Introduction

Purposes and Perspectives on Classroom Observation Research

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The purpose of this book is to provide researchers, scholars, and educators with examples of recently developed classroom observation instruments based on current research on effective teaching practices, many developed explicitly for use in today’s culturally and linguistically diverse classrooms. The chapters describe several new instruments and include examples of how they have been used to examine effective instruction, schools, and school-based reform models in classrooms and schools with diverse students. Although most observational research in culturally and linguistically diverse settings has been qualitative, systematic classroom observation research has been widely used during the past three decades (Waxman, 1995; Waxman & Huang, 1999). And, although findings from that research have led to a substantive knowledge base on effective teaching practices (Brophy & Good, 1986; Waxman & Walberg, 1982), many critics have argued that systematic observation lacks a theoretical/conceptual framework and merely focuses on discrete categories or small segments of observable teacher behaviors that can be easily measured with observation instruments (Ornstein, 1991). Indeed, most of the early observation instruments focused on direct instruction and easily quantifiable behaviors associated with basic skills instruction, rendering them inappropriate, or when used alone inadequate, for examining today’s diverse classrooms. Today, researchers and educators need instruments based on the most recent theoretical/conceptual work and empirical research on effective pedagogy (Tharp, Estrada, Dalton, & Yamauchi, 2000; Waxman & Walberg, 1999). This book presents a rich variety of such instruments.
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The editors and authors of this book are all affiliated with the Center for Research on Education, Diversity, and Excellence (CREDE). Most of the instruments and methods in this book were recently presented at CREDE-sponsored symposia at the annual meeting of the American Education Research Association (AERA) or the Invitational Each Teach Classroom Observation Conference held in Santa Cruz, California, in September 1999. Most of the contributors to this book also are prominent educators with major research programs focusing on culturally and linguistically diverse classrooms.

SYSTEMATIC CLASSROOM OBSERVATION

Systematic classroom observation is a quantitative method of measuring classroom behaviors from direct observations that specifies both the events or behaviors that are to be observed and how they are to be recorded (Medley, 1992). Prior to the use of systematic observational methods, research on effective teaching typically consisted of subjective data based on personal and anecdotal accounts of effective teaching (Nuthall & Alton-Lee, 1990). In order to develop a scientific basis to teaching, researchers began to use the more objective and reliable measures of systematic classroom observation. In the past few decades, several hundred different observational systems have been developed and used in classrooms and research studies (Anderson & Burns, 1989).

Generally, data collected through systematic observation focus on the frequency with which specific behaviors or types of behavior occur in the classroom and the length of time they occur. Several elements are common to most observational systems: (a) a purpose for the observation, (b) operational definitions of all observed behaviors, (c) training procedures for observers, (d) a specific observational focus, (e) a setting, (f) a unit of time, (g) an observation schedule, (h) a method to record the data, and (i) methods to process and analyze data (Stallings & Mohlman, 1988).

Although several observational procedures or techniques have been used to examine effective teaching (e.g., charts, rating scales, checklists, and narrative descriptions), the most widely used method has been systematic classroom observation based on interactive coding systems. These interactive coding systems allow the observer to record nearly everything that students and teachers do during a given time interval (Stallings & Mohlman, 1988). These interaction systems are very objective and typically do not require the observer to make strong inferences or judgments about the behaviors they observe in the classroom.
In other words, these low-inference observational systems provide specific and easy identifiable behaviors that observers can easily code (Stodolsky, 1990).

Some of the major advantages of using classroom observation are that they (a) permit researchers to study the processes of education in naturalistic settings, (b) provide more detailed and precise evidence than other data sources, and (c) can be used to stimulate change and verify that the change occurred (Anderson & Burns, 1989). The descriptions of instructional events that are provided by this method have also been found to lead to improved understanding and better models for improving teaching (Copley & Williams, 1993; Good & Biddle, 1988).

Another advantage of systematic observation is that the findings from research studies using them have provided a coherent, well-substantiated knowledge base about effective instruction. Many of the reviews and summaries of the classroom observation research have consistently found that a number of classroom behaviors significantly relate to students’ academic achievement (Brophy & Good, 1986; Rosenshine, 1987; Rosenshine & Stevens, 1986; Walberg, 1986, 1991, 1995). Several aspects of classroom instruction such as (a) conducting daily reviews, (b) presenting new material, (c) conducting guided practice, (d) providing feedback and correctives, (e) conducting independent practice, and (f) conducting weekly and monthly reviews have been found to be significantly related to students’ academic achievement (Rosenshine, 1987). In other words, research using systematic classroom observation has provided us with a substantial knowledge base that has helped us understand effective teaching.

PURPOSES OF CLASSROOM OBSERVATION

Traditionally, there have been four specific areas in which systematic classroom observation has been found to be especially useful for educational practice: (a) describing instructional practices, (b) investigating instructional inequities for different groups of students, (c) improving teacher education programs, and (d) improving teachers’ classroom instruction based on feedback from individual classroom profiles.

Describing Instructional Processes

Two of the fundamental purposes of classroom observation research are describing the current status of instructional practices and identifying
instructional problems (Good, 1988; Good & Brophy, 2000; Waxman, 1995; Waxman & Huang, 1999). As Good (1988) puts it, “one role of observational research is to describe what takes place in classrooms in order to delineate the complex practical issues that confront practitioners” (p. 337). Many observational studies have been designed to describe specific educational phenomena. Large-scale observational studies such as those of Sirotnik (1983) and Waxman, Huang, and Padron (1995), for example, have examined instructional practices in elementary and secondary schools. Sirotnik (1983) examined 1,000 elementary and secondary classrooms and found that there was very little variety in teaching practices across subjects and grades. He found that the majority of class time was spent either with the teacher lecturing to the class or students working on written assignments. Waxman, Huang, and Padron (1995) observed 90 sixth- and eighth-grade classrooms from 16 inner-city middle level schools and found similar results. Students were typically involved in whole-class instruction and were not interacting with either their teacher or other students. Students rarely selected their own instructional activities and were generally very passive in the classroom, often just watching or listening to the teacher, even though they were on task about 94% of the time. The teacher observation results revealed that teachers typically focused on the content of the task or assignment, responded to students’ signals, communicated the task’s procedures, and checked students’ work. Teachers spent very little time interacting with students regarding personal issues, encouraging students to succeed, showing personal regard for students, and showing interest in students’ work.

Another aspect of descriptive observational studies involves the extent to which technology is used in the classroom. Although a large number of studies have examined technology use in schools, most of these studies have relied on self-report data from administrators, teachers, or students. These types of data are often unreliable and tend to be upwardly biased in the direction of overreporting actual technology use. Therefore, it is important to observe and record the extent to which technology is used in classrooms and used by individual students. In one such study, Waxman and Huang (1995) used systematic classroom observation to examine the extent to which computer technology was integrated into the curriculum of 200 elementary and secondary school inner-city classrooms. They found that there was no integration (i.e., use) of computer technology in the elementary school classrooms, and students were observed working with computers only 2% of the
time in middle school classrooms. Huang and Waxman (1996) also conducted systematic observations of 1,315 middle school students in 220 mathematics classrooms to examine technology use. Results revealed that students were observed using calculators about 25% of the time, but they used computers less than 1% of the time in their mathematics classes.

Other work in the area of instructional technology has focused on how technology use impacts instructional behaviors and students’ motivation, anxiety, and perceptions of their classroom learning environment (Waxman & Huang, 1996, 1996–1997). In a study involving classroom observations of over 2,000 middle school students, Waxman and Huang (1996) found significant differences in classroom instruction, depending upon the amount of technology used by the teacher. Instruction in classroom settings where technology was not often used tended to involve whole-class approaches in which students generally listened or watched the teacher. Instruction in classroom settings where technology was moderately used had much less whole-class instruction and much more independent work. These findings are quite similar to those of previous research that supports the notion that technology use may change teaching from the traditional teacher-centered model to a more student-centered instructional approach. Another important finding from this study was that students in classrooms where technology was moderately used were also found to be on task significantly more than students who were in settings where technology was not widely used.

Some other uses of descriptive observational studies have been to (a) evaluate programs and, more specifically, evaluate the fidelity or degree of implementation of programs (Stallings & Freiberg, 1991), (b) examine the extent to which higher-level thought processes are emphasized in schools (Padrón & Waxman, 1993), and (c) investigate the extent to which multicultural education is emphasized in urban classrooms (Saldana & Waxman, 1996, 1997). A final important use involves school effectiveness studies in which classroom observation data have been used to investigate observable differences between effective and ineffective schools (Stringfield & Teddlie, 1991; Teddlie, Kirby, & Stringfield, 1989; Teddlie & Stringfield, 1993; Waxman & Huang, 1997; Waxman, Huang, Anderson, & Weinstein, 1997). Waxman and Huang (1997), for example, observed over 700 students from four effective and four ineffective urban elementary schools that served predominantly African American students and found that students from the effective schools were observed significantly more (a) working in an
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individualized setting, (b) interacting with their teacher, and (c) working on written assignments. On the other hand, students from the ineffective schools were observed in (a) whole-class settings, (b) not interacting with their teacher, (c) interacting with others, (d) reading, and (e) working with manipulative materials significantly more than students from the effective schools.

Identifying Instructional Inequities

A second area in which systematic classroom observation has been found to be beneficial is in investigating instructional inequities for different groups of students. Classroom observation can answer some important questions, such as “Are some students being treated differently in the classroom, and does that explain why some students learn more than others?” Often this issue has been defined as differences in opportunity to learn or inequitable allocation of instruction. Another way of asking this question is “To what extent is there variation in the quality and quantity of instruction that students experience in school, and does that variation explain inequality in educational outcomes?”

Several studies have found that some groups or types of students are treated differently by teachers in classrooms and that these inequitable patterns of teacher–student interaction in classrooms result in differential learning outcomes for students (Fennema & Peterson, 1987). Many studies, for example, have found gender imbalances in teachers’ interaction patterns in the classroom. Brophy and Good’s (1974) review of the research found that consistent sex-related differences exist in the classroom in teachers’ interaction patterns. Boys, for example, typically have been found to receive more praise and criticism in the classroom than girls. Brophy and Good also found that teachers have more behavioral, procedural, and academic interactions with boys than with girls. Boys have also been found to ask more questions in the classroom, and teachers have been found to ask boys more questions. Good and his colleagues (Good, Slavings, Harel, & Emerson, 1987; Good, Slavings, & Mason, 1988) have also conducted several observational studies that examined why low-achieving students in secondary schools asked fewer questions than high-achieving students. They found that students from an upper-middle-class elementary school asked more questions than students from lower-middle-class schools.

Other studies have looked at both sex- and ethnic-related differences in the classroom. Hart (1989) examined the relationship between
teacher–student interaction and mathematics achievement by race and sex. She found that (a) White and Black male students had more classroom interactions than students from other groups, (b) there was a disparity in the type of interaction between White and Black students, and (c) boys were involved in more public interactions with teachers than girls. In other words, it appears that patterns of teacher–student interaction may be influenced not only by the sex of the student, but also by the ethnicity of the student.

Padrón, Waxman, and Huang (1999) observed behavior differences between resilient (i.e., successful) and nonresilient (i.e., less successful) elementary school students from low socioeconomic backgrounds. They found that resilient students spent significantly more time interacting with teachers for instructional purposes, whereas nonresilient students spent more time interacting with other students for social or personal purposes. Resilient students were also observed watching or listening significantly more often than nonresilient students, whereas nonresilient students were observed more often not attending to the task. The percentage of time that resilient students were observed on task (85%) was much higher than that of nonresilient students (61%). The magnitude of these differences was both statistically and educationally significant and illustrated the instructional inequities that exist within classrooms.

The findings from these classroom observational studies have important policy implications for schools. If differential classroom behaviors by sex and ethnicity are found to exist, policymakers may need to examine the quality and quantity of classroom instruction for some groups of students and determine if instructional interventions are needed. In future studies, researchers may also want to examine teachers’ expectations and/or the classroom behavior of teachers to see if they impact the classroom behavior of individual students.

Improving Teacher Education Programs

Although there are conflicting findings regarding the research on the effects of early field experiences (Waxman & Walberg, 1986), there is some evidence that systematic classroom observation is an effective component of preservice teacher education programs (Freiberg & Waxman, 1988; Merkley & Hoy, 1992–1993; Timm & Marchant, 1992; Waxman, Rodriguez, Padrón, & Knight, 1988). Systematic observation of classroom teachers provides prospective teachers with the opportunity to
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actually observe specific teaching behaviors emphasized in teacher education courses. It allows prospective teachers the opportunity to integrate what they are learning in their teacher education courses with the realities of the classroom. Furthermore, such focused observations allow prospective teachers to see how classroom instruction can differentially influence student behavioral and affective outcomes.

Waxman et al. (1988) illustrated how the use of systematic classroom observation can be an important component of teacher education programs. Not only did the prospective teachers in the study observe some of the teaching skills that were emphasized in their teacher education courses, but they also observed how those instructional behaviors differentially affected student outcomes. Merkley and Hoy (1992–1993) found that observation improved preservice teachers’ ability to describe selected classroom teaching behaviors and cite significantly more examples than students in the control group, who received the more typical written material and lecture on a classroom lesson. Systematic classroom observation can provide a common language for describing effective teaching. Such observation enables prospective teachers to focus on specific teaching skills that they have been learning about in their pedagogy courses. Many of the prospective teachers in the Waxman et al. (1988) study, for example, indicated that the systematic observations were the most beneficial aspect of the course for them. They also reported that their observations helped them become more aware of the social reality of teaching from the teacher’s perspective.

Another area in which systematic classroom observation can help prospective teachers is during the student teaching phase. Freiberg, Waxman, and Houston (1987), for example, used systematic classroom observation to provide feedback to student teachers. In their experimental study, one group of student teachers received traditional supervision from a university supervisor, the second group of student teachers received traditional supervision and systematic feedback about their classroom instruction from the Stallings Observational System (SOS), and the third group of student teachers received systematic feedback, engaged in self-analysis, and received feedback from their peers. At the end of one semester, student teachers who had engaged in self-analysis and collegial feedback significantly improved their classroom instruction in desired directions, whereas student teachers in the other two groups did not. This study clearly suggests that when student teachers receive systematic feedback on their classroom instruction, engage in discussions about their instruction with their peers and supervisor,
and conduct self-analyses of their teaching, they are likely to improve their instruction. The findings from this study also suggest that systematic feedback alone may not be sufficient to improve the instruction of student teachers.

A final area in which observation may be especially useful is during the induction phase or first few years of teaching. Schaffer, Stringfield, and Wolfe (1992), for example, used classroom observation data collected from a university-based, collaborative 2-year teacher induction program to improve beginning teachers’ classroom instruction. For each year of the project, individualized feedback on classroom instruction was provided to teachers near the beginning of the school year. These teachers also received a 3-hour feedback/instruction session each week in which their classroom profiles were discussed along with other instructional and organizational classroom issues. Classroom observation data were similarly collected on each teacher near the end of the school year. During the first year of the program, these beginning teachers improved their instruction in classroom organizational and management skills. During the second year, the improvement was found to be in the more intellectually complex areas of teaching.

Improving Teaching Practices

Research using observational methods has yielded important information that has practical implications for the improvement of teaching practices. One of the traditional problems hindering teachers’ classroom instruction has been the lack of valid and accurate information that teachers could use to facilitate their professional growth (Johnson, 1974). Many teachers, even experienced ones, are not always aware of the nature of their interactions with individual students (Doyle, 1979). Consequently, one of the most important purposes of systematic classroom observation is to improve teachers’ classroom instruction (Stallings & Freiberg, 1991; Stallings, Needels, & Stayrook, 1979). Feedback from individual classroom profiles derived from systematic observations has been found to help teachers understand their own strengths and weaknesses and has consequently enabled them to improve their instruction significantly. Using feedback, teachers become aware of how their classroom functions and thus can modify their teaching behaviors (Brophy, 1979; Stallings, Needels, & Sparks, 1987). This process typically involves having trained observers systematically observe teachers and students in their classrooms and later providing teachers with information about
the observation in clinical sessions. This approach is based on the assumption that teachers value accurate information that can be useful in improving their instruction.

There is growing evidence that feedback from systematic observations can be used to improve teaching (Stallings & Freiberg, 1991). Several studies have found that teachers positively changed their attitude and behaviors toward pupils after receiving feedback from classroom observations (Ebmeier & Good, 1979; Good & Brophy, 1974; Good & Grouws, 1979; Stallings, 1980). Good and Brophy’s (1974) treatment study exemplifies this type of research. In that study, teachers were given feedback based on 40 hours of classroom observation. As a result of this “one-shot” interview in which feedback was given, teachers’ interaction patterns changed, and their attitudes toward individual students changed, too. Stallings (1980), Ebmeier and Good (1979), and Good and Grouws (1979) have utilized similar strategies. Teachers were given individual feedback regarding their classroom instruction and then were found to change their behavior in desirable ways. All these studies have found that teachers can improve their classroom instruction given appropriate feedback and suggestions for improvement.

The overall findings from these studies suggest that feedback from classroom observations is a viable and effective mechanism for providing teachers with the information they need about their classroom behavior. This feedback is intended to create an imbalance in teachers’ perceptions of their own behaviors. This imbalance exists whenever teachers find out that their attitudes or perceptions of their teaching differ from those of trained observers. Teachers in such a state of imbalance are motivated to do something about their behavior in order to restore their balanced condition (Gage, 1972). A similar notion is that self-awareness increases teachers’ control of their actions and the possibility that they will modify them (Feiman, 1981). More recently, Waxman et al. (1995) provided schoolwide feedback to middle school teachers that compared their school profile on classroom instructional behaviors to an overall districtwide average of these same behaviors. Feedback from these profiles was used to stimulate dialogue and discussion about instructional strengths and weaknesses in the school. The profiles also helped initiate discussion about specific instructional areas that needed to be improved in the school. It should be pointed out again that these profiles provided some guidelines for practice; they were not attempts to tell teachers what to do. These profiles provide teachers with concepts and criteria that they can use to reflect about their own teaching