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A Comparative Analysis of Student Teachers who are Provided Performance Data by Scripting and Student Teachers who are Provided Data by Videotape Recording

Linda L. O'Hare
University of Nebraska at Omaha

A COMPARATIVE ANALYSIS OF STUDENT TEACHERS WHO ARE PROVIDED PERFORMANCE DATA BY SCRIPTING AND STUDENT TEACHERS WHO ARE PROVIDED DATA BY VIDEOTAPE RECORDING

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Linda L. O'Hare

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ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

FIELD PROJECT ACCEPTANCE

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Committee

Name	Department
John J. Langan	Teacher Education
[illegible]	Educational Administration

Katherine Foster
Chairman

June 2, 1988
Date

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TABLES

CHAPTER I

INTRODUCTION

The process of evaluation exists in all professions. In education, the evaluation process has changed dramatically since the turn of the century. Prior to the 1900's, teachers were appraised on the basis of their managerial skills. Students were responsible for their own achievement. With the advent of graded classrooms, the evaluation process was redesigned to hold teachers more accountable. In the 1960's and 1970's, there was considerable pressure from administrators and teachers to develop an evaluation model congruent with the primary purpose of evaluation, improvement of instruction (Millman, 1981).

As a result, methods of evaluation which did little to improve instruction were replaced with models specifically designed to foster instructional advances.

Despite the major changes in the evaluation process, performance data collection has remained somewhat the same. The most common method of data collection is anecdotal note taking. Becoming more common is scripting, the verbatim transcription of classroom observations, used in clinical supervision models. Less common is videotape recording. Originally, this method of data collecting was used in the early 1970's for micro teaching. Videotape recording (VTR) equipment was cumbersome and obtrusive in the classroom, unlike the advanced technology of today.

Consequently, continued and increased use of VTR as a method of data collecting in the evaluation process did not occur at that time.

Because VTR equipment is no longer as obtrusive or as cumbersome, the possible merits of this method of data collection should be considered. VTR provides an instant replay of every word or action occurring in the classroom. Viewing tapes of their lesson presentations allows teachers to see and hear themselves as pupils, peers, and supervisors do. Viewing videotape recordings of classroom observations may have an effect on teacher behavior.

STATEMENT OF THE PROBLEM

The purpose of this study is to determine if there is a significant difference in student teachers' behavior between those who are provided performance data collected by scripting and those who are provided performance data collected by videotape recording.

ADDITIONAL RESEARCH QUESTIONS

The writer is also interested in knowing the attitudes of the supervisors who are provided performance data collected by scripting and videotape recording. Do the supervisors regard both data as equally beneficial when conferencing with student teachers? If not, which performance data do supervisors prefer, and why?

HYPOTHESIS TO BE TESTED

There is no significant difference in student teacher behavior between those who are provided performance data by scripting and those who are provided performance data collected by videotape.

ASSUMPTIONS

1. The recorder's presence in the classroom will not interfere significantly with the normal classroom routine.
2. Analysis of the initial and final videotape recorded observations in each classroom is sufficient to determine differences in teacher behavior.
3. Flanders Interaction Analysis is an adequate measurement instrument for determining change in teacher behavior.
4. The researcher correctly categorizes the verbal interaction when viewing the classroom interaction on the videotape recordings.

DELIMITATIONS

1. This study will be limited to six student teachers from the University of Nebraska at Omaha.
2. The possibility exists that the videotape recorder or scripting performance data collection process will make a student teacher anxious.
3. The subject matter, grade level, and length of lesson presentation may vary.

DEFINITION OF TERMS

Teaching Behavior: Teacher behavior is an act by the teacher which occurs in the context of classroom interaction.

Teacher Effectiveness:	Teacher effectiveness is a complex method of evaluating teaching indirectly using criterion agreed upon by teachers and administrators.
Formative Evaluation:	This evaluation process is designed to help teachers improve their performance by providing data, judgments, and suggestions that have implications for what to teach and how.
Summative Evaluation:	This evaluation process serves administrative decision-making with respect to hiring and firing, promotion and tenure, assignments and salary.
Teacher Performance:	What a teacher does; responsibilities, including such items as: classroom instruction, interaction with pupils and effective communication.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

"Explosive," "frustrating," "frightening," and "baffling" are words used to describe the field of teacher evaluation. McGreal (1983) stated that controversy is not due to the concept of evaluation, but the methods used to evaluate. Duke and Stiggins (1986) acknowledged the benefits of a good evaluation system, but asked administrators to be aware of the risks and frustrations if evaluations are done poorly. Teachers are uneasy and often frightened by the evaluation process (Millman, 1981). Although we make rulings all the time, to be judged based on one's performance in the classroom may be unnerving.

Before the 1900's, teacher evaluation was not so confusing and conflicting. Conditions within the classroom mandated that teachers be evaluated largely on their managerial and organizational skills. Ungraded classes of 50 students ranging from ages 4-14 were not uncommon. Teachers had little time to devote to individual learning problems. Consequently, pupils were responsible for their own achievement (Millman, 1981).

A change in this way of thinking began in the late Victorian period in England, when the government initiated a payment-by-results system in boarding schools. Corruption ran rampant and the English schools deteriorated. Parliament ended the payment-by-results in 1902, about the time America was changing to the graded school system adopted from Prussia (Millman, 1981).

With graded classrooms, assignments were identical for most students in the room and the teacher was able to spend more time discussing the lesson and assignment. This new role made the teacher responsible for the student's learning. A method of evaluating teacher effectiveness during the first half of this century, which never gained momentum, attempted to assess teachers on the basis of student test scores (Medley, Coker, and Soar, 1984; Millman, 1981).

Since that time, developments in teacher evaluation have evolved extensively due to the controversial issues surrounding evaluation. Even the purpose of evaluation has been a topic of discussion. It appears that the primary purpose of evaluation is improvement of instruction. Herman (1973) listed ten reasons for teacher evaluation with teacher improvement at the top. Both Goldman (1966) and Redfern (1963) agreed that the primary outcome of evaluation should be to improve performance in the classroom. Material in the book Evaluating Teachers for Professional Growth (1974) concurred with the writings of Goldman and Redfern. Kowalski (1978), Duke and Stiggins (1986), and The American Association of School Administrators (1980) listed both appraisal and improvement as the major purpose of teacher evaluation.

EVALUATION MODELS

Traditionally, there have been three areas in which to gather data for teacher evaluation:

1. Teacher testing.

2. Student achievement.

3. Classroom observation. (Medley et al., 1984)

Due to the nature of this study, the focus of the review of literature will be concerned with the evaluation process within the classroom. McGreal (1983) mentioned three models of classroom evaluation. Included are:

Common law

Goal setting

Clinical supervision.

The common law model's infancy can be traced to the first half of the century. McGreal (1983) discussed the common law model of evaluation as having been formed by some anonymous committee years ago and used by 65% of the school districts in the United States.

Implementing a common law evaluation model was relatively simple by today's standards. A school district needed to formulate a definition of evaluation policy and procedures for application. The teacher rating scale was the common evaluation form used in this model. McGreal (1983) listed six characteristics of the common law model:

1. High supervision-low teacher involvement.
2. Evaluation is seen as synonymous with observation.
3. Like procedure for all teachers, tenured or nontenured.
4. Emphasis on summative evaluations.

5. Standardized criteria.

6. Comparative judgments-high inference judgments.

McGreal (1983) listed three advantages for the common law model:

1. Quick.

2. Easy to administer.

3. Easy to understand.

McGreal (1983) indicated the last reason may be the cause for the high popularity of the model. School boards, usually non-educators, understood this model.

The major disadvantages of the common law model were identical to the six characteristics previously mentioned (McGreal, 1983). For example, characteristic number four states that heavy emphasis is placed on summative evaluations. The common law model traditionally used the teacher rating scale in evaluation processes. Teachers were judged and compared with their peers as to their effectiveness. Findings by Zelenak and Snider (1974) showed negative reaction by teachers to this summative evaluation process.

Strong opposition against the use of rating scales resulted in most districts changing their evaluation procedures to increase the emphasis on improvement of instruction.

The performance objective system of evaluating teachers was developed by Redfern (1963) in response to the need for a change from the common law model. McGreal (1983) labeled this second model "goal setting," while Medley (1979) titled it "measurement

based teacher evaluation model," and Iwanicki, "the contract plan" (Iwanicki, 1981). Iwanicki maintained the accountability movement was responsible for new developments in the appraisal system. McNeil and Popham (1973) and Halfele (1980) found contract plans effective in teacher supervision if the purpose of evaluation is to improve teacher performance. Basically, all four versions of the model contain these characteristics (Iwanicki, 1981):

1. Teacher identifies areas of improvement.
2. Teacher writes goal setting contract.
3. Teacher-principal discuss efforts to attain set goals.
4. Principal monitors progress through data gathering observations.
5. Teacher-principal assess results.
6. Teacher-principal follow-up.

The major characteristic of this model is emphasis on the individual approach to evaluation (McGreal, 1983). Schools which employ the Redfern goal setting model usually use one of these methods:

1. Management by objectives approach (MBO).
2. Performance objectives approach (POA).
3. Practical goal setting approach (PGSA).

Iwanicki (1981) listed the strengths and weaknesses of Redfern's goal setting model:

Strengths

1. Promotes professional growth.
2. Improves relationship between teacher/principal.
3. Meets teacher's individual needs.
4. Clarifies performance standard and evaluation criteria.
5. Aligns teaching goals with district goals.

Weaknesses

1. Unable to rank teachers.
2. Heavy emphasis on reaching objectives.
3. Lengthy assessment period.
4. Extensive paperwork.

The third major teacher evaluation model used in the classroom is clinical supervision. The origin of the term and the assumption behind the concept, clinical supervision, come from Goldhammer. Goldhammer's definition of clinical supervision underlined the collegial role of the teacher and supervisor and the importance of improvement of instruction (Goldhammer, 1969).

Sergiovanni (1982) listed the characteristics of clinical supervision as:

1. Teaching is a complex set of activities that requires careful analysis.
2. Teachers are competent professionals who desire help if it is offered in a collegial way.
3. Supervisor functions as one with more experience/insight.
4. Model should respond to the needs of the teacher, not the supervisor.

5. Supervisors assist teachers in selecting teacher areas to be improved and to assist in attaining goal.

6. Increase the desire for and skills of self improvement.

Acheson and Gall (1980) listed the five steps of clinical supervision:

1. Pre-observation conference.

2. Observation of teaching.

3. Analysis and strategy.

4. Post-observation conference.

5. Post-observation analysis.

Teacher effectiveness research resulted in numerous models like the model developed by Madaline Hunter and TESA - Teacher Effectiveness and Student Achievement - which enhanced evaluation systems like clinical supervision (McGreal, 1983). Most of this research and resulting programs/models can be categorized under the headings "climate, planning, and management." Hunter's model would be listed under planning. The effective teaching steps in the Hunter model are:

1. Anticipatory Set.

2. Statement of Objectives.

3. Instructional Output.

4. Modeling.

5. Checking for Understanding.

6. Guided Practice.

7. Independent Practice.

The time on task models were also a product of this research (McGreal, 1983).

DATA GATHERING TECHNIQUES

If the purpose of evaluation is to improve instruction, it is important that one understands the various models of evaluation. Perhaps even more important than the model is the method one uses to gather the data during the classroom observation. Kowalski (1978) listed three:

1. Rating scales.
2. Systemic/Checklists.
3. Narrative/Videotape Recording.

Teacher rating scales can be traced to an article published by Boyce entitled "Methods of Measuring Teacher Efficiency" (Millman, 1981). Empirical studies from that time acclaimed its usefulness (Medley, et al., 1984). In 1930, Barr and Emans found 209 variations of teacher rating scales in public school districts.

According to Kowalski (1978), rating scales are observation tools or forms which contain a listing of teacher behavior or traits. In addition to the listing, there is a continuum that can be used as a comparative graph or weighted numerical system as stated in Herman (1973). Many forms have at least five ratings along the continuum, ranging from outstanding or superior

to unsatisfactory or needs improvement (Evaluating Teachers for Professional Growth, 1974). McGreal (1983) added that a numbered continuum usually ranges from three to a seven point scale.

According to Redfern (1963) rating scales were widely used in school districts in the United States. Some of the reasons for the popularity for this form of evaluation were given by Herman (1973):

1. Simple to complete.
2. Identical forms may be used for comparative purposes.
3. Personnel strengths and weaknesses can be easily identified.
4. Items on rating scale can be weighted for greater validity.

McGreal (1983) stated that the common law evaluation model used rating scales in summative evaluations of teachers. Despite the fact that 65% of school districts used this observation tool in the evaluation process, some school districts have completely divorced themselves from the use of rating scales (Redfern, 1963).

Problems with the rating scales, according to Herman, include:

1. Rating scales normally are not written in behavioral terms which are free from interpretive bias by various users.
2. Rating scales that are not weighted leave the evaluator that the assumption that all rating sub-items are of equal importance.
3. Many rating scales have very low levels of reliability and validity.

McGreal (1983) talked about an attempt to improve rating scales with the introduction of the concept labeled BARS, Behaviorally Anchored Rating Scales. This concept attempts to define a behavior trait to be rated according to the continuum value given to each item. Beatty and Schneider (1977) give a more detailed description of the BARS concept.

Despite attempts to improve rating scales, the American Federation of Teachers passed a resolution in 1973 stating that: "Any rating scale of teachers nurtures the exercise of political pressure and creates disharmony among members of the staff."

Research by Popham (1974) provided a foundation for the action taken by the AFT. Popham contended that rating scales were more subjective when they covered greater lengths of time and wide range of behaviors or traits. In addition, he questioned the validity of the rating scale.

Aside from these problems, rating scales as summative evaluation forms were doomed for another reason. This goes back to the major reason for evaluation. Districts, according to McGreal (1983), would state in their goals that the purpose of an evaluation system was to improve instruction. There was a lack of congruence between the rating scale and the district's goals. This condition, along with others found in the common law model, hindered attempts at improving teacher performance.

Systematic procedures for data gathering are another method used by supervisors and principals in the evaluation process (Kowalski, 1978). Kowalski (1978) lists numerous procedures which include:

Flanders Interaction Analysis

Galloway Non-verbal Communication

Parson's Types of Question Analysis

Bales Interaction Process Analysis

Verbal Interaction Category System

Classroom Observation Record

Observation Guides

Briggs Observation Guide

Videotape Analysis

Observation Schedule and Records System

Instrument for Observation of Teaching Activities

Medley (1984) labeled this major data gathering method as "structured observation systems." He divided the structured observation systems into category, sign, and multi-coding systems. Different from either Kowalski (1978) and Medley, et al. (1984), Herman (1973) labeled this broad data gathering system as interaction analysis techniques. Herman (1973) explained that in the 1960's these methods began to replace the rating scale by focusing on behavioral observations. Medley, et al. (1984), stated that the category system is the most common form used in the systematic observation method of data gathering.

A group of category systems called SCORE - Seating Chart Observation Records - uses seating charts as a starting point (McGreal, 1983). BTES - Beginning Teacher Evaluations Study -, and Stallings' Student Off-Task Seating Chart and Stallings Teacher Interaction Form are good examples of time on task category systems (McGreal, 1983).

Millman (1981) and Medley, et al. (1979) use the term "sign system" to refer to another subheading under the systematic data gathering procedure. The sign system is not as widely known or used as the category system. The recorder observes the teacher's behavior and records those which occur once and only once regardless of the frequency. Therefore, this system may contain a longer list of behaviors to observe. An example of the sign system is the Climate and Control System (Medley, et al., 1979).

Herman (1973) listed the advantages and disadvantages of the systematic procedure of data gathering. The advantages include:

1. Teacher/pupil behavior observed on systematic basis with allowance for extensive data gathering.
2. Feedback data shows intent versus performance.

The disadvantages include:

1. Training observers both in terms of time and money.
2. User error.
3. Evaluation method narrows and not applicable to all staff categories.

Depending on the author, checklists may or may not be included in the systematic technique of data gathering. According to Kowalski (1978), checklists contain important

teacher behaviors which are marked or noted by the recorder to indicate whether the behaviors were demonstrated during the observation period. The degree to which the teacher possesses the behavior is not recorded (Kowalski, 1978).

According to Griffith, the advantages of this method of data gathering include:

1. Observer is watching the lesson.
2. More objective system.
3. Quick, easy and permanent.
4. Helps teacher analyze lesson.

The disadvantages include:

1. Mechanical/routine.
2. Items vary in importance but are not weighted.
3. Some items are of trivial value.
4. Observer becomes careless due to routine.

A widely used non-systematic data gathering technique is the narrative. In this method the observer attempts to record objectively events taking place in sequence in the classroom. Audio or videotaping may be used as well as anecdotal note taking. Millman (1981) acknowledged that one needs to develop competence in the use of the narrative system.

Millman (1981) divided narratives into anecdote, interpretive, and complete. According to Millman (1981), anecdote has been the most frequently used method. It is a brief record used in recording short observation sessions. Millman noted this is a good method, if the observer is precise.

Interpretive notes are similar to anecdotes, with greater emphasis on interpretation than objective observation. Complete narrative is contrasted to interpretive and anecdotal systems to serve as the basis for numerous analyses. In a complete narrative, the observer attempts to record everything that is said and how it occurs within the classroom.

Also included as a narrative form of data gathering is videotape recording. Jarvis (1973) noted that since the early 1960's, videotape recording (VTR) has been encouraged as a supplemental to supervision. His primary reason for supporting this form of narrative data gathering is that the VTR has been effective in simulated, focused student teaching situations (Cooper and Allan, 1970). VTR has a high acceptance rate (Jarvis, 1973). Another reason Jarvis lists for advocation of VTR is that the feedback provided is more crucial to change than subjective supervisor feedback alone. Audience reaction seems to enhance the feedback. VTR can also provide feedback in the use of systematic evaluation forms such as the Flanders Interaction Analysis (Wragg, 1971). An additional reason for VTR listed by Jarvis (1973) is the record of teaching provided by this data gathering technique.

Videotape recordings can be used for various reasons:

1. Shared with others in seminars.
2. Used in methods classes.
3. Addition to the placement file.
4. Research.

Videotape recording can be integrated into the evaluation process (Meierdiercks, 1981). Meierdiercks (1981) lists the reasons why VTR is useful to supervision:

1. Permanent record.
2. Supervisor need not be present.
3. Better discussions can be made when charting an observation by studying the tape.

SUMMARY

Teacher evaluation has undergone many changes over the last 100 years. Even the major purpose of evaluation has been questioned. Generally it is accepted that school districts develop evaluation programs for the purpose of teacher/instructional improvement.

There are many evaluation models available for school districts from which to choose. The major models discussed are:

Common law

Goal setting

Clinical supervision

Once a school district has selected a model, it is important to train personnel in the use of the evaluation process. This should include training in the appropriate data gathering techniques.

There are two broad categories of data collection: systematic and non-systematic. Included in the non-systematic is the narrative and videotape recording. The literature supports both performance data gathering techniques to be effective. The purpose of the study is to determine if there is a significant

difference in student teachers' behavior between those who are provided performance data collected by scripting and those who are provided performance data collected by videotape recording.

CHAPTER III

DESIGN OF THE STUDY

In testing the hypothesis that there is no significant difference in student teacher performance between those who are provided performance data by scripting and those who are provided performance data collected by videotape recording, it was necessary to identify six subjects and to make four observations per subject, for a total of 24 observations.

Exemption status was applied for in writing from the Institutional Review Board of the University of Nebraska for the selection of live subjects. A letter of acceptance was received from the Institutional Review Board on November 24, 1987. (See Appendix A.)

To maintain the standard of confidentiality of the data collected, videotapes were presented to the respective subjects upon completion of the research project.

POPULATION AND SAMPLES TO BE USED

The population for this experimental study was six student teachers from the University of Nebraska at Omaha, 1987-88. Four of the student teachers were assigned to one supervisory teacher and two student teachers were assigned to another supervisory teacher. Each supervisory teacher had one half of her student teachers in the scripting group and the other half in the videotaping group.

Randomization of the sample was achieved by drawing the names of the student teachers provided by each supervisor and assigning the first name drawn to the group which was scripted and the second name to the group which was videotape recorded until all the names had been drawn and alternatingly assigned.

APPARATUS, INSTRUMENTS AND FACILITIES

The equipment used in the classroom observation was a Canon VM-EL single-unit video camera recorder designed in the 8 mm. format. The camera was operated by the researcher. The Canon VM-EL was selected for its compactness and portability. In addition to the camera, a tripod and power extension cord were used. A pen and paper were used to collect data while observing the student teachers in the scripting group.

The observations were completed in regular school classrooms. Length of presentation, subject matter, and grade level varied among the two groups.

PROCEDURE

Following the random assignment of the student teachers into two groups, a letter was mailed to each supervisor and student teacher explaining the research project. (See Appendix B.) The letter thanked them for agreeing to participate in the research project, explained briefly the purpose and procedure of the

study, and listed guidelines for use of the script and videotape which would be provided to them following the second and third observation.

Initial observation appointments were agreed upon by the student teacher, supervisor and researcher. The supervisor was always present during all the observations, although this was not mandated by the study.

Both groups of student teachers were videotaped during their first and fourth (final) observations. The first videotaped recording was gathered and analyzed as baseline data. The fourth and final videotape recording was analyzed and compared to the baseline. Flander's Interaction Analysis was used to analyze the first and final videotape recordings of the student teacher observations. These tapes were not viewed by the supervisors or the student teachers until the study was completed.

During the second and third observations, the three student teachers in the scripting group were scripted by the researcher during the lesson presentation. The script was a verbatum account of the verbal communication between the teacher and the students. A copy of the script was given to the supervisor immediately following the lesson presentation. The student teacher and supervisor were requested to read the script following the guidelines in the letter they received at the onset of the study. (See Appendix B.)

Videotape recordings of the second and third observations were provided for the three student teachers in the videotaping group within a day following the lesson presentation. A VHS tape was made of each videotape recording which could be replayed on any VHS recorder. All of the student teachers and supervisors indicated that these machines were accessible either at school or in their homes. The supervisor and student teacher were requested to view the entire videotape recording following the guidelines in the letter received at the beginning of the study. (See Appendix B.)

The data gathering commenced on February 4 and was completed on April 7, 1988. There were approximately three weeks between each observation. Thank you's were sent to all participants. (See Appendix C.)

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The hypothesis of the experimental field project was that there is no significant difference in student teacher performance between those who are provided performance data by scripting and those who are provided performance data collected by videotape. The instrument used to measure the difference in student teachers' behaviors is Flanders' Interaction Analysis Categories System (Flanders, 1970).

Flanders developed the ten category system while at the University of Minnesota between 1955 and 1960 (Flanders, 1970). The ten category system is useful in analyzing teacher behavior. In part, this system analyzes teacher behavior by calculating percentages of pupil/teacher talk as well as silence and pauses in the lesson presentation. This system is said to be totally inclusive since any event can be classified. As a result, there is a constant recording of events throughout the observation.

Flanders Interaction Analysis Categories (FIAC) includes seven teacher talk categories, two pupil talk categories and a silence category. Flanders labels the categories numerically and gives them a short title.

1. Accepts feeling
2. Praises or encourages
3. Accepts or uses ideas of pupils
4. Asks questions

5. Lecturing
6. Giving directions
7. Criticizing
8. Pupil talk - response
9. Pupil talk - initiation
10. Silence or confusion. (Flanders, 1970)

The first three categories occur when a teacher responds to something a pupil has said. Number four is simply those times when the teacher asks a question. In categories five, six and seven, the teacher initiates the interaction in one of three ways listed. The eighth and ninth categories are used only when a student is speaking. It is important to distinguish between pupil talk-response and pupil talk-initiation. Category ten includes any periods of silence, or periods when interaction is not clear to the observer, lasting longer than three seconds.

The following steps were preformed using FIAC to analyze the first and final observations of the two groups of student teachers.

Step One. VHS tapes were viewed and coded. A category numeral was coded every three seconds. For example, when a teacher asked a question which took approximately six seconds to communicate to the students, the correct coding of that six second period was two numeral fours. During the viewing session, it was helpful to base the tempo according to the footage on the counter dial. The VCR used to play the VHS tape had a ratio of five feet to every 12 seconds of playing time. Therefore, four

number categories needed to be coded for the five feet of playing time. If it was necessary to replay a section for greater accuracy, the footage became the gauge to determine where to start and stop. Lined sheets of paper were used as tallying forms. The sheets were labeled with the teacher's name, date of observation, subject of presentation, grade level, and either scripting or videotaping group distinction.

Step Two. After viewing the tapes, the raw numerals were tallied.

Step Three. The column figures from step two were added to obtain the total number of tallies which were recorded during the observation. It was necessary to adjust to a common base to make category totals directly comparable because the total number of tallies was different in each observation. The tally for each category was converted to a percent.

Table 1 shows the percentages of each category during the first and final observations of the scripted group. Table 2 shows the percentages computed from the data of the videotaped group.

Step Four. The tallies for the student teachers in each group were totaled and percentages were computed for each category of group scores. To perform this step, it was necessary to combine the three individual scores of each category into one category group score. The percentage of each category group score was computed following procedures recommended by Flanders (1970).

Table 3 shows the computation of category percentages for the scripting groups first and final observation.

Interestingly, the scripting group's percentages showed little change when comparing the first and final observation data. The greatest increase was in the use of praise (category 2). Offsetting that figure was the decrease in the use of pupil ideas (category 3). The ratio of teacher talk, pupil talk and silence remained nearly the same.

Table 4 shows the computation of category percentages for the videotape group in the first and final observations.

Unlike the scripting group, there were substantial changes in the percentages recorded in the final observation of the videotaped group. In category 5, lecturing, the percentage increased from 17.6 to 38.7 from the first to the final observation. At the same time, the pupil talk-response dropped from 23.0 to 15.5. The result was an increase in the teacher talk percentage from 62.9 to 71.2; and a decrease in the pupil talk from 25 to 19.6 percent, as shown in Table 5.

Flanders' research indicates that after several years of observation, these average percentages were compiled:

teacher talk 68%

pupil talk 20%

silence 12%

A comparison between the two groups' percentages of teacher talk, pupil talk, and silence is shown in Table 5. The words script/video refer to the scripted and videotaped groups of student teachers.

A discussion of the findings, including the teacher/pupil talk ratio, will be found in Chapter 5.

TABLE 1

Percent of Categories Tallied for First/Final Observations of Student Teachers in the Scripted Group

Category	Teacher 1 First/Final	Teacher 2 First/Final	Teacher 3 First/Final
1	0/0	0/0	0/0
2	5.3/ 9.4	1.0/ 2.3	4.1/ 5.7
3	11.7/ 5.5	16.2/ 5.7	11.0/ 5.4
4	13.6/12.5	22.4/ 3.9	16.0/16.1
5	20.5/22.4	10.4/20.5	27.0/26.9
6	15.6/16.0	10.7/10.2	11.0/10.7
7	0/ .4	.3/ 0	0/ .9
8	21.0/12.9	15.2/10.2	11.9/ 5.2
9	.9/ 3.5	1.4/ 0	0/ .3
10	11.5/17.3	32.1/47.7	87.7/18.8

TABLE 2

Percent of Categories Tallied for First/Final Observations of Student Teachers in the Videotaped Group

Category	Teacher 1 First/Final	Teacher 2 First/Final	Teacher 3 First/Final
1	.3/ 0	.5/ .6	0/ .9
2	11.9/ 3.0	1.9/ 4.5	7.1/13.2
3	5.7/ 4.1	8.9/ 3.2	9.8/ 1.3
4	22.2/ 9.6	21.6/ 6.4	16.0/11.5
5	12.7/39.1	16.4/48.4	26.7/31.9
6	4.1/ 8.1	10.3/ 9.7	13.3/ 9.4
7	0/ 4.6	3.3/ 5.8	0/ .4
8	26.3/19.3	24.0/11.6	16.4/14.9
9	1.6/ 7.6	1.4/ 3.9	3.1/ 1.8
10	15.2/ 4.6	11.7/ 5.8	7.6/15.3

TABLE 3

A Comparison Between the First and Final Observation of the Scripted Group

Category Number and Label	First/Final Observations
1. Accepts Feeling	.0/ 0
2. Praises	3.7/ 6.6
3. Accepts/Uses Ideas	9.9/ 5.5
4. Asks Questions	16.9/13.1
5. Lecturing	18.9/24.3
6. Giving Directions	13.1/12.7
7. Criticizing	.1/ 0.6
8. Pupil talk-response	17.1/13.7
9. Pupil talk-initiation	.8/ 1.5
10. Silence/Confusion	19.5/22.0

TABLE 4

A Comparison Between the First and Final Observation of the Videotaped Group

Category Number and Label	First/Final Observations
1. Accepts Feeling	.2/ .5
2. Praises	7.9/ 7.5
3. Accepts/Uses Ideas	7.7/ 2.7
4. Asks Questions	20.3/ 9.6
5. Lecturing	17.6/38.7
6. Giving Directions	8.3/ 9.0
7. Criticizing	.9/ 3.2
8. Pupil talk-response	23.0/15.5
9. Pupil talk-initiation	2.0/ 4.1
10. Silence/Confusion	12.1/ 9.2

TABLE 5

A Comparison of Teacher Talk, Pupil Talk and Silence for First and Final Observations Between the Scripted and Videotaped Groups

Category	Scripted Group First/Final	Videotaped Group First/Final
Teacher Talk	62.6/62.8	62.9/71.2
Pupil Talk	17.9/15.2	25.0/19.6
Silence	19.5/22.0	12.1/ 9.2

CHAPTER V

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

Restatement of the Problem

The purpose of this study was to determine if there is a substantial difference in student teachers' behavior between those who are provided performance data collected by scripting and those who are provided performance data collected by videotape recording.

Major changes have been made in the process of teacher evaluation, while the methods of performance data collection have remained somewhat the same. School districts that rely on the narrative form of data collection frequently use the anecdotal or scripting methods. Videotape recording is a narrative form of data collection infrequently used by school districts to improve teacher behavior. Advances in videotape recording technology have made the use of this equipment in this method of data collection more convenient and readily available.

Description of Procedure Used

To test the hypothesis that there is no significant difference in student teacher performance between those who are provided performance data collected by scripting and those who are provided performance data collected by videotape recording, an experimental study involving six student teachers and 24 observations was conducted in elementary classrooms.

The student teachers were randomly assigned to a scripting or videotaping group. Both groups were videotaped during their first and final observations. Flanders' Interaction Analysis was used to analyze these two observations. During the second and third observations, three student teachers were scripted and three were videotaped. The scripts and tapes were given to the supervisors to read or view with the student teachers.

Principal Findings

From the first and final observations, individual, group and ratio findings were presented in Chapter 4. When examining Table 5, which shows the teacher/pupil talk, silence ratio, there are several figures which show a substantial change from the baseline to the final analysis. The teacher-talk percentage increased from 62.9 to 71.2 percent in the videotaped group. In that same group, the pupil talk percentage dropped from 25 to 19.6 percent. These two changes may indicate a less desirable outcome from the first to the final observation in the videotaped group.

Flanders states that talking is one way to dominate and express one's will. It is not uncommon to discover that a teacher talks more than half the time. When the teacher talk percentage rises above 75 percent, it may be an indication of a classroom which is heavily dominated by the teacher (Flanders, 1970).

Sirotnik (1983) gathered similar data and recorded a ratio of teacher talk to pupil talk to be nearly 3 to 1. Ironically, the videotaping group, in the final analysis, had nearly a 3 to 1 ratio, while the scripting group teacher/pupil talk ratio is about 4 to 1.

However, the findings by Sirotnik and Flanders are norms. The 3 to 1 ratio and the 68, 20 and 12 percentages cannot be used to determine which of the two groups improved the most. They can be used only as a guide for what is happening in the average classroom. Likewise, the increase in teacher talk and the decrease in pupil talk should not be construed as negative results for the videotaping group.

More importantly, there were weaknesses brought about by the size of the two groups; which if controlled, may have resulted in a more definitive answer to the problem. Those weaknesses included varied subject matter, time of day, and possibly grade level. It appears to the researcher that a study with just six student teachers requires more controls in the areas of subject matter presented, time of day, and grade level.

Therefore, it is important to focus on the individual scores which may have affected the groups' total percentages and teacher/pupil talk, silence ratio.

In Table 1, the first noticable change is in category 3, use of student ideas. This group had not been videotaped in two months, so perhaps they were reacting to the equipment. There is an explanation for the dramatic drop in the percentage in

category 4, questioning, by teacher 2. This teacher presented a very brief (5 minute) art lesson presentation. She gave directions and asked for questions. Another interesting observation is that all three teachers were engaged in less interaction with the pupils, as shown in category 8, pupil talk-response. The final percentage in category 10, silence, by teacher 2 would be upsetting to time on task advocates. There is a simple explanation. The researcher continued to tape this short art lesson. The reason for doing so was because the student teacher continued to remind students of the lesson objectives while she walked around the room. There were long pauses between comments.

Interestingly, an art presentation in the videotaping group also caused a substantial increase in the group lecturing percentage. Teacher 2 had taught a math lesson in the first observation and an art lesson for the final. There was considerable decrease in discussion as the art lesson unfolded. Teacher 1 facilitated a spelling game in her first observation and a homonym game in the final presentation. The final presentation was at 1:00 p.m. on the Friday before Easter vacation. The class had not had noon recess and their behavior was affected. Notice category 7, criticism, increased from 0 to 4.6 as the student teacher did her best to keep control in front of the camera. The videotaped group also had an across-the-board

decrease in category 3, the use of student ideas. Subject matter, time of the year, a number of variables may have affected those figures.

Consequently, it is only appropriate that the results of this study are inconclusive. Currently, there is no research which states what teacher/pupil talk/silence ratio is appropriate.

Recommendations

In classrooms that are above average in positive pupil attitudes and content achievement, the teacher interaction exhibits a somewhat greater orientation toward pupil ideas and pupil initiative (Flanders, 1970). If this is true, it would be interesting to examine the teacher/pupil talk, silence ratio in classrooms where teachers are using a specific instructional model such as ITIP - Instructional Theory Into Practice - or mastery learning. Future studies might also include controls on the subject matter presented, as well as an increase in the number of subjects per group. Grade level controls should limit the span of grades included in the study.

Answers to Additional Research Questions

The two supervisory teachers who participated in the study completed a two question survey regarding the study. (See Appendix D.) Both supervisors agreed that the videotape recording was a better method of data collection to use when post-conferencing with student teachers. They appreciated being

able to see the lesson exactly as it occurred in the classroom. Although it took longer to conference using this method of data collection, the post-conference discussion was improved with the exactness of the tape. One of the supervisors reported the scripting method to be of great value if videotape equipment was not available.

Conclusions

The idea to research data collection methods originated in a personnel class I was enrolled in during my Master's program. The professor discussed scripting as a common method of data collection. As he defined scripting, I pictured an instructional leader with his or her head down, feverishly writing every spoken word during an observation period.

It didn't seem appropriate to me that one could really observe a class presentation in this studious position. Likewise, it surprised me that with the advances in video technology in recent years, any presentation requiring a verbatim transcription would overlook video tape recording. Was that the case? Or, was I overlooking a reason for not using video taping as better methods of data collection to improve teacher performance?

When I questioned the scripting method of data collection and proposed video tape recording as more efficient, the professor did not agree. In fact, he thought scripting was more efficient because it look less time to post-conference.

Although this study did not prove either the professor or me to be wrong, I did discover several interesting aspects about both data collection methods.

While completing this study, I served as an intern administrator at Cody Elementary School in the Millard School District. Millard uses scripting in collecting data during classroom observations. Although I felt more like a secretary taking minutes for a board meeting, I did become fairly competent at scripting after a dozen or more opportunities. I do agree that this method does save time and provides teachers with good information to be used in a post-conference.

However, supervisors of student teachers might consider the use of video taping as the best method of data collection to improve student teacher performance. Both supervisors who were involved in the study thought post-conferencing was enhanced with the use of video taping when compared to scripting.

What may be efficient for a supervisor of student teachers may not be to an instructional leader. Consequently, I have developed a respect for both methods of data collection and believe that each has its place in improvement of instructional performance.

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APPENDIXES

APPENDIX
A

University of Nebraska

The University of Nebraska
Institutional Review Board
For the Protection of
Human Subjects

Office of the Executive Secretary, IRB
5017 Conkling Hall
University of Nebraska Medical Center
42nd & Dewey Avenue
Omaha, NE 68105-1065
(402) 559-6463

EXEMPTION INFORMATION FORM

PROPOSAL TITLE: A Comparative Analysis of Student Teachers Who Are Provided Performance Data by Scripting and Student Teachers Who Are Provided Data by Video Taping.

INVESTIGATOR(S) NAME & DEGREE: Linda L. O'Hare, Specialist in Education

DEPARTMENT & SCHOOL: Education Administration and Supervision, UNO

ADDRESS: 12922 Jones Street Omaha, NE 68154

TELEPHONE NUMBER: 333-1076

PURPOSE OF THE STUDY:

The purpose of this study is to determine if there is a significant difference in a student teacher's behavior between those who are provided performance data collected by scripting and those who are provided performance data collected by video taping.

DESCRIPTION OF SUBJECT POPULATION AND METHOD(S) OF RECRUITMENT:

The population for the study will be student teachers from the University of Nebraska at Omaha in 1987-88. Ten volunteers will be selected and subdivided into two groups by random assignment.

INFORMED CONSENT: Some technically exempt research projects ethically require informed consent (written or oral). If, in the investigator's opinion, the study requires informed consent, the method used to obtain informed consent should be described and any written consent forms submitted. If the study does not require consent, it should be so stated and justified.

DESCRIPTION OF PROCEDURES:

The ten student teachers who volunteer to be observed will be randomly assigned to the scripting or video taping group. To form a baseline, each student teacher will be video taped twice within a three week period. The scripting group will be observed twice again, using the scripting data collecting method. The experimental group will be observed twice using the video tape data collecting method. The data collected will be provided to the supervising teacher to be used in conferencing with the student teacher. The data collection will be done by the investigator. A final video tape session of each student teacher for the purpose of comparison analysis will be conducted. Observation sessions will be no longer than 20 minutes, and will be conducted in the student teacher's assigned classroom. Flanders Interaction Analysis technique will be used as a measurement tool.

EXEMPTION CATEGORY: This proposal qualifies for exemption under 45 CFR 46:101(b) paragraph(s) 1 and is justified as follows:

This research is being conducted in a commonly accepted educational setting, comparing change in teacher behavior when different performance data gathering techniques are used.

SIGNATURE OF INVESTIGATOR

DATE

Katherine Kasta

SIGNATURE OF ADVISOR
(for student investigator)

11/19/87

DATE

The IRB reserves the right to request the investigator provide additional information concerning the proposal.

A

University of Nebraska

Office of the Executive Secretary, IRB
42nd and Dewey Avenue
Omaha, NE 68105
(402) 559-6463

The University of Nebraska
Institutional Review Board
For the Protection of
Human Subjects

November 24, 1987

Linda O'Hare
Educational Administration
UNO

IRB # 195-88

TITLE OF PROPOSAL: A Comparative Analysis of Student Teachers Who Are Provided Performance Data by Scripting and Student Teachers Who Are Provided Data by Video Taping

Dear Ms. O'Hare:

I have reviewed your Exemption Information Form for the above mentioned research project. According to the information provided this project is exempt from IRB review under 45 CFR 46:101B 1.

It is understood that an acceptable standard of confidentiality of data will be maintained.

Sincerely,

Ernest D. Prentice, Ph.D.
Executive Secretary

EDP/lmb

APPENDIX
B

January 14, 1988

Dear _____,

Thank you for agreeing to be a participant in a research study at UNO. Educational research studies rely on volunteers who are committed to the teaching profession. Your willingness to assist in this project is a reflection of your committment to education.

The formal purpose of this study is to determine if there is a significant difference in student teachers' behavior between those who are provided performance data collected by scripting and those who are provided performance data collected by video tape recording.

This research project involves these steps:

1. Recruitment of ten student teachers and their supervisors to serve as participants in the study.

2. Randomly assign student teachers into two groups: SCRIPT / VIDEOTAPE.

3. Collect baseline performance data by videotaping each student teacher.

4. Collect performance data during two observations by scripting or video taping.

5. Provide supervisory teacher the script/vidoe tape withing one day of observation.

6. SUPERVISOR AND STUDENT TEACHER POSTCONFERENCE WITHIN THREE DAYS FOLLOWING CONFERENCE USING THE SCRIPT/ VIDEO TAPE. See page 2 guidelines.

7. Gather a final video tape on all student teachers to be analyzed and compared with the baseline tape.

The baseline is expected to be taped in mid-February. I would like to meet with each student teacher to set an exact time and date for the baseline observation. Confirmation of the next observation should be made following the baseline session. The two remaining observation should be scheduled in the same manner.

Questions? Please contact Linda O'Hare.

Home - 333-1076
Cody School - 895-8320

Guidelines for Use of Script/Video Tape in post-conference.

1. Please read script or view video in their entirety. Viewing the tape or reading the script may be completed individually prior to the post-conference to save time.

2. Supervisors/student teachers ask or answer any questions regarding the contents of the script/tape.

3. If you wish, reread or replay script/ tape as often as you like.

APPENDIX C

12922 Jones Street

Omaha, NE 68154

April 24, 1999

Dear _____,

Thank you for participating in the research project on videotaping and scripting of student teachers. The professors at UNO who serve on my committee requested that I keep the tapes until the research project has been approved. The anticipated approval date is in late May. At that time, I will contact you and make arrangements to deliver the tape. My apologies for any inconvenience this may cause you.

Best wishes as you graduate and in the future.

Sincerely,

Linda O'Hare

APPENDIX D

D

Questionaire

To: Supervisors of UNO Student Teachers Involved in Research Study

From: Linda O'Hare

Directions: Please respond to these questions using the space below. You many use an additional sheet of paper if necessary.

1. Which method of data collection do you prefer: scripting or videotape recording, and why?

Prefer videotape recording because it allows one to practically recreate the lesson. As we watched the videotape, both the student teacher and I could make comments on what we saw and stop and discuss any situations that we wanted to. Having picture and sound has a greater impact than just the recorded (written) words.

Scripting did provide for a shorter follow-up conference - I'm not sure shorter is necessarily preferable.

2. Do you think scripting and videotape recording are equally beneficial methods of data collection for improving teacher performance. Why or why not?

No - I think the videotape is far more beneficial - it provides a better record of what has happened. Therefore, it is easier to discuss the teaching process, student/teacher interaction, etc.

Mary Lickteig

Questionaire

To: Supervisors of UNO Student Teachers Involved in Research Study

From: Linda O'Hare

Directions: Please respond to these questions using the space below. You many use an additional sheet of paper if necessary.

1. Which method of data collection do you prefer: scripting or videotape recording, and why?

I prefer video tape recording over scripting. I think you get a better overview of the entire classroom situation; which would include facial expressions, gesturing, class reaction, and the poise of the student teacher.

(Sorry about this typing, I didn't see my paper was caught along the margin)

2. Do you think scripting and videotape recording are equally beneficial methods of data collection for improving teacher performance. Why or why not?

I feel video taping is more beneficial than scripting for the above reasons. I also think students would be more inclined to watch a tape of themselves rather than do added reading. If video taping is not available scripting would be a good alternative method.

Jo Lopez