1 ^b	2 ^b	13 ^b	1 ^b
17 Hubbard Community Schools Hubbard, IA	1 ^a	1 ^b	2 ^b	1 ^b	7 ^b
18 Plainfield Community Schools Plainfield, IA	1 ^a	1 ^b	2 ^b	13 ^b	0 ^b
19 Elk Horn Community Schools Elk Horn, IA	1 ^a	1 ^b	3 ^b	11 ^b	0 ^b
20 Fox Valley Community Schools Fox Valley, IA	1 ^a	0 ^b	0 ^b	0 ^b	0 ^b
21 Mallard Community Schools Mallard, IA	1 ^a	0 ^b	0 ^b	0 ^b	0 ^b

Table C.1. Continued

	Substitute Self Raters		Adm. Raters	Teacher Raters	Student Raters
22 Rolfe Community Schools Rolfe, IA	1 ^a	1 ^b	1 ^b	14 ^b	0 ^b
23 Lytton Community Schools Lytton, IA	1 ^a	1 ^b	3 ^b	13 ^b	0 ^b
24 LuVerne Community Schools LuVerne, IA	1 ^a	1 ^c	2 ^c	10 ^c	3 ^c

APPENDIX D.

**DISTRICTS RANKED HIGH TO LOW BY ENROLLMENT, NUMBER OF
SUBSTITUTE TEACHERS ASKED TO PARTICIPATE, AND THOSE
ACTUALLY PARTICIPATING IN EACH DISTRICT**

Table D. 1. Districts ranked high to low by enrollment, number of substitute teachers asked to participate, and those actually participating in each district^a

District	<u> </u> b	<u> </u> c	<u> </u> d
Rockingham County Public Schools, VA	9098	31	12
School District #1 Rock Springs, WY	5081	7	6
Ames Community Schools, IA	4469	4	4
Urbandale Community Schools, IA	3052	1	1
Winterset Community Schools, IA	1511	1	0
Humboldt Community Schools, IA	1403	1	0
Whiting Community Schools, IA	1370	1	1
School District #1 Thermopolis, WY	975	2	1
Colfax/Mingo Community Schools, IA	834	1	1
Tri-Center Community Schools, IA	740	1	1
Clarion Community Schools, IA	709	1	0
Malvern Community Schools, IA	435	1	0
English Valley Community Schools, IA	413	1	1
Anita Community Schools, IA	344	1	0
Baxter Community Schools, IA	338	1	1
Harris Park Community Schools, IA	333	1	1
Hubbard Community Schools, IA	290	1	0
Plainfield Community Schools, IA	288	1	1
Elk Horn Community Schools, IA	240	1	1
Fox Valley Community Schools, IA	200	1	0
Mallard Community Schools, IA	198	1	0
Rolfe Community Schools, IA	195	1	1
Rockwell City/Lytton Community Schools, IA	165	1	1
LuVerne Community Schools, IA	130	1	0
Total	24	64	34

^aDotted line represents the break in high, medium, and low according to population.

^bEnrollment of the school district.

^cNumber of substitute teachers asked to participate by district.

^dActual number of substitute teachers returning fifteen or more questionnaires by February 6, 1990.

APPENDIX E.

SIGNIFICANT DIFFERENCES BETWEEN THE MEANS OF RATER
POSITIONS ON QUESTIONNAIRE ITEMS RANKED HIGH TO LOW BY
ANOVA F RATIO

Table E.1. Significant differences between the means of rater positions on questionnaire items ranked high to low by ANOVA F Ratio^a

Item	Substitute Teacher	Administrator	Teacher	Student
3 Demonstrates sensitivity in relating to students.	<u>4.44</u>	<u>4.08</u>	<u>4.21</u>	<u>3.58</u>
18 Shows interest and enthusiasm toward work.	<u>4.58</u>	4.18	<u>4.42</u>	<u>3.98</u>
17 Demonstrates a sense of humor at appropriate times.	4.34	4.08	<u>4.37</u>	<u>3.95</u>
21 Respects confidences.	<u>4.75</u>	4.35	4.29	<u>4.10</u>
21 Respects confidences.	<u>4.75</u>	4.35	<u>4.29</u>	4.10
9 Accepts different racial, ethnic, cultural, and religious groups.	<u>4.78</u>	<u>4.18</u>	4.33	4.36
9 Accepts different racial, ethnic, cultural, and religious groups.	<u>4.78</u>	4.18	<u>4.33</u>	4.36

^aDouble underlined means indicate that particular group of raters rated substitute teacher performance significantly lower than the groups with a single underline. If more than one group had significantly different means, the item is listed twice.

Table E.1. Continued

Item	Substitute Teacher	Administrator	Teacher	Student
24 Enjoys the challenge of varied teaching assignments.	<u>4.66</u>	4.42	4.36	<u>4.10</u>
28 Demonstrates ability to write in a clear, accurate manner.	4.47	<u>4.08</u>	<u>4.42</u>	4.28
12 Demonstrates appropriate grooming and attire.	<u>4.84</u>	<u>4.82</u>	4.70	<u>4.43</u>
5 Demonstrates ability to arouse pupil interest and enthusiasm.	4.00	3.76	<u>4.01</u>	<u>3.63</u>
30 Develops a positive relationship with staff members.	4.61	4.36	<u>4.49</u>	<u>4.15</u>
4 Respects the personal worth of each student.	<u>4.66</u>	4.33	4.28	<u>4.10</u>
29 Demonstrates effective listening skills.	4.34	4.20	<u>4.36</u>	<u>4.03</u>

Table E.1. Continued

Item	Substitute Teacher	Administrator	Teacher	Student
16 Demonstrates patience, understanding, consideration, and courtesy.	4.44	4.32	<u>4.45</u>	<u>4.08</u>
15 Supports school regulations and school policies.	<u>4.84</u>	4.58	4.59	<u>4.40</u>

APPENDIX F.

**LIST OF DISCRIMINATING ITEMS BASED ON RESPONSES BY RATER
POSITIONS IN RANK ORDER FROM LOW TO HIGH BY ANOVA F RATIO**

Table F. 1. List of discriminating items based on responses by rater positions in rank order from low to high by ANOVA F ratio

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
50	Uses closure where appropriate.	.06	4.00 (32)	.7184	3.98 (44)	.7310
42	Demonstrates knowledge of subject matter.	.25	4.28 (32)	.6342	4.15 (47)	.6587
35	Maintains discipline in a respectful matter.	.26	4.25 (32)	.5680	4.31 (49)	.6193
46	Maintains and/or promotes a safe, orderly environment.	.28	4.38 (32)	.6599	4.23 (48)	.7217
6	Recognizes and attempts to provide for various student abilities.	.44	4.09 (32)	.5880	3.90 (49)	.7429
31	Maintains poise in stressful situations.	.47	4.19 (32)	.5923	4.09 (46)	.7839

^aItem 10 was not a discriminating item in the analysis for all substitute teachers and was not included in this table.

^bNS stands for not significant.

Teacher			Rater positions			Grand			Scheffé ^b
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	
3.98	(326)	.8224	3.92	(38)	1.0751	3.97	(440)	.8290	NS
4.18	(405)	.8233	4.13	(40)	.9388	4.18	(524)	.8076	NS
4.31	(413)	.7770	4.21	(38)	.9052	4.30	(532)	.7615	NS
4.29	(369)	.7230	4.26	(38)	.7600	4.29	(487)	.7203	NS
3.99	(394)	.8560	4.05	(39)	.8255	3.99	(514)	.8283	NS
4.21	(405)	.7181	4.15	(40)	.9753	4.20	(523)	.7385	NS

Table F. 1. Continued

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
7	Allows appropriate independent and small group participation.	.49	3.97 (32)	.6949	3.86 (50)	.7562
22	Engages in professional growth activities whenever possible.	.57	4.06 (31)	.8538	3.83 (46)	.9263
47	Uses appropriate teaching strategies/ meets lesson plan requirements.	.77	4.28 (32)	.5227	4.08 (49)	.7313
32	Demonstrates effective interpersonal relationships with others.	.88	4.34 (32)	.4826	4.35 (49)	.5225
37	Sets ground rules that are firm but practical.	.88	4.28 (32)	.5227	4.13 (47)	.6794
38	Shows good judgement in emergencies and with disruptive behavior.	.91	4.34 (32)	.5453	4.17 (48)	.7810

		Rater positions							
Teacher			Student			Grand			
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	Scheffé ^b
4.01	(397)	.8103	4.00	(39)	.9177	3.99	(518)	.8061	NS
3.97	(355)	.8263	3.95	(38)	.8989	3.96	(470)	.8430	NS
4.19	(360)	.7422	4.08	(39)	.8701	4.18	(480)	.7395	NS
4.33	(406)	.7521	4.13	(38)	.8438	4.31	(525)	.7273	NS
4.20	(400)	.7658	4.03	(40)	1.0497	4.19	(519)	.7714	NS
4.34	(403)	.6888	4.31	(39)	.8321	4.32	(522)	.7014	NS

Table F. 1. Continued

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
44	Stimulates creative and original thought.	.95	4.03 (32)	.6949	3.76 (45)	.8831
40	Shows evidence of behavior management training.	1.03	4.21 (29)	.6199	4.09 (46)	.7250
36	Provides appropriate reinforcement for positive student behavior.	1.10	4.28 (32)	.4568	4.20 (44)	.5937
26	Maintains poise and self control.	1.24	4.38 (32)	.5536	4.26 (50)	.6642
39	Shows willingness to handle classroom adversity in a positive manner.	1.45	4.19 (32)	.6445	4.16 (49)	.7457
11	Possesses appropriate certification and teaching experience.	1.67	4.72 (29)	.6490	4.36 (45)	1.1110
43	Used visual, tactile, and auditory instructions.	1.86	4.03 (32)	.5948	3.61 (44)	1.1251
1	Develops positive working relationship with students.	2.07	4.31 (32)	.4709	4.22 (50)	.5455

Teacher			Rater positions				Scheffé ^b		
Mean	(N)	SD	Student		Grand				
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	
3.90	(345)	.7936	4.00	(38)	.9300	3.90	(460)	.8082	NS
4.02	(350)	.8255	3.88	(40)	.9111	4.03	(465)	.8129	NS
4.24	(398)	.7270	4.03	(39)	.9315	4.22	(513)	.7209	NS
4.45	(421)	.7042	4.38	(40)	.8066	4.42	(543)	.7013	NS
4.30	(408)	.7503	4.08	(39)	.8998	4.26	(528)	.7569	NS
4.47	(346)	.8882	4.26	(38)	.8280	4.46	(458)	.8969	NS
3.88	(343)	.8470	3.97	(39)	.9028	3.88	(458)	.8700	NS
4.25	(416)	.7597	3.95	(40)	.9858	4.23	(538)	.7503	NS

Table F. 1. Continued

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
45	Encourages students to inject ideas and assume responsibilities.	2.07	4.31 (32)	.6927	3.89 (45)	.7454
13	Demonstrates evidence of personal organization.	2.10	4.50 (32)	.5680	4.60 (48)	.6438
34	Shows ability in quickly establishing rapport.	2.16	4.47 (32)	.5070	4.25 (48)	.6684
48	Uses review and/or introductory remarks to build for transfer.	2.21	4.28 (32)	.6832	3.91 (44)	.7414
49	Monitors student work and progress providing feedback.	2.29	4.47 (32)	.6713	4.06 (47)	.7634
8	Atmosphere of confidence, understanding, and respect.	2.37	4.34 (32)	.5453	4.08 (48)	.7945
41	Makes effective use of time, materials, and resources.	2.38	4.31 (32)	.6927	4.20 (49)	.5766

Rater positions									
Teacher			Student			Grand			Scheffé ^b
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	
4.10	(352)	.7562	4.00	(39)	1.0000	4.08	(468)	.7767	NS
4.54	(423)	.6442	4.28	(39)	.8255	4.52	(542)	.6565	NS
4.32	(407)	.7664	4.05	(40)	.8756	4.30	(527)	.7565	NS
3.98	(339)	.7991	3.82	(38)	.8654	3.98	(453)	.7951	NS
4.28	(368)	.7647	4.13	(39)	.8938	4.26	(486)	.7730	NS
4.17	(408)	.8124	3.88	(40)	.9658	4.15	(528)	.8133	NS
4.32	(410)	.7577	4.00	(40)	.8771	4.28	(531)	.7519	NS

Table F. 1. Continued

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
33	Demonstrates ability to adapt easily to new situations.	2.43	4.53 (32)	.5671	4.20 (49)	.7900
23	Shows a willingness to try new approaches or methods.	2.67*	4.19 (32)	.5923	3.94 (47)	.7634
25	Maintains friendly and positive public relations posture.	2.70*	4.63 (32)	.4919	4.34 (50)	.5573
20	Responds favorably to supervision and suggestions for improvement.	2.79*	4.55 (31)	.6239	4.11 (47)	.6989
27	Provides verbal communication which is clear, concise, and positive.	2.82*	4.28 (32)	.4568	4.18 (49)	.6349
2	Assists students in developing a positive self concept.	2.83*	4.22 (32)	.4908	4.08 (48)	.6469

^cScheffé multiple comparisons significant at $p < .05$. SND=significant at $p < .05$, but no differences between groups.

*The critical F value is 2.60 at the .05 level of confidence.

			Rater positions						
Teacher			Student			Grand			
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	Scheffé ^b
4.39	(412)	.7180	4.18	(40)	.8130	4.36	(533)	.7273	NS
4.15	(396)	.7342	3.88	(40)	.9658	4.11	(515)	.7530	SND ^c
4.49	(415)	.7185	4.23	(39)	.8099	4.46	(536)	.7042	SND
4.29	(385)	.7797	4.08	(37)	1.0105	4.27	(500)	.7875	SND
4.35	(412)	.6900	4.05	(40)	.9858	4.31	(533)	.7038	SND
4.12	(408)	.7709	3.77	(39)	.9587	4.10	(527)	.7663	SND

Table F. 1. Continued

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
15	Supports school regulations and school policies.	2.95*	4.84 (32)	.3689	4.58 (50)	.5379
19	Sets task of student independence as a professional goal.	3.01*	4.16 (31)	.7347	3.74 (46)	.6476
16	Demonstrates patience, understanding, consideration, and courtesy.	3.33*	4.44 (32)	.5644	4.32 (50)	.6207
29	Demonstrates effective listening skills.	3.35*	4.34 (32)	.4826	4.20 (49)	.6117
4	Respects the personal worth of each student.	3.45*	4.66 (32)	.5453	4.33 (48)	.5955
30	Develops a positive relationship with staff members.	3.59*	4.61 (31)	.4951	4.36 (50)	.5980
5	Demonstrates ability to arouse pupil interest and enthusiasm.	3.68*	4.00 (32)	.6222	3.76 (50)	.8221

^dScheffé multiple comparisons significant at $p < .05$. Abbreviations: ST=substitute teacher, ADM=adminimator, TCH=teacher, STU=student.

Teacher			Rater positions			Grand			Scheffé ^b
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	
4.59	(420)	.6506	4.40	(40)	.6718	4.59	(542)	.6332	STU<ST ^d
4.00	(360)	.7501	3.80	(40)	.8533	3.97	(477)	.7539	SND
4.45	(419)	.7412	4.08	(39)	.8998	4.41	(540)	.7392	STU<TCH
4.36	(399)	.6905	4.03	(39)	.7776	4.32	(519)	.6843	STU<TCH
4.28	(411)	.7593	4.10	(40)	.9819	4.29	(531)	.7595	STU<ST
4.49	(407)	.7119	4.15	(39)	.8747	4.46	(527)	.7098	STU<TCH
4.01	(407)	.8109	3.63	(40)	1.0300	3.95	(529)	.8268	STU<TCH

Table F. 1. Continued

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
12	Demonstrates appropriate grooming and attire.	3.73*	4.84 (32)	.3689	4.82 (50)	.3881
28	Demonstrates ability to write in a clear, accurate manner.	3.86**	4.47 (32)	.5070	4.08 (48)	.7096
24	Enjoys the challenge of varied teaching assignments.	3.90**	4.66 (32)	.4826	4.42 (50)	.6728
9	Accepts different racial, ethnic, cultural, and religious groups.	4.23**	4.78 (32)	.5527	4.18 (45)	.7772
14	Seeks appropriate help or advice with a difficult or serious problem.	4.37**	4.59 (32)	.6148	4.14 (49)	.8660
21	Respects confidences.	4.50**	4.75 (32)	.4399	4.35 (48)	.6681

**The critical F value is 3.78 at the .01 level of confidence.

Rater positions									
Teacher			Student			Grand			Scheffé ^b
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	
4.70	(422)	.5977	4.43	(37)	.9292	4.70	(541)	.6041	STU<ST STU<ADM
4.42	(400)	.6811	4.28	(40)	.7841	4.38	(520)	.6886	ADM<TCH
4.36	(408)	.6945	4.10	(39)	.7879	4.37	(529)	.6948	STU<ST
4.33	(395)	.7572	4.36	(39)	.9315	4.35	(511)	.7699	ADM<ST TCH<ST
4.41	(410)	.6804	4.05	(39)	.8747	4.38	(530)	.7181	SND
4.29	(393)	.8064	4.10	(39)	.7879	4.31	(512)	.7834	TCH<ST STU<ST

Table F. 1. Continued

Item #	Item ^a	ANOVA F. Ratio	Rater Positions			
			Substitute		Administrator	
			Mean (N)	SD	Mean (N)	SD
17	Demonstrates a sense of humor at appropriate times.	4.81**	4.34 (32)	.6016	4.08 (49)	.7023
18	Shows interest and enthusiasm toward work.	6.65**	4.58 (31)	.5016	4.18 (50)	.6606
3	Demonstrates sensitivity in relating to students.	9.44**	4.44 (32)	.5644	4.08 (50)	.7516

Rater positions									
Teacher			Student			Grand			Scheffé ^b
Mean	(N)	SD	Mean	(N)	SD	Mean	(N)	SD	
4.37	(411)	.7809	3.95	(40)	1.2184	4.31	(532)	.8144	STU<TCH
4.42	(420)	.7115	3.98	(40)	.9737	4.37	(541)	.7307	STU<ST STU<TCH
4.21	(411)	.7787	3.58	(40)	1.0350	4.17	(533)	.8058	STU<ST STU<ADM STU<TCH

APPENDIX G.

**ITEMS WHICH RATERS INDICATED WERE NOT OBSERVABLE ON THE
SUBSTITUTE TEACHER PERFORMANCE QUESTIONNAIRE**

Table G. 1. Items which raters indicated were not observable on the substitute teacher performance questionnaire

Item number	Item	Number of raters who did not respond to items	Percent of raters who did not respond to items
1	Develops a positive working relationship with students.	13	1.8
2	Assists students in developing a positive self concept.	27	3.8
3	Demonstrates sensitivity in relating to students.	19	2.7
4	Respects the personal worth of each student.	21	2.9
5	Demonstrates ability to arouse pupil interest and enthusiasm.	27	3.8
6	Recognizes and attempts to provide for various student abilities.	44	6.2
7	Allows appropriate independent and small group participation.	46	6.4
8	Atmosphere of confidence, understanding, and respect.	27	3.8
9	Accepts different racial, ethnic, cultural, and religious groups.	50	7.0
10	Shows dependability and punctuality.	5	.7

Table G. 1. Continued

Item number	Item	Number of raters who did not respond to items	Percent of raters who did not respond to items
11	Possesses appropriate certification and teaching experience.	118	16.5
12	Demonstrates appropriate grooming and attire.	9	1.3
13	Demonstrates evidence of personal organization.	8	1.1
14	Seeks appropriate help or advice with a difficult or serious problem.	28	3.9
15	Supports school regulations and school policies.	11	1.5
16	Demonstrates patience, understanding, consideration, and courtesy.	10	1.4
17	Demonstrates a sense of humor at appropriate times.	22	3.1
18	Shows interest and enthusiasm toward work.	9	1.3
19	Sets task of student independence as a professional goal.	94	13.2
20	Responds favorably to supervision and suggestions for improvement.	63	8.8

Table G. 1. Continued

Item number	Item	Number of raters who did not respond to items	Percent of raters who did not respond to items
21	Respects confidences.	51	7.1
22	Engages in professional growth activities whenever possible.	113	15.8
23	Shows a willingness to try new approaches or methods.	52	7.3
24	Enjoys the challenge of varied teaching assignments.	35	4.9
25	Maintains friendly and positive public relations posture.	15	2.1
26	Maintains poise and self control.	9	1.3
27	Provides verbal communication which is clear, concise, and positive.	23	3.2
28	Demonstrates ability to write in a clear, accurate manner.	45	6.3
29	Demonstrates effective listening skills.	42	5.9
30	Develops a positive relationship with staff members.	23	3.2

Table G. 1. Continued

Item number	Item	Number of raters who did not respond to items	Percent of raters who did not respond to items
31	Maintains poise in stressful situations.	36	5.0
32	Demonstrates effective interpersonal relationships with others.	28	3.9
33	Demonstrates ability to adapt easily to new situations.	21	2.9
34	Shows ability in quickly establishing rapport.	29	4.1
35	Maintains discipline in a respectful manner.	24	3.4
36	Provides appropriate reinforcement for positive student behavior.	48	6.7
37	Sets ground rules that are firm but practical.	42	5.9
38	Shows good judgement in emergencies and disruptive behavior.	33	4.6
39	Shows willingness to handle classroom adversity in a positive manner.	33	4.6
40	Shows evidence of behavior management training.	103	14.4

Table G. 1. Continued

Item number	Item	Number of raters who did not respond to items	Percent of raters who did not respond to items
41	Makes effective use of time, materials, and resources.	28	3.9
42	Demonstrates knowledge of subject matter.	36	5.0
43	Used visual, tactile, and auditory instructions.	117	16.4
44	Stimulates creative and original thought.	113	15.8
45	Encourages students to inject ideas and assume responsibilities.	96	13.4
46	Maintains and/or promotes a safe, orderly learning environment.	75	10.5
47	Uses appropriate teaching strategies/meets lesson plan requirements.	86	12.0
48	Uses review and/or introductory remarks to build for transfer.	120	16.8
49	Monitors student work and progress providing feedback.	75	10.5
50	Uses closure where appropriate.	141	19.7

APPENDIX H.

**ITEMS WHICH RATERS INDICATED WERE NOT OBSERVABLE
ON THE SUBSTITUTE TEACHER PERFORMANCE QUESTIONNAIRE
RANKED FROM LOW TO HIGH**

Table H. 1. Items which raters indicated were not observable on the substitute teacher performance questionnaire items ranked from low to high

Item number	Item	Percent of total raters who did not respond to items	Rank
10	Shows dependability and punctuality.	.7	1
13	Demonstrates evidence of personal organization.	1.1	2
12	Demonstrates appropriate grooming and attire.	1.3	4
18	Shows interest and enthusiasm toward work.	1.3	4
26	Maintains poise and self control.	1.3	4
16	Demonstrates patience, understanding, consideration, and courtesy.	1.4	6
15	Supports school regulations and school policies.	1.5	7
1	Develops a positive working relationship with students.	1.8	8
25	Maintains friendly and positive public relations posture.	2.1	9
3	Demonstrates sensitivity in relating to students.	2.7	10

Table H. 1. Continued

Item number	Item	Percent of total raters who did not respond to items	Rank
4	Respects the personal worth of each student.	2.9	11.5
33	Demonstrates ability to adapt easily to new situations.	2.9	11.5
17	Demonstrates a sense of humor at appropriate times.	3.1	13
27	Provides verbal communication which is clear, concise, and positive.	3.2	14.5
30	Develops a positive relationship with staff members.	3.2	14.5
35	Maintains discipline in a respectful manner.	3.4	16
2	Assists students in developing a positive self concept.	3.8	18
5	Demonstrates ability to arouse pupil interest and enthusiasm.	3.8	18
8	Atmosphere of confidence, understanding, and respect.	3.8	18
14	Seeks appropriate help or advice with a difficult or serious problem.	3.9	22

Table H. 1. Continued

Item number	Item	Percent of total raters who did not respond to items	Rank
32	Demonstrates effective interpersonal relationships with others.	3.9	22
41	Makes effective use of time, materials, and resources.	3.9	22
34	Shows ability in quickly establishing rapport.	4.1	23
38	Shows good judgement in emergencies and disruptive behavior.	4.6	24.5
39	Shows willingness to handle classroom adversity in a positive manner.	4.6	24.5
24	Enjoys the challenge of varied teaching assignments.	4.9	26
31	Maintains poise in stressful situations.	5.0	27.5
42	Demonstrates knowledge of subject matter.	5.0	27.5
29	Demonstrates effective listening skills.	5.9	29.5
37	Sets ground rules that are firm but practical.	5.9	29.5

Table H. 1. Continued

Item number	Item	Percent of total raters who did not respond to items	Rank
6	Recognizes and attempts to provide for various student abilities.	6.2	31
28	Demonstrates ability to write in a clear, accurate manner.	6.3	32
7	Allows appropriate independent and small group participation.	6.4	33
36	Provides appropriate reinforcement for positive student behavior.	6.7	34
9	Accepts different racial, ethnic, cultural, and religious groups.	7.0	35
21	Respects confidences.	7.1	36
23	Shows a willingness to try new approaches or methods.	7.3	37
20	Responds favorably to supervision and suggestions for improvement.	8.8	38
46	Maintains and/or promotes a safe, orderly learning environment.	10.5	39.5
49	Monitors student work and progress providing feedback.	10.5	39.5

Table H. 1. Continued

Item number	Item	Percent of total raters who did not respond to items	Rank
47	Uses appropriate teaching strategies/meets lesson plan requirements.	12.0	41
19	Sets task of student independence as a professional goal.	13.2	42
45	Encourages students to inject ideas and assume responsibilities.	13.4	43
40	Shows evidence of behavior management training.	14.4	44
22	Engages in professional growth activities whenever possible.	15.8	45.5
44	Stimulates creative and original thought.	15.8	45.5
43	Used visual, tactile, and auditory instructions.	16.4	47
11	Possesses appropriate certification and teaching experience.	16.5	48
48	Uses review and/or introductory remarks to build for transfer.	16.8	49
50	Uses closure where appropriate.	19.7	50

APPENDIX I.

**ITEM DISCRIMINATION VALUES IN PERCENT FOR SUBSTITUTE
TEACHERS (ANALYSIS BASED ON 555 RATINGS FOR 34 SUBSTITUTE
TEACHERS)**

Table I. 1. Item discrimination values in percent for substitute teachers (analysis based on 555 ratings for 34 substitute teachers)

Item number	Item	Item discrimination in percent	Rank
1	Develops a positive working relationship with students.	24**	3
2	Assists students in developing a positive self concept.	21**	18.5
3	Demonstrates sensitivity in relating to students.	21**	18.5
4	Respects the personal worth of each student.	16*	41.5
5	Demonstrates ability to arouse pupil interest and enthusiasm.	24**	3
6	Recognizes and attempts to provide for various student abilities.	17*	36.5
7	Allows appropriate independent and small group participation.	18*	31.5
8	Atmosphere of confidence, understanding, and respect.	19**	26.5
9	Accepts different racial, ethnic, cultural, and religious groups.	17*	36.5

*13% equals discrimination at the .05 level of significance.

**22% equals discrimination at the .01 level of significance.

Table I. 1. Continued

Item number	Item	Item discrimination in percent	Rank
10	Shows dependability and punctuality.	12	50
11	Possesses appropriate certification and teaching experience.	29**	1
12	Demonstrates appropriate grooming and attire.	16*	41.5
13	Demonstrates evidence of personal organization.	17*	36.5
14	Seeks appropriate help or advice with a difficult or serious problem.	16*	41.5
15	Supports school regulations and school policies.	15*	45.5
16	Demonstrates patience, understanding, consideration, and courtesy.	19*	26.5
17	Demonstrates a sense of humor at appropriate times.	23**	6.5
18	Shows interest and enthusiasm toward work.	17*	36.5
19	Sets task of student independence as a professional goal.	22**	11

Table I. 1. Continued

Item number	Item	Item discrimination in percent	Rank
20	Responds favorably to supervision and suggestions for improvement.	16*	41.5
21	Respects confidences.	18*	31.5
22	Engages in professional growth activities whenever possible.	19*	26.5
23	Shows a willingness to try new approaches or methods.	17*	36.5
24	Enjoys the challenge of varied teaching assignments.	13*	49
25	Maintains friendly and positive public relations posture.	19*	26.5
26	Maintains poise and self control.	21*	18.5
27	Provides verbal communication which is clear, concise, and positive.	15*	45.5
28	Demonstrates ability to write in a clear, accurate manner.	15*	45.5
29	Demonstrates effective listening skills.	14*	48

Table I. 1. Continued

Item number	Item	Item discrimination in percent	Rank
30	Develops a positive relationship with staff members.	18*	26.5
31	Maintains poise in stressful situations.	23**	6.5
32	Demonstrates effective interpersonal relationships with others.	21*	18.5
33	Demonstrates ability to adapt easily to new situations.	22**	11
34	Shows ability in quickly establishing rapport.	23**	6.5
35	Maintains discipline in a respectful manner.	21*	18.5
36	Provides appropriate reinforcement for positive student behavior.	22**	11
37	Sets ground rules that are firm but practical.	21*	18.5
38	Shows good judgement in emergencies and disruptive behavior.	21*	18.5
39	Shows willingness to handle classroom adversity in a positive manner.	22**	11

Table I. 1. Continued

Item number	Item	Item discrimination in percent	Rank
40	Shows evidence of behavior management training.	21*	18.5
41	Makes effective use of time, materials, and resources.	15*	45.5
42	Demonstrates knowledge of subject matter.	21*	18.5
43	Used visual, tactile, and auditory instructions.	19*	26.5
44	Stimulates creative and original thought.	22**	11
45	Encourages students to inject ideas and assume responsibilities.	24**	3
46	Maintains and/or promotes a safe, orderly learning environment.	21*	18.5
47	Uses appropriate teaching strategies/meets lesson plan requirements.	19*	26.5
48	Uses review and/or introductory remarks to build for transfer.	18*	26.5
49	Monitors student work and progress providing feedback.	17*	36.5
50	Uses closure where appropriate.	23**	6.5

APPENDIX J.

**ITEM DISCRIMINATION VALUES IN PERCENT FOR SUBSTITUTE
TEACHERS IN RANK ORDER FROM HIGH TO LOW (ANALYSIS BASED
ON 555 RATINGS FOR 34 SUBSTITUTE TEACHERS)**

Table J. 1. Item discrimination values in percent for substitute teachers in rank order from high to low (analysis based on 555 ratings for 34 substitute teachers)

Item number	Item	Item discrimination in percent	Rank
11	Possesses appropriate certification and teaching experience.	29**	1
45	Encourages students to inject ideas and assume responsibilities.	24**	3
5	Demonstrates ability to arouse pupil interest and enthusiasm.	24**	3
1	Develops a positive working relationship with students.	24**	3
50	Uses closure where appropriate.	23**	6.5
34	Shows ability in quickly establishing rapport.	23**	6.5
31	Maintains poise in stressful situations.	23**	6.5
17	Demonstrates a sense of humor at appropriate times.	23**	6.5
44	Stimulates creative and original thought.	22**	11

****22% equals discrimination at the .01 level of significance.**

Table J. 1. Continued

Item number	Item	Item discrimination in percent	Rank
39	Shows willingness to handle classroom adversity in a positive manner.	22**	11
36	Provides appropriate reinforcement for positive student behavior.	22**	11
33	Demonstrates ability to adapt easily to new situations.	22**	11
19	Sets task of student independence as a professional goal.	22**	11
3	Demonstrates sensitivity in relating to students.	21**	18.5
2	Assists students in developing a positive self concept.	21**	18.5
46	Maintains and/or promotes a safe, orderly learning environment.	21*	18.5
42	Demonstrates knowledge of subject matter.	21*	18.5
40	Shows evidence of behavior management training.	21*	18.5

*13% equals discrimination at the .05 level of significance.

Table J. 1. Continued

Item number	Item	Item discrimination in percent	Rank
38	Shows good judgement in emergencies and disruptive behavior.	21*	18.5
37	Sets ground rules that are firm but practical.	21*	18.5
35	Maintains discipline in a respectful manner.	21*	18.5
32	Demonstrates effective interpersonal relationships with others.	21*	18.5
26	Maintains poise and self control.	21*	18.5
8	Atmosphere of confidence, understanding, and respect.	19**	26.5
47	Uses appropriate teaching strategies/meets lesson plan requirements.	19*	26.5
43	Used visual, tactile, and auditory instructions.	19*	26
25	Maintains friendly and positive public relations posture.	19*	26.5
22	Engages in professional growth activities whenever possible.	19*	26.5
16	Demonstrates patience, understanding, consideration, and courtesy.	19*	26.5

Table J. 1. Continued

Item number	Item	Item discrimination in percent	Rank
48	Uses review and/or introductory remarks to build for transfer.	18*	31.5
30	Develops a positive relationship with staff members.	18*	31.5
21	Respects confidences.	18*	31.5
7	Allows appropriate independent and small group participation.	18*	31.5
49	Monitors student work and progress providing feedback.	17*	36.5
23	Shows a willingness to try new approaches or methods.	17*	36.5
18	Shows interest and enthusiasm toward work.	17*	36.5
13	Demonstrates evidence of personal organization.	17*	36.5
9	Accepts different racial, ethnic, cultural, and religious groups.	17*	36.5
6	Recognizes and attempts to provide for various student abilities.	17*	36.5
20	Responds favorably to supervision and suggestions for improvement.	16*	41.5

Table J. 1. Continued

Item number	Item	Item discrimination in percent	Rank
14	Seeks appropriate help or advice with a difficult or serious problem.	16*	41.5
12	Demonstrates appropriate grooming and attire.	16*	41.5
4	Respects the personal worth of each student.	16*	41.5
41	Makes effective use of time, materials, and resources.	15*	45.5
28	Demonstrates ability to write in a clear, accurate manner.	15*	45.5
27	Provides verbal communication which is clear, concise, and positive.	15*	45.5
15	Supports school regulations and school policies.	15*	45.5
29	Demonstrates effective listening skills.	14*	48
24	Enjoys the challenge of varied teaching assignments.	13*	49
10	Shows dependability and punctuality.	12	50

APPENDIX K.

**RECOMMENDED PERFORMANCE CRITERIA FOR SUBSTITUTE TEACHER
EVALUATION (ITEMS SELECTED ON THE BASIS OF DISCRIMINATION
AT THE .05 LEVEL OF SIGNIFICANCE AND A MINIMUM OF 87 PERCENT
RATER OBSERVABILITY)**

Table K. 1. Recommended performance criteria for substitute teacher evaluation (Items selected on the basis of discrimination at the .05 level of significance and a minimum of 87 percent rater observability)

Item number	Item	Item discrimination in percent	Item discrimination Rank
1	Develops a positive working relationship with students.	24**	3
2	Assists students in developing a positive self concept.	21**	18.5
3	Demonstrates sensitivity in relating to students.	21**	18.5
4	Respects the personal worth of each student.	16*	41.5
5	Demonstrates ability to arouse pupil interest and enthusiasm.	24**	3
6	Recognizes and attempts to provide for various student abilities.	17*	36.5
7	Allows appropriate independent and small group participation.	18*	31.5
8	Atmosphere of confidence, understanding, and respect.	19**	26.5

*13% equals discrimination at the .05 level of significance.

**22% equals discrimination at the .01 level of significance.

Table K. 1. Continued

Item number	Item	Item discrimination in percent	Item discrimination Rank
9	Accepts different racial, ethnic, cultural, and religious groups.	17*	36.5
12	Demonstrates appropriate grooming and attire.	16*	41.5
13	Demonstrates evidence of personal organization.	17*	36.5
14	Seeks appropriate help or advice with a difficult or serious problem.	16*	41.5
15	Supports school regulations and school policies.	15*	45.5
16	Demonstrates patience, understanding, consideration, and courtesy.	19*	26.5
17	Demonstrates a sense of humor at appropriate times.	23**	6.5
18	Shows interest and enthusiasm toward work.	17*	36.5
20	Responds favorably to supervision and suggestions for improvement.	16*	41.5
21	Respects confidences.	18*	31.5
23	Shows a willingness to try new approaches or methods.	17*	36.5

Table K. 1. Continued

Item number	Item	Item discrimination in percent	Item discrimination Rank
24	Enjoys the challenge of varied teaching assignments.	13*	49
25	Maintains friendly and positive public relations posture.	19*	26.5
26	Maintains poise and self control.	21*	18.5
27	Provides verbal communication which is clear, concise, and positive.	15*	45.5
28	Demonstrates ability to write in a clear, accurate manner.	15*	45.5
29	Demonstrates effective listening skills.	14*	48
30	Develops a positive relationship with staff members.	18*	26.5
31	Maintains poise in stressful situations.	23**	6.5
32	Demonstrates effective interpersonal relationships with others.	21*	18.5
33	Demonstrates ability to adapt easily to new situations.	22**	11
34	Shows ability in quickly establishing rapport.	23**	6.5

Table K. 1. Continued

Item number	Item	Item discrimination in percent	Item discrimination Rank
35	Maintains discipline in a respectful manner.	21*	18.5
36	Provides appropriate reinforcement for positive student behavior.	22**	11
37	Sets ground rules that are firm but practical.	21*	18.5
38	Shows good judgement in emergencies and disruptive behavior.	21*	18.5
39	Shows willingness to handle classroom adversity in a positive manner.	22**	11
41	Makes effective use of time, materials, and resources.	15*	45.5
42	Demonstrates knowledge of subject matter.	21*	18.5
46	Maintains and/or promotes a safe, orderly learning environment.	21*	18.5
47	Uses appropriate teaching strategies/meets lesson plan requirements.	19*	26.5
49	Monitors student work and progress providing feedback.	17*	36.5

APPENDIX L.

IOWA STATE UNIVERSITY HUMAN SUBJECTS RELEASE FORM

INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH
IOWA STATE UNIVERSITY

(Please follow the accompanying instructions for completing this form.)

①. Title of project (please type): Identification of valid, reliable, discriminating criteria for use in developing evaluation instruments for substitute teachers

②. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

C. Allen Green
Typed Name of Principal Investigator

11/29/89
Date

C. Allen Green
Signature of Principal Investigator

N229F Lagomarcino Hall Iowa State University
Campus Address

294-1279
Campus Telephone

③. Signature of other Investigator (If any) Richard M. Menatt Date 11/29/89 Relationship to Principal Major Professor

④. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects, and (D) covering any topics checked below. CHECK all boxes applicable.

- Medical clearance necessary before subjects can participate
- Samples (blood, tissue, etc.) from subjects
- Administration of substances (food, drugs, etc.) to subjects
- Physical exercise or conditioning for subjects
- Deception of subjects
- Subjects under 14 years of age and (or) Subjects 14-17 years of age
- Subjects in institutions
- Research must be approved by another institution or agency



⑤. ATTACH an example of the material to be used to obtain informed consent and CHECK which type will be used.

- Signed informed consent will be obtained
- Modified informed consent will be obtained

⑥. Anticipated date on which subjects will be first contacted:

Month	Day	Year
<u>Dec.</u>	<u>10</u>	<u>1989</u>

Anticipated date for last contact with subjects:

Month	Day	Year
<u>Jan.</u>	<u>20</u>	<u>1990</u>

⑦. If Applicable: Anticipated date on which audio or visual tapes will be erased and (or) identifiers will be removed from completed survey instruments:

Month	Day	Year
<u>Jan.</u>	<u>20</u>	<u>1990</u>

⑧. Signature of Head or Chairperson Larry H. Ebbert Date 11/29/89 Department or Administrative Unit Professional Studies

⑨. Decision of the University Committee on the Use of Human Subjects in Research:

- Project approved
- Project not approved
- No action required

George G. Karas
Name of Committee Chairperson

12-1-89
Date

PM Kella
Signature of Committee Chairperson