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ABSTRACT

This combination report and guide is intended to assist a broad audience of state and local educational administrators, teacher educators, and state policymakers. The first chapter of the guide examines (1) current views from the field regarding procedures for defining teacher effectiveness, teacher supply and demand, factors affecting teacher quantity and quality, and the changing demands on vocational education; and (2) strategies for improving teacher recruitment, selection, and certification. Provided in the next chapter are action agendas for state legislatures, state departments of education, and teacher preparation institutions to implement in their efforts to improve the effectiveness of vocational teachers and teaching. The third chapter of the guide describes and assesses the following teacher evaluation strategies: teacher competency testing, teacher interviews, student achievement, classroom observation, student rating of teachers, peer review, and self-evaluation. Appendixes to the report include lists of technical advisory panel members and site visit locations. References are provided at the conclusion of chapter 1 and following each of the evaluation sections of chapter 3. (MN)

Research and Development Series No. 262

ASSESSING VOCATIONAL TEACHERS

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FOREWORD

Improving teacher effectiveness has been targeted for major reforms in recent United States education policy. Virtually every State has adopted, or is in the process of adopting, new programs and policies improving the recruitment, selection, preparation, certification, inservice development, and evaluation of its teaching work force.

This publication examines the implications these reform initiatives have for vocational teachers and teaching. It provides decision makers at the State and local levels, as well as vocational teacher educators, with an examination of critical issues related to improving policy and practice in areas directly affecting vocational teachers.

We wish to thank the Office of Vocational and Adult Education, U.S. Department of Education, for sponsoring the research project that produced this document. The project was conducted in the Evaluation and Policy Division of the National Center for Research in Vocational Education under the leadership of N. L. McCaslin, Associate Director. We wish to thank the project staff—Frank C. Pratzner, Project Director; Elizabeth V. Dubravcic, Program Associate; and Christian Chinien, Graduate Research Associate—for their work in preparing the document.

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EXECUTIVE SUMMARY

One of the major focal points of the recent school reform movement has been improving the effectiveness of teachers and teaching. Many of the proposed strategies—improving recruitment and selection, improving preparation, improving certification and recertification, induction into teaching, and developing career ladders and merit pay—imply an understanding of what constitutes teacher effectiveness and a valid and reliable mechanism for its assessment At the present time,we have only a partial understanding of what constitutes effectiveness in vocational teaching.

Improving and maintaining vocational teacher effectiveness requires a broad-based strategy aimed at assuring teacher competence and performance; assuring a sufficient supply of competent vocational teachers to meet the demands; and providing teachers with adequate resources and flexible support to enable them to be most effective in promoting student learning. State legislatures, State departments of education, State departments of vocational education, and teacher preparation must work together and with teachers and local administrators to help define goals and roles and develop appropriate strategies. It is important to note that any real and substantive changes or improvements can come only through a joint, collaborative effort involving school-based representatives, as well as State and regional officials and teacher educators.

Teacher evaluation is a cornerstone for many strategies aimed at improving teacher competence and performance. Seven broad approaches to teacher evaluation include teacher competency testing, teacher interviews, student achievement, classroom observation, student ratings, peer review, and self-evaluation. Teacher competency testing may be used for purposes of screening and selection to teacher preparation, teacher certification, and promotion. Tests provide a standardized, quick method of assessing a wide range of cognitive knowledge and some competency. Their drawbacks lie in their validity for assessing teaching effectiveness and in the questions of equity in their use for screening. Teacher interviews are most frequently used in selection and appraisals of teachers. They can provide an excellent mechanism for two-way information exchange that permits a quick focusing on areas of special interest or concern. Student achievement provides the ultimate test of teacher effectiveness. Yet, using this approach to evaluate teachers is plagued with many problems of measurement.

Classroom observation is the most commonly used method for assessing teachers. While single class visits can uncover gross teacher incompetencies, systematic observation using experienced teachers trained in observation provides one of the most promising approaches to improving effectiveness. Student ratings can provide useful feedback on the effects of teaching, as well as a powerful incentive for teachers to change or develop. In using student ratings as an evaluative tool, care must be taken to differentiate between the effects of affective impressions and skill/cognitive development and between contextual factors within the classroom and those factors directly attributable to teaching.

Peer review is gaining recognition as a valid approach to evaluating teachers at the elementary and secondary levels. The key to its success lies in selecting and training experts in evaluation and in providing sufficient resources (teacher time) for the process. This method is particularly useful for improving performance of novice teachers.

Self-evaluation can be the most powerful tool for formative development provided the teacher has the resources, skills, motivation, and support to obtain and accurately interpret feedback about his/her own teaching performance.

Taken individually, each of these strategies has its advantages, disadvantages, and conditions or constraints for use. Taken collectively and applied with appropriate caution, they provide vocational administrators and policymakers with substantial options in meeting their evaluation needs.

CHAPTER 1
INTRODUCTION

In recent years a great deal of public attention has focused upon the decline in the quality of the American education system. Reports of declining student achievement scores on standardized tests (particularly in math, science, and reading)have alerted the public to problems facing elementary and secondary schools. Numerous National and State commissions and task forces have been charged to investigate these problems and to make recommendations about their solution. Griesemer and Butler (1983) have summarized nine of the major National reports and have found their concerns and recommendations focusing on eight major areas: school organization and management, curriculum, student attitudes and special learning needs, quality and equality, teachers and teaching, postsecondary education, leadership, and research.

In vocational education, the report of the National Commission on Secondary Vocational Education entitled *The Unfinished Agenda:The Role of Vocational Education in the High School* (1984) reviewed the problems of secondary vocational education and identified the following areas needing reform:

- Perceptions of vocational education
- Access
- Curriculum
- Teacher education and recruitment
- Standards and accountability
- Articulation
- Leadership
- Business, labor, and community involvement
- Field-based learning, including cooperative education

Although some of these areas of concern are unique to vocational education, it is clear that vocational education needs to address many of the same concerns as education in general.

Of all of these areas, it is the effectiveness of teachers and teaching that has caused the greatest public concern and been the major focus of educational reforms in recent years. Kaplan (1985) observes that teachers and teaching have been "portrayed as constituting a near-disaster area in education"(p. 2). He observes further that

> the recruitment, performance, work habits, incentives, preparation, and quality of teachers have ignited attention and action throughout the nation. Scarcely a week passes without legislative or executive measures aimed at achieving excellence in the teaching profession . . . 700 pieces of state legislation in 1983 and 1984. (p. 2)

States have tried to improve teacher quality by requiring tests, more stringent certification and recertification, and reassessment of teacher preparation programs, as well as by trying to recruit more academically able students into teaching. School districts have begun to move in the direction of linking salaries to evaluation in some form of merit pay or a career ladder system.

It has become clear that many of the strategies initially proposed were geared toward providing the public with an expedient "measure of accountability" rather than with the knowledge base necessary to identify and implement effective strategies for improving teachers and teaching. Furthermore, many of these strategies presuppose the existence of valid, reliable forms of teacher assessment, an assumption that both the research literature and current practice indicate is without basis.

This publication reviews both the broad question of improving teacher effectiveness, as well as one of its key components, the evaluation of teachers and teaching. It explores both areas with the primary intent of improving vocational teachers and teaching. To date, very little has been written that directly addresses the improvement needs of vocational teachers, and literature on assessment of vocational teachers is scarce.

The study that resulted in this publication examined these two major areas in the following manner. First, a review of current literature was undertaken to identify current reforms in improving teaching effectiveness and, in particular, teacher assessment practices. Second, a panel of experts was convened for 2 days at the National Center for Research in Vocational Education to examine various reforms and to recommend ways in which teacher preparation institutions and State departments of vocational education could assist in improving the effectiveness of vocational teaching. The panel was composed of representatives from both State departments of vocational education and teacher preparation institutions (appendix A lists the panel members). Third, five sites were visited by project staff to examine and document exemplary practices in teacher evaluation and improvement (sites are identified in appendix B).

Overview of the Publication

This publication is a synthesis of the information collected through the review of the literature, panel recommendations, and field site observations. The first chapter looks at the various problems and issues pertaining to vocational teachers and the quality of their teaching. It examines some of the proposed strategies for improving teacher effectiveness and reviews some improvement strategies used in the field.

Chapter 2 addresses specific actors in the improvement process: State departments of education and vocational education, State legislatures, and teacher preparation institutions and local education agencies at the secondary and postsecondary levels. It proposes a broad agenda for action to be considered by each of these actors to improve vocational teacher effectiveness.

Chapter 3 examines the state of vocational teacher evaluation. It discusses seven approaches to evaluation, their advantages and disadvantages, and conditions for their appropriate use.

Audience

The first section of the publication is designed primarily for a broad audience of State and local educational administrators, teacher educators, and State policymakers. The issues raised in

the first chapter, along with the action agenda proposed in the second, emphasize the importance of collaboration in designing, implementing, and evaluating teacher improvement programs if any real long-term solutions are to ensue.

The evaluation approaches in chapter 3 were initially examined to help local-level administrators select from among the multitude of possible evaluation techniques available and to determine which teacher evaluation systems are most appropriate to their school's goals and needs. During the course of the study, however, the researchers found that many drawbacks exist in current evaluation approaches and that many gaps exist in the current knowledge base. Therefore, although the local administrators will still find this chapter of use, the third chapter is addressed also to educational researchers and policymakers.

Statement of the Problem

The quality of teaching is seen by many as the key to improvement in the schools. The National Commission on Excellence in Education (1983) says in its findings on teaching that

> not enough of the academically able students are being attracted to teaching; that teacher preparation programs need substantial improvement; that the professional working life of teachers is on the whole unacceptable and that a serious shortage of teachers exists in key fields. (p. 22)

The commission also noted these specific problems associated with the teaching profession:

- Too many teachers are being drawn from the bottom quarter of graduating high school and college classes.
- The teacher preparation curriculum is weighted heavily with courses in "educational methods" at the expense of courses in subjects to be taught. A survey of 1,350 institutions training teachers indicated that 41 percent of the time of elementary school teacher candidates is spent in education courses, which reduces the amount of time available for subject-matter courses.
- The average salary after 12 years of teaching is only $17,000 per year, and many teachers are required to supplement their income with part-time and summer employment. In addition, individual teachers have little influence in such critical professional decisions as, for example, textbook selection.
- Despite widespread publicity about an overpopulation of teachers, severe shortages of certain kinds of teachers exist: in the fields of mathematics, science, and foreign languages and among specialists in education for gifted and talented, language minority, and handicapped students.
- The shortage of teachers in mathematics andscience is particularly severe A 1981 survey of 45 States revealed shortages of mathematics teachers in 43 States, critical shortages of earth sciences teachers in 33 States, and of physics teachers everywhere.
- Half of the newly employed mathematics, science, and English teachers are not qualified to teach these subjects; fewer than one-third of U.S. high schools offer physics taught by qualified teachers. (pp. 22-23)

This publication focuses on one major area that has been identified by these reform initiatives, namely, teachers (especially vocational teachers) and their teaching effectiveness.

Current Views from the Field

Defining Teacher Effectiveness

> The quality of learning . . . depends very largely on the quality of the teaching—teaching that guides and inspires learning in the classroom, and that directs and motivates learning to be done in homework. Largely but not entirely! Effective learning often occurs in spite of defective teaching. Teaching at its best is only an aid to learning, but that aid is most needed by those who are least adept at learning. (Adler 1982, pp. 49-50)

Any attempt to address the myriad of initiatives and agendas for reform of teaching must begin by first defining what is meant by "teacher effectiveness." According to Medley, Coker, and Soar (1984), teacher effectiveness is "the results a teacher gets; it is defined in terms of what pupils do, not what the teacher does or can do" (p. 15).

When applied to a group of teachers (for example, a school's faculty), teacher effectiveness forms the essence of what we call school effectiveness. It is an assessment of the impact of a given teaching/schooling process on the whole quantity and quality of student learning. It implies an understanding of and consensus regarding exactly *what* learning—knowledge, attitudes, values, behaviors, competencies, and skills—is to be accomplished.

In vocational education in particular, the question of the proper focus of learning has been disputed by the various audiences it involved: students, business and industry, State and Federal departments of education, the general public, and local boards of education. Furthermore, the nature of their demands on vocational education and vocational educators has changed over the years. Present National emphasis on "getting back to basics" has spawned a new trend of teaching basics through vocational education. The complexity of this new role for vocational education has been compounded by continual demands to update vocational curricula in the latest technology, machinery, and working philosophies. In light of these demands, as well as Federal mandates for vocational education to respond to the needs of special and disadvantaged populations and to promote equity in occupational preparation, it is difficult to arrive at a uniform and consensual definition of the term *vocational teacher effectiveness*.

Perhaps the first step in defining effectiveness for state- and local-level administrators and educators is to realize the demands being placed upon vocational teachers and to specify the areas in which improvement is most relevant. Thus, before assessment and improvement of either individual teachers or vocational teaching can begin, policymakers must identify the specific areas that warrant the efforts.

At the level of the individual teacher, teacher effectiveness has traditionally been "operationalized" by taking the specific course objectives as the learning objectives to be addressed. This approach is not necessarily the most relevant one in vocational education inasmuch as many courses have an "unwritten agenda" and teachers play a multitude of roles both in and outside the classroom. An enumeration of criteria for teacher effectiveness should take into account both the written and unwritten student learning objectives of a particular course.

Teacher effectiveness involves (1) the interaction of teacher activities with the learner; (2) all of the internal conditions that the learner brings to the interaction; and (3) any intervening contextual variables, such as the availability of teaching/learning aids, school structure, and other student inputs into the specific learning process. Although these interactive effects of a given teacher on a given learner are difficult to identify, the concept of probability gives vocational policymakers and practitioners a way to estimate teacher effectiveness by generalizing the effects of teachers on many students over time.

We can, therefore, develop the following working definition of *teacher effectiveness*:

> Effectiveness of teachers and teaching is an assessment of the degree to which the majority of students can successfully learn a specific set of objectives from a given teacher. Further, it is an assessment of whether these objectives are both valid and reasonable and whether such results can be consistently achieved by a given teacher over a time frame (say 5 years).

To the extent that the objectives and/or the students change over time, teacher effectiveness becomes a difficult, if not too obscure, concept to measure. If measuring "improvement" in teacher effectiveness over time is important, because of variations in teacher practices or teaching behaviors, then maintaining as constant a classroom and as consistent a set of learning objectives as possible is also desirable.

Thus, at the individual level, it makes more sense to talk about teacher performance and teacher competence, unless one is doing research on effectiveness involving many observations and controls. These aspects of teaching are described and discussed in greater detail in chapter 3.

From a broader, policy-oriented perspective, we can identify several factors that affect the individual and collective effectiveness of teachers. These include the way in which teachers are prepared, credentialed, updated, and evaluated, as well as the way teachers are allocated within schools and distributed geographically and across teaching fields. Maintaining and improving vocational teacher effectiveness in this sense mean ensuring that the individual teachers are competent and able to perform well in classrooms, maintaining a sufficient quantity of qualified vocational teachers to meet ever-changing needs, and providing teachers and schools with adequate resources and support so that they may be most effective in promoting student learning.

Teacher Supply and Demand

Regardless of how competent individual teachers may be, teacher shortages diminish the overall effectiveness of vocational teaching. Although little firm data exist on the supply of and demand for vocational teachers in general, continual shortages exist in certain occupational fields and in some geographical areas (the South and the West). Projections for the next 5 years indicate the overall demand for secondary teachers will decline during this period. However, beginning in the early 1990s demand for secondary teachers is expected to rise. In addition, teacher retirements are expected to create a large demand for new teachers. The National Center for Education Statistics (NCES) (1984) projects a need for more than a half million new secondary teachers by 1993 (Janson 1985).

Vocational teachers represent approximately 10 percent of the primary and secondary teacher work force and 19 percent of all secondary teachers. If one assumes that the demand for secondary vocational teachers will be roughly proportional to the demand for all secondary teachers, then 95,000 new vocational teachers will be needed by 1993.

Meanwhile, another NCES study reports a rapidly increasing demand for vocational teachers at the postsecondary and adult levels during the 1970s. Although this rapid demand for teachers (40-43 percent growth over a 6-year period) seems to have subsided in the 1980s, growth continues in some geographic and specialty areas. Craig (1985), for example, has kept detailed information on the supply and demand for teachers of agriculture education for the past 20 years.

Factors Affecting Teacher Quantity and Quality

Many factors—not just one—affect the quantity and quality of vocational teachers. Some of these factors are discussed in the following sections.

Occupational mobility. Vocational teachers often have skills much in demand in the labor market. Through their regular contacts with business and industry, these teachers become aware of employment opportunities, and employers become aware of their expertise. Many of these employers, being in the private sector, can offer higher salaries and benefits than school districts. When the teachers accept positions in the private sector, the result is an expensive loss to the school district of trained personnel. Fixed salary schedules that do not compensate for the inherently competitive market tend to have less success in attracting and retaining vocational teachers, particularly in areas of high demand.

Working conditions. Working conditions and the organization of schools affect the quality of teaching and quantity of teachers. Some of the problems cited by practitioners include—

- excluding teachers from decision making,
- compartmentalizing teaching,
- requiring heavy work loads (teaching and various administrative duties),
- offering few or no professional development opportunities,
- minimizing interaction among teachers, and
- offering few or no rewards or recognition for good teaching.

Systems that are not able to address these problems and others like them give teachers little incentive or support for improving their effectiveness. Many teachers, understandably, decide to leave the profession.

Preparation time. As a result of differing certification requirements and local shortages of teachers, many vocational teachers enter the classroom with inadequate preparation. Many vocational teachers enter teaching directly from occupational preparation and work experience with little or no teacher education or academic training. In such vocational areas as home economics, agricultural education, office occupations, and marketing, where professional, academic, and teacher preparation closely resembles that of nonvocational teachers, prospective teachers often have difficulty obtaining the appropriate work experience they need to teach.

Some teacher educators consider inconsistent certification requirements the cause of this lack of standardized preparation. Others fault vocational teacher preparation programs that are

scattered among different colleges according to specialty areas, rather than centered in a comprehensive program for all vocational teachers. Clearly, the total preparation time required to "fully qualify" an individual for vocational teaching is much greater than what people are able or willing to undertake, given the current return on the investment. Such preparation often requires occupational licensing, receipt of teaching credentials, work experience, and possibly academic preparation. Moreover, preparation and certification often fail to address many of the professional competencies ranked by practitioners as highly relevant. These competencies include maintaining student rapport, working with business and industry in cooperative programs and advisory committees, recruiting students, and developing vocational programs.

Inservice teacher development. Typical teacher supervision, evaluation, and staff development procedures offer little support for teachers to continue their training effectively. Specifically, the lack of time and resources for staff development is one difficulty many schools face. Also, the traditions of teacher isolation and assignment of work loads by seniority not only make improvement difficult, but also tend to promote the use of ineffective coping strategies. Even teachers who want to change find it difficult after years of such practices.

Changing Demands on Vocational Education

Vocational teachers are continually challenged to update and upgrade their teaching skills in order to remain effective. They must become familiar with technological changes in processes and equipment as well as learn to work with changing student populations and their special needs. The new requirement that they teach transferable skills, integrate basic skills, and prepare students for job clusters rather than specific vocations also demands that vocational teachers sharpen their skills. In some of these cases, teachers must retool completely in order to pursue these new challenges.

Improvement Strategies

In response to these challenges and problems that affect teachers and teaching, numerous actions and strategies have been proposed by various actors at Federal, State, local, and regional levels. Brief descriptions of some of the major efforts to change teaching and discussions on their particular relevance for vocational education follow.

Recruitment and Selection

Recruitment strategies are being aimed at reducing real or projected shortages in certain fields and increasing the quality of candidates overall. They are being designed to make the profession more attractive and to overcome or eliminate obstacles or barriers to entry that prevent capable individuals from choosing to enter the teaching profession.

A primary strategy—increasing teacher salaries—has been proposed or implemented in many areas. Other strategies are being used to improve the teaching environment, which helps retain good teachers as well as recruit high-quality initiates. A few such strategies are as follows:

- Offering scholarships
- Agreeing to forgive loans

- Developing programs that inform prospective teacher candidates about teaching
- Extending teaching contracts to 11 months or 1 year
- Providing career ladders and merit pay
- Providing opportunities and resources for updating occupational and teaching skills
- Allowing time for maintaining contacts with parents, community, and other teachers
- Providing up-to-date equipment and materials that improve teaching practices
- Increasing recognition and responsibilities of teachers
- Improving working conditions

Recruitment strategies that address the aforementioned teaching conditions (salary, work load, and so forth) have both short-term and long-term effects. In the long term, they can be used to attract a larger pool of untrained but capable individuals to the profession. Once a large pool of applicants is attracted, the challenge to vocational educators is to develop a mechanism for selecting from among these talented individuals those most likely to become the best vocational teachers. Researchers who have looked at the relationship between academic ability (as demonstrated by grades and achievement tests) and teaching performance/effectiveness have not found a direct link. At best, academic ability provides a "minimum" criterion below which a teacher is not likely to be effective.

Clearly, to improve their recruitment efforts, vocational educators need to develop better criteria for selection. Also, research is needed on the relationships among candidate attributes, success in teacher preparation, and occupational competence, as well as on their combined effect on the ultimate performance satisfaction of vocational teachers.

Recruitment efforts may also address specific needs, such as meeting shortages of qualified trade and industry instructors. In this case, an effective strategy might be to identify and target specific groups for recruitment efforts. Such groups could include the following:

- High school students interested in the shortage subject area
- College students in fields other than teaching
- Students/apprentices in occupational preparation programs
- Teacher education students in other specialties
- Practitioners in business and industry
- Former vocational teachers
- Former military personnel with training in vocational/technical areas

Such strategies also imply that a specific preparation or development program is needed to equip the individuals in the targeted groups so they will be professionally competent teachers.

Teacher Certification

Teacher certification is the process by which States protect the public from incompetent practitioners. Bratton (1984) points out that because certification is a legal requirement, and not simply a recognition of competence by a professional organization or agency, it should technically be called licensure. Whatever its name, the primary function of the certification process is to ensure the quality and competence of those who wish to enter teaching. A secondary function of licensing has been to regulate supplies of teachers to match demands by raising and lowering standards as appropriate.

Teacher certification has traditionally involved a simple verification to ascertain whether a person has completed the prescribed training program and, in the case of vocational teachers, possesses the requisite occupational license and work experience. As a result of increasing public pressure for accountability and quality assurance, many States have been upgrading their teacher certification and recertification requirements.

The introduction of teacher competency tests and standardization of the baccalaureate degree as the minimum credential for full certification are prominent developments in the last 15 years. Yet these and other recent policies raise numerous unanswered questions and concerns such as the following:

- How valid and reliable are the various criteria used to screen candidates and what is the actual impact of these criteria on improving teacher quality?
- Is it wise to assess teachers' general skills and knowledge only after the professional preparation has been completed?
- What are the real trade-offs between reducing teacher shortages and increasing certification requirements, the effects of various assessment criteria on concerns of equity, and the impact of increased certification requirements upon vocational teacher certification and effectiveness?

After reviewing certification requirements for vocational teachers across the United States, Miller (1982) points out that there is "considerable variation of certification criteria between States and inconsistency in the standards within States" (p. 27). Despite the fact that bachelor's degrees are now required by all States in order to obtain a teaching license (Feistritzer 1983), most States have some mechanism—be it a temporary, provisional, emergency, or class IV certificate—whereby teachers can actually begin their teaching careers without a bachelor's degree.

Regarding the specific criteria for assessment, the report *A Nation at Risk: The Imperative for Educational Reform* (National Commission on Excellence in Education 1983) recommends that "persons preparing to teach should be required to meet high educational standards, to demonstrate an aptitude for teaching, and to demonstrate competence in an academic discipline" (p. 30). With respect to vocational teachers in particular, the National Commission on Secondary Vocational Education (1984) recommends that "certification of all teachers should include both an academic program and work experience record of demonstrated mastery in their field" (p. 10).

Just how these broad recommendations are translated by States into specific measures of competence is uncertain as well as controversial. The uncertainty stems from the lack of a definitive body of research specifying the relationships among teacher characteristics, aptitudes, competencies, and attitudes/values and desirable learning outcomes in students. In this respect, Ornstein (1984) notes the following:

> At present, we are unable to answer with confidence the influence a teacher has on student performance or behavior. The reasons are that the variables are too numerous and the interactions and relationships are too complex and multidimensional. (p. 109)

The research on teacher effectiveness has verified the existence of identifiable and measurable teaching skills that make a difference in student learning. Although this body of work still needs considerable expansion, particularly in the area of vocational education, it nevertheless provides a starting point for developing potential criteria for teacher certification. Numerous reviews describe the results of this research in detail (McGreal 1983).

In addition to teaching competencies, certification of vocational teachers needs to identify the appropriate level of occupational experience and academic skills necessary for teaching vocational education. Occupational certification criteria should be based upon occupational analysis and should address all of the major competencies required by the job. Additional standards for certification should reflect the current state of knowledge about teaching and should not purport to measure competencies that are either unrelated to effectiveness or associated with a greater level of detail than research has confirmed as relevant.

Determining certification criteria should be the responsibility of State departments of education and should be implemented in collaboration with teacher educators, local administrators, and teachers recognized by their profession. Although basic criteria should be the same for all teachers, assessment of occupational preparation should be flexible enough that individuals with different combinations of academic preparation and occupational background can be assessed fairly. Research on what competencies contribute to the effectiveness of vocational teachers in performing each of their multiple roles needs to be continued to support the development of valid and reliable certification criteria.

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CHAPTER 2
AN ACTION AGENDA FOR IMPROVING THE EFFECTIVENESS OF VOCATIONAL TEACHERS AND TEACHING

This chapter translates the broad policy issues and concerns that were presented in chapter 1 into specific actions that State legislatures, State departments of education (SDE) and vocational education (SDVE), and colleges and university departments preparing vocational teachers might undertake in addressing teacher effectiveness. The broad agenda is organized by agencies in order to give the reader easy access to the specific agenda that relates to his or her own role in the improvement task. These recommended actions are intended as a menu of strategies to be considered by actors both individually and collectively in planning their own approaches for improvement.

State Legislatures

State legislatures can make a great contribution to the issue of teacher shortages. As discussed in chapter 1, the problem of teacher shortages is not easily solved by simple solutions. State legislatures can play a leadership role, however, by commissioning statewide surveys of the nature and extent of teacher shortages and surpluses in specific teaching fields. They can also request statewide projections of need for vocational teachers, define the role of vocational education at the secondary and postsecondary levels, and project, based upon these goals, the need for vocational teachers with specific qualifications in each occupational area.

State legislatures play a critical role in setting uniform teacher certification standards. Their role includes bringing together information on such topics as (1) the reality of teacher shortages and public demands for quality assurance, (2) teacher educators' inputs into the standards that realistically can be set, and (3) State and local administrators' perspectives on implementation. State legislators are also able to call on their business and industry contacts to assist in planning and developing local inservice programs for teachers. Finally, State legislatures can allocate funds for the following: experimenting with alternative forms of vocational teacher preparation; supporting exchange of information for program improvement; and conducting school-based research and development to improve learning, teaching, and supervision.

State Departments of Education and Vocational Education

At the State level, SDEs and SDVEs perform multiple roles in ensuring and supporting the effectiveness of teaching and schooling. Although State and Federal legislatures need to appropriate funds for educational improvements, it is the role of SDEs and SDVEs to ensure that these funds are used to respond to the legislative mandates. It is their role also to provide information about the nature of education and to offer guidance and leadership in proposing new directions for improvement to the legislature, the public, and the educational community.

Teacher Shortages and Surpluses

State departments of education must act to alleviate present teacher shortages and to avert future shortages and surpluses. Short-term solutions to shortages, such as recruiting teachers directly from business and industry or substituting teachers who are not certified to teach in a particular area, are stopgap measures at best.

In the immediate future, SDEs and SDVEs can support preservice and inservice activities directed toward developing teachers in areas of critical need. For example, they can—

- develop scholarship programs targeted to those already in the university system or other areas of teaching to teach in critical shortage areas and
- assist (provide incentives for) the some 15-20 percent of nondegreed vocational teachers in completing degree programs and becoming fully certified teachers.

In the longer term, SDVEs can use the information they now collect on teachers to project future demands for new teachers and to assess overall teacher development and upgrading needs. Where shortages are anticipated, SDVEs can work with State legislatures regularly to ensure more competitive salaries for teachers in general and to support school improvement programs that make the profession more attractive, thereby ensuring a steady supply of teacher candidates. They can also help institutions preparing vocational teachers to keep track of labor supply and demands. Finally, they can ensure that adequate labor market information is provided to prospective vocational teachers, thus enabling them to make informed decisions about their careers.

Certification and Recertification

Other key roles of SDVEs are developing and implementing certification standards for teachers and developing accreditation standards for vocational programs and teacher preparation programs. These standards and their implementation provide the public with an indicator of how well their tax monies are being spent. They are one means by which the education community can elicit future support for educational programs. The responsibility of SDVEs and SDEs to make these standards acceptable and comprehensible to the public needs to be balanced with their ability to set valid and reliable standards and to collect information on their use. SDVEs also have an implicit responsibility to the profession to establish standards that will help administrators and instructors in the process of improving the effectiveness of teaching. Moreover, vocational education should have uniform assessment procedures for graduates of teacher education institutions, as well as for individuals coming into teaching directly from business and industry.

Although the specific criteria and means of assessment need to be determined and validated on a state-by-state basis, it is generally agreed that prospective teachers should demonstrate proficiency in basic skills, their subject-matter specialty, general knowledge, and pedagogical principles. Incentives should be built into the certification process to encourage nondegreed vocational teachers to upgrade their education and complete a degree. Prior to obtaining full certification, new teachers should participate in an induction period of at least 1-3 years, during which time their development would be carefully monitored and supported. At the end of the induction period, an assessment of their teaching performance would be made.

In addition to certification of secondary school vocational teachers, postsecondary school instructors also should be certified by State departments of education. Postsecondary community colleges and technical institutes should implement planned programs of staff development leading

toward certification for both full-time and part-time instructors. The use of an individualized and modularized delivery system, such as that which has been implemented in the State of Arkansas, is recommended. This statewide system is also a competency-based teacher education system based on the performance-based teacher education (PBTE)modules developed by the National Center for Research in Vocational Education.

At a time when the knowledge base about teaching and learning is expanding and the technological basis for occupational education is ever changing, vocational teachers need to be continually updated in their craft and in their profession. To ensure that this updating occurs, teachers should be recertified periodically. In addition, States need to update specific certifications and recertification criteria at regular intervals.

Teacher Preparation Programs

In addition to monitoring teacher education programs, SDVEs need to collect information on the success of graduates in their early teaching experiences. A number of States already collect information about teacher performance and credentials in their Management Information Systems (MIS). However, many States do not analyze these data to assess the effectiveness of various teacher preparation programs.

Through their Federal program improvement funds, SDVEs can support various types of activities that will enhance teacher preparation programs. For example, State departments might provide seed money for developing new programs for updating and upgrading teacher educators. Additionally, they might fund pilot programs that use new forms of delivery or media for teacher preparation such as field-based, individualized, and/or modularized programs. In States where a large percentage of vocational teachers are nondegreed or come directly from business and industry, SDVEs should provide leadership and support for initiatives ensuring that these individuals are adequately prepared to teach before they enter the classroom. In any case, these initiatives should address the identified priority needs of the State.

School-Based Improvement

The evidence on effective schools and teaching, as well as research on the change process, all clearly indicates that the initiative and impetus for school improvement ultimately resides at the local school level. In addition to the activities already mentioned, State departments of vocational education can support school-based improvement of vocational teaching by doing the following:

- Supporting the development of new approaches to formative evaluation that will enable schools and teachers to identify improvement needs and develop individual teacher goals more effectively
- Synthesizing and disseminating current research findings on teacher effectiveness and supporting their application to vocational teacher evaluation
- Providing leadership and support for teacher inservice and career development activities
- Facilitating closer collaboration and linkages among colleges of teacher preparation and local school districts
- Supporting field-based research that will add to the knowledge and information base on the effectiveness of vocational teachers in their various roles

Internal Staff Development

Finally, increasing sophistication and technical expertise are being demanded by State department staff in providing data, information, analysis of problems, leadership, decision making, problem solving, and communication and persuasion. Developing and upgrading staff knowledge and skills should be a high priority for SDVEs. Many SDVE administrators are recruited from universities and colleges specializing in teacher preparation. Teacher educators moving to administrative positions in State departments of education should undergo inservice training to sharpen managerial, problem-solving, and decision-making skills.

Teacher Preparation Institutions

Numerous actions may be undertaken by colleges and universities that prepare vocational teachers. The recommendations are organized into the following five broad areas:

- Recruitment, selection, and screening of students
- Program and curriculum
- Quality of faculty
- Evaluation of programs
- Outreach activities

One additional function that is generally assumed by colleges and universities is the conduct of educational research. The recommendations pertaining to this role of teacher educators are implicit in each of these topical discussions.

Recruitment, Selection, and Screening of Students

The recruitment, selection, and screening procedures used in a teacher education program are as important in determining the quality of teachers as is the quality of the program itself. Until now, the salary and conditions of teaching have generally failed to attract the most talented students into the profession. Teacher preparation programs have played, at best, a passive role in the selection and screening of teacher candidates. With States moving to increase teacher salaries, and with the educational reforms aimed at improving the quality of teaching, the screening and selection of teacher candidates will become a critical factor in ensuring the quality of teachers. Therefore, teacher education will need to ensure that the criteria and standards for admitting and retaining students in teacher preparation programs are reliable and have been validated. Criteria might focus on the characteristics and qualities of prospective students that foretell successful performance (1) in the teacher education program and (2) in a future teaching position.

It might be useful here to mention the need to distinguish between the criteria for selecting individuals preparing to teach at the secondary and postsecondary levels. In light of the recent movement toward redefining the role of vocational education at the secondary level, the general skills and occupational knowledge and experience required may be quite different for individuals preparing to teach at these two levels. The sections on competency testing and teacher interviews in chapter 3 of this publication offer several specific suggestions for the screening and selection of teacher education candidates.

In areas of current and projected teacher shortages, teacher education institutions can exert significant influence in recruiting prospective teachers simply through on-campus activities. They might provide information about scholarships and other State or locally sponsored activities to attract prospective teachers. They might recruit able students and graduates from other programs by providing information about the teaching profession, local training programs, and teaching opportunities in their respective States. In this regard, colleges and universities must work closely with SDEs and SDVEs to ensure an accurate and comprehensive picture of current and projected teacher needs. Through active outreach in local schools and with business and industry, faculty members can provide potential teacher recruits with realistic and current information about what it means to be a vocational teacher.

Programs and Curriculum

Because of the diverse learning needs of students in vocational teacher preparation, the teacher training curriculum must, first and foremost, be flexible. Students have a wide range of educational, training, and experiential backgrounds. For example, some may hold baccalaureate degrees with little or no teaching experience. Others may have extensive subject-area experience but only a high school certificate. Still others may have some teaching experience with little or no formal teacher preparation. Preparation programs must address learners' individual needs, while ensuring that graduates obtain a comprehensive set of skills and knowledge. The use of diagnostic testing procedures to ascertain the level and breadth of students' previous learning and cognitive learning style, in combination with counseling, may be useful in creating individualized development plans.

The curriculum should be designed so that teacher preparation is seen as a continuous process—including both preservice and inservice components. Exposure of the uninitiated to the experience and working conditions of teaching early in the program will provide realistic expectations and will promote efficient learning. Although early exposure and sequenced practicums integrated throughout the course of study are useful learning tools, care must be taken to assess the relevant knowledge base of the student prior to any performance assessment.

The core curriculum or knowledge base needs to be examined, evaluated, and revised continually in light of evolving research on learning and effective teaching practices, and other changes in the content area. Teacher educators need to adopt the most effective practices and serve as role models to prospective teachers. They should explore new learning technologies, such as individualized learning modules and videotaping, and integrate them into teacher education programs as appropriate.

Teacher educators should consider linkages between teacher preparation and administrator preparation programs, particularly during the practicum experience. Such early collaboration can potentially establish new, facilitative roles and relationships.

Besides being flexible in meeting the needs of students from various backgrounds, the teacher education curriculum must also provide prospective teachers with the tools they need to teach (1) in a variety of settings (e.g., secondary, postsecondary, and business and industry settings), (2) a variety of learners (children, youth, adults, and "special" populations), and (3) a variety of subject areas. Because the unique aspects of the individual specialty areas of vocational education must be addressed when preparing vocational teachers, teacher educators from all of these specialty fields should work closely together to develop a comprehensive program that includes a basic core curriculum succeeded by alternative specializations.

There is currently great diversity in the quality of vocational teacher preparation programs. This is partly due to the fact that, in some cases, teacher preparation has been linked historically to professional development, whereas other programs have had no such support. Some vocational educators have called for development of *comprehensive* vocational education departments that would place all of the vocational teacher preparation programs under one roof.

In earlier discussions in this publication about programs and curriculum, a comprehensive vocational teacher preparation program with multiple specialization options was proposed. Centralizing vocational teacher preparation within colleges and universities could both reduce the variation in quality among programs and save individual department resources. These resources—human and material—might be more wisely spent in updating and upgrading teaching programs and in furthering the research base on effective teaching. College and university administrators should bring together teacher educators from all vocational areas and from general education to determine appropriate delivery mechanisms for all areas of vocational, technical, and general education.

Given a comprehensive vocational teacher education program, institutions could be more responsive to projected teacher shortages and surpluses in specific occupational and career areas. By preparing teachers for a broad range of settings—for example, vocational schools, high schools, postsecondary institutions, and business and industry—survival of a comprehensive program would be less dependent upon fluctuations in demand for its graduates in any single setting, thereby ensuring both stability and continuity. Such security would enable institutions to set and maintain high-quality standards.

Although political and historical realities at some teacher preparation institutions may make this course of action a long-term possibility at best, recent proposals to place teacher education programs entirely at the graduate school level may provide a new impetus for such a change. Proponents suggest that undergraduate preparation should focus on a liberal arts education and on the development of general and subject-area skills and knowledge; graduate education should focus on the development of pedagogical competencies. One drawback to such a plan is that it would put nondegreed vocational teachers at an even greater disadvantage than they have been in the past. Nevertheless, the current attention being given this idea will continue and will cause vocational educators to reexamine the nature and delivery of future vocational teacher preparation.

Quality of Faculty

Teacher educators should use their own teaching to demonstrate effective instructional theories and practices taught in the teacher preparation curriculum. They should provide prospective teachers with models of the processes and practices they are advocating.

Promoting the quality of teacher educators involves the following:

- Ensuring adequate screening of candidates for entry into the profession
- Rewarding those practices in teaching, research, and community service that contribute substantially to the field
- Providing opportunities for staff to develop new skills and update their knowledge
- Evaluating teaching performance periodically

Since the evaluation of teacher educators is a complex process, more control should be exercised at entry into the profession as a quality assurance measure. For example, an assessment center might evaluate candidates seeking admission into programs that prepare future teacher educators.

Ongoing, systematic, staff development programs should be offered for teacher educators. Strategies to upgrade teacher educators might include—

- providing internships for all new vocational teacher educators to familiarize them with "the field,"
- developing visiting scholar programs that periodically place teacher educators into public schools for a period of time,
- requiring some form of upgrading as a condition of continued employment, and
- collective bargaining to ensure faculty participation in staff development activities.

Some areas in which teacher educators need staff development include the following:

- **Development of consulting skills**—School districts and other agencies are increasingly seeking professional assistance from teacher educators.
- **Provision of technological updating in their occupational fields**—Rapid technological changes in many vocational areas require vocational teachers and teacher educators alike to keep abreast of new developments.
- **Insights into the business and industry perspective of training and development specialists**—The preparation of human resource developers (HRDs) for business and industry is a role that teacher educators have neglected. Activities such as becoming directly involved in community activity, participating in HRD professional organizations and activities, and reading relevant HRD professional literature would enhance teacher educators' breadth in this.
- **Development of a shared philosophy**—Faculty should develop a shared understanding and philosophy of the teaching and learning process, their role as vocational teacher educators in colleges and universities, and the roles and contributions of vocational education in schools and of schools in society.

Evaluation of Programs

Periodic evaluations of teacher preparation programs should be undertaken by both faculty members and external reviewers. The evaluation agenda should explore outputs (how successful the program is in preparing teachers for real jobs in the field), process (how well the program is functioning), and inputs (whether the goals, objectives, and resources are appropriate and sufficient).

Useful information about the effectiveness of the program in preparing vocational teachers might be ascertained from—

- SDEs, if they obtain information on teacher performance and transcripts of teachers currently employed;

- follow-up surveys of graduates and interviews with their supervisors to identify performance difficulties and needs for specific kinds of knowledge and skills; and

- direct assessments of the early teaching experiences of graduates, which might be facilitated by active faculty involvement in school-based activities, such as participation in classroom observations and in support and advisory teams.

The evaluation of teacher education programs should be linked to a strategic planning process whereby new initiatives at State, regional, and National levels are examined along with program operation and effectiveness data. This process would identify and analyze future policies, practices, and directions for teacher education programs.

Outreach Activities

Because of their role as educators and researchers, the faculty of teacher preparation programs, particularly faculty in vocational education, support improvements in vocational teaching through a variety of functions beyond that of teaching preservice teachers. In many States, teacher trainers in vocational education traditionally have provided extensive "field services" to local school districts despite strong institutional disincentives for so doing. Projections of an increasingly "aging" population of teachers over the next 15 years will require an increased proportion of field-based inservice vocational teacher training. Additionally, the proliferation of induction-year programs for intern teachers provides new opportunities for teacher educators to participate in the teacher inservice, support, and assessment process. Teacher educators must be flexible and able to respond to current and developing needs.

Finally, teacher educators should work with their SDVEs in developing comprehensive criteria for assessing graduates from teacher education programs prior to employment. Criteria should similarly be developed for part-time or temporary teachers from business and industry that would ensure and facilitate the transfer of their specialized skills and technical knowledge.

CHAPTER 3
TEACHER EVALUATION STRATEGIES

Teaching is a complex transaction influenced by many variables extraneous to the process itself. Despite years of focusing on this activity, researchers are still unable to state with a reasonable degree of confidence exactly what constitutes good teaching or which attributes lead to teacher effectiveness. The problem is further confounded because teaching and learning form one entity. Not only are vocational researchers uncertain about the teaching process, but they also lack understanding of human learning.

For all these reasons, it is not surprising that no simple evaluation can be readily applied to sort out poor teachers from good ones. Because of the complexity involved in assessing teacher effectiveness in a valid, reliable, objective, and fair manner, various strategies have been adopted over the years to accomplish this task.

The Need to Focus Teacher Evaluation

A typical approach to teacher evaluation in the past has been to visit the classroom, armed with a checklist, and check off items as the teaching process unfolds. This approach has little credibility. It is degrading for the teachers and serves no useful purpose. A more systematic approach to teacher evaluation involves examining teacher evaluation efforts from the perspective of who does what, to whom, when, and for what purpose.

The *who* variable can be a generator or collector of data and can include the following actors:

- State departments of education
- Teacher training institutions
- School district administrators
- School administrators

In focusing evaluation efforts, it is necessary to determine when input from these individuals is critical for making the most accurate assessment of teacher competencies.

The *what* variable refers to the various strategies available for evaluating teachers. Some may be more reliable than others, and more important, some may be appropriate for specific purposes. Following are some of the common strategies in current use:

- Competency testing
- Interviews
- Classroom observation

- Student ratings
- Peer review
- Self-evaluation
- Student achievement

The purposes of the evaluation effort ordinarily will determine which types of evaluation strategies are appropriately applied either individually or in combination.

The type of teachers being evaluated must be considered when addressing the *to whom* variable. Some examples of types of teachers in vocational education include these:

- Individuals from business and industry seeking admission into teacher education programs
- Individuals from business and industry seeking direct employment in vocational teaching
- Graduates of teacher education programs
- Nondegreed vocational teachers
- Part-time teachers
- Full-time teachers
- Probationary teachers
- Tenured teachers
- Master teachers
- Teachers returning to the profession

This is one way of listing teachers by the status dimension. Other listings could be organized by subject matter or by types of students taught.

When evaluation is performed is important. Evaluation can be performed at various strategic points, which, in turn, may influence the frequency of evaluation. The following are some critical points at which evaluation is warranted:

- At entry into the profession
- At entry into teacher training programs
- After exit from teacher training
- Upon application for employment
- After the probationary stage

- After the certification stage
- After the recertification stage
- Before promotion
- Before termination
- Upon identification of performance deficiencies or discrepancies

The *for what purpose* variable addresses the justification for teacher evaluation efforts. Examples in this category include the following:

- To control entry into the profession
- To make admission to teacher training program selective
- To exercise quality control of graduates exiting from teacher training institutions
- To recruit and select employees
- To aid in certification
- To aid in recertification
- To justify withdrawal of individual certification
- To aid in personnel decisions
- To identify improvement needs
- To reward exemplary performance

These key questions—who does what, to whom, when, and for what purpose—provide a useful framework for focusing teacher evaluation efforts. In addition, such other contextual factors as organizational climate, class size, characteristics of student populations, and available resources can, given adequate consideration, improve the effort and provide more valid, reliable results.

The remainder of this publication focuses on each of the approaches mentioned in the discussion of the *what* variable. Each individual discussion will include the following:

- A description of the approach
- Major issues in its use
- Its advantages and disadvantages
- Conditions for its use in conducting vocational teacher assessments

Teacher Competency Testing

Teacher competency testing is a broad-based approach to teacher evaluation. Three major purposes are typically served by teacher competency testing: (1) selective admission to teacher education programs, (2) teacher certification, and (3) teacher promotion.

In teacher competency testing for *selective admission*, teacher education institutions assess prospective candidates seeking admission based on indicators that predict successful program completion and a successful career in teaching. Various prerequisites may be required in this "gatekeeping" operation, including passage of prescribed tests.

Teacher competency testing for *certification* refers to the assessment of the knowledge, skills, or behaviors judged as being essential minimum requirements for performing specific teaching tasks under specific conditions at minimum and predetermined levels of mastery. Teacher competency testing for *promotion* is similar to testing for certification. It is the process used to assess the potential of individual teachers for success in performing high levels of tasks and responsibilities in a career hierarchy or teaching career ladder.

The new wave of teacher competency testing has emerged mainly from the recommendations of major National reports and in response to reports of sharp declines in teacher quality and parallel, significant declines in student achievement on National standardized tests. This interest in teacher competency testing is also attributable in part to the results of public opinion polls. These polls have consistently evidenced a growing concern among American parents for teacher quality and have also indicated the strong support of Americans for teacher competency testing. On this topic, Ishler (1985) notes the following:

> Competency testing of prospective teachers seems to be taking the country by storm. It is being viewed both as a quality assurance measure for the general public and as a way of demonstrating that teaching is indeed a profession since other professions already require successful completion of an examination prior to entry. (p. 27)

Sandefur (1985) notes that "the early impetus to assess the competency of teachers was focused in the southeastern states" (p. 3), and that the movement was rapidly expanding northward. He also indicates that 30 States have already implemented teacher competency assessment and that another 12 States are in the planning stages.

It is noteworthy that not all States are using the same mechanisms for initiating teacher competency testing. Twelve States have resorted to legislation for mandating teacher testing, while 22 other States have chosen to issue SDE regulations requiring testing. The States of Arizona, Arkansas, and New Mexico have issued both SDE regulations and legislative mandates for teacher competency testing. Five States have mandated testing for admission to teacher education programs only. Thirteen States have mandated testing for certification purposes only, and 12 States use testing for both admission and certification.

Competency Testing for Selective Admission

Growing evidence indicating that the teaching profession is primarily attracting less able students, and not enough of the brightest students, has encouraged policymakers to propose legislation to control the quality of students entering teacher education programs. The National Center for Educational Information (1984) surveyed teacher education institutions throughout the Nation and found considerable diversity regarding admission requirements and entry procedures. The following type of admission criteria were reported by the institutions surveyed: (1) high school class

rank, (2) high school grade point average, (3) Scholastic Aptitude Test (SAT) scores, (4) American College Test (ACT) scores, (5) college grade point average, (6) personal letters of recommendation, (7) interviews, and (8) prior experiences working with children. Goertz and Pitcher (1985) report that 17 States are using one or more of the following tests to screen candidates for admission to their teacher education programs: (1) the Scholastic Aptitude Test (SAT), (2) the American College Testing Program (ACT), (3) the California Achievement Test (CAT), (4) the Preprofessional Skills Test (PPST), (5) the National Teacher Examination Programs Core Battery, and (6) State-developed examinations (p. 3).

Issues in use. The major issue in using teacher competency test results for admitting or rejecting candidates to teacher education programs is that of equity. A significantly high percentage of minority students are failing these tests and are thus being excluded from the teaching profession. This failure rate considerably reduces the representation of minority groups in the teaching profession.

According to the National Commission for Excellence in Teacher Education of the American Association of Colleges of Teacher Education (AACTE) (1985), there is a projected need for 1 million new teachers by 1990. One in every 10 college students will have to enroll in teacher education programs to meet this National demand. At the same time, the more stringent criteria for admission to teacher education programs will most likely have an adverse impact on enrollments and will accentuate the projected shortages of teachers.

In vocational education, selective admissions will affect teacher education programs immediately, especially in the trade and industry areas where skilled craftsworkers and technicians are usually hired directly from business and industry with little or no previous teaching experience. If selective admission criteria are applied in trade and industry teacher education programs, many potential candidates will be screened out of programs. This raises the serious question of how academic accomplishments, such as SAT or other standard test results, should be weighed relative to occupational competencies, work experience, pedagogical skills, and teaching knowledge. The stringent application of highly selective admission requirements or teacher competency test scores will certainly reduce the pool of prospective vocational teachers, and the greater shortages will become a major issue in vocational education.

Another major issue in the use of competency testing for selective admission is the absence of empirical evidence that individuals with higher SAT or other standardized competency test scores will make better teachers. Research in the field of cognitive psychology indicates that there is a strong correlation between individuals' cognitive style and their vocational choices. It has been found that the field-independent person opts for professions dealing with abstract cognitive thinking such as engineering, whereas the field-dependent individual prefers social services occupations. Given this natural self-selection process, can colleges of education compete for students from engineering? Will these students benefit from teacher training? Will they make better teachers? Will they be satisfied with their jobs? These are some of the questions that are now being raised, but that have no immediate answers. Also, when considering the implementation of teacher competency testing and selective admission policies, it must be remembered that research has time and again failed to provide any consistent empirical evidence of a positive relationship between teacher qualifications and students' learning.

Advantages of competency testing for selective admission. Among the major advantages of competency testing are the following:

- Publicizing test results can contribute to an improved teacher competency image for teacher education programs, teacher education program graduates, and the teaching profession in general, and it can restore and build public confidence in education.

- If teacher education students possess high levels of skills when admitted to programs, then higher levels of excellence in program achievements could be the target of instructional programs.

- Competency testing and selective admission have the potential of excluding individuals with low likelihood for success in teacher education programs and in teaching. When it works as it ideally should, competency testing can eliminate the waste that would be encountered in individual and institutional resources and the frustration that would occur if weaknesses were detected only during or after completion of teacher training programs.

Disadvantages of competency testing for selective admission. Among the major disadvantages of competency testing are the following:

- Minority students are disproportionately failing these tests and are being excluded from the teaching profession. One educator predicted that if this trend continues, "within the decade, the minority teaching force will be less than 5 percent, compared to 12 percent in 1980" (*Education USA*, 30 July 1984).

- The validity and reliability of competency tests are difficult to establish with any degree of precision.

- Selective admission to teacher education programs can create an acute shortage of teachers, resulting in a larger class size and an inflationary wage effect.

- Arbitrary and specific cutoff scores can eliminate professional judgment in decision making (Steadman 1984).

- The complex nature of aptitudes required for teaching is reduced to qualities measurable by scores on standardized tests.

- Tests are costly to purchase or develop and to administer.

Conditions for use in vocational teacher training. The primary objective of vocational education is to prepare students for entry-level employment in business and industry. Therefore, vocational teachers must be masters in their occupational specialties, as well as teaching professionals. Consequently, when selecting students for teacher education programs in vocational education, a balance must be maintained between high levels of cognitive abilities and high levels of trade competence. Setting either academic or occupational requirements arbitrarily high might have the adverse effect of excluding competent tradespersons or academically talented individuals from vocational teacher education programs.

Major National study commissions have recently made recommendations for strengthening the basic skills competencies of high school students, including vocational education students. This recommendation is also reflected in the Carl D. Perkins Vocational Education Act of 1984, which emphasizes the need to improve the academic foundations of vocational students. These developments signal the fact that tomorrow's vocational teachers will need a foundation in the basic skills, in addition to trade competence and experience. However, as noted earlier, in some specialties in the trade and industry areas in particular, individuals with such preparation may not be readily available. To deal with these kinds of problems, it may be necessary to develop remedial programs in basic skills and integrate them into the initial preparation of prospective vocational teachers.

Another consideration that makes selective admission a difficult undertaking is the rapid and ever-accelerating change in technology that calls for flexible and adaptive vocational teachers. As technology changes ever more rapidly, vocational teachers must demonstrate the flexibility and willingness to update their knowledge and skills frequently. The same is true with regard to teaching and learning theories and instructional technology. The changing emphasis in traditional teaching methods courses toward a research-based approach will make student teachers greater consumers of educational research and development.

Since occupational competency and occupational experience are also of critical importance for vocational teaching, selective admission procedures should assess the prospective vocational teachers on both of these components. The National Occupational Competency Testing Institute (NOCTI) has developed a series of tests for assessing the trade competency of vocational teachers, called the Teacher Occupational Competency Tests (TOCT), that can be used as screening devices for program admission. In some teacher training institutions, where passage of the TOCT is part of the admission requirement, advanced standing credits are given to students who are successful on these tests. More details about the TOCT are provided later.

Strong arguments exist in support of adopting selective admission policies for vocational teacher preparation programs. However, because of the specialized nature of vocational instruction in which occupational competency and experience are so crucial, flexibility in admission procedures is necessary. Remedial training in general education and pedagogical skills may need to be a part of an initial inservice program for some new candidates in vocational teaching. In the process of developing and applying selective admission procedures to vocational teacher training programs, policymakers must guard against arbitrarily generalizing and applying procedures developed for other areas of education to vocational education. The danger of excluding large numbers of minority students from programs by the use of some kinds of competency tests also necessitates the consideration of additional and alternate routes to improved vocational teacher quality.

Competency Testing for Certification

Overview. Teacher testing for certification purposes is not an innovation. The practice dates back to colonial times when written and oral examinations were administered to prospective teachers. However, it has attracted new and widespread attention and support because of the findings and recommendations of major National commissions on education regarding recent declines in teacher quality.

In her introduction to a recent article on teacher education, Denham (1985) notes that

> a recent loss of confidence in universities as providers of well-educated graduates, often coupled with suspicion that university teacher training programs are neither rigorous nor effective, has led about half of the fifty states to require state competency tests for the credentialing of teachers. (p. 41)

The certification and licensing of civil servants are two screening strategies designed to ensure that individuals possess the required competencies for practicing their professions. They also protect from professional malpractice that can endanger public health, safety, and welfare. It is not surprising, therefore, that competency testing for teacher certification has gained rapid acceptance nationwide. Competency testing is a crucial element in teacher certification because teachers have almost absolute freedom and protection behind closed classroom doors. Moreover, the developmental stages of the students, and compulsory school attendance laws, make them

especially vulnerable to the judgments and decisions of adult teachers. Parents and taxpayers have the right to be certain that children are educated by competent professionals who can provide the best and safest educational experiences.

Roth (1985) defines teacher certification as "the process by which an individual is licensed to teach in a particular state" (p. 7). He goes on to describe some of the key implications and issues related to teacher certification as follows:

> In the United States it is mandatory that children within a certain age group attend school or have appropriate instruction. Along with this is the responsibility for the state to provide a high degree of assurance that school personnel are at least minimally qualified in order to instruct children in the classrooms or to perform other professionally related services in the public schools. . . . It [teacher certification] is a measure of protection for the public to ensure that students receive what they are entitled to in terms of appropriate learning and growth experiences. State teacher certification is a means of protection to prevent the public from being exposed to either incompetent or immoral (legally defined) individuals who could potentially do irreparable harm to students, both intellectually and emotionally. (p. 6)

Most teacher competency tests presently in use consist primarily of paper-and-pencil tests, which are usually aimed at measuring some combination of prospective teachers' competencies in basic skills, subject-matter expertise, and pedagogical knowledge. More recently, an increased interest has developed in assessing the actual performance of teachers in classrooms. The State of Georgia has been one of the front-runners in this movement with its Teacher Performance Assessment Instruments (TPAI).

Some States require their vocational teachers to take trade competency and trade certification examinations in their occupational specialties in addition to general skills tests. These tests usually assess both the knowledge and performance capabilities of teachers.

According to Goertz and Pitcher (1985), 10 States are using the National Teacher Examination (NTE) Core Battery for teacher certification, 10 other States are using the NTE Specialty Area Tests for certification, and 6 States use their own locally developed certification tests. The TOCTs, which were developed by NOCTI, as well as some locally developed tests, are also being used by a few States to test vocational teachers' skills in their occupational area as part of their certification requirements.

The National Evaluation Systems (NES) is a private organization that has also been very active in teacher competency testing. It has provided a complete range of teacher certification testing services to State education agencies since 1972.

NES has developed over 250 teacher competency tests in more than 90 content areas, including professional and basic skills. All these tests are criterion-referenced. NES also provides assistance to State agencies in establishing the validity and reliability of all its tests, as well as in administering, scoring, and reporting the test results to its clients.

Many States are now using teacher competency tests to phase out lifelong certification and phase in conditional, periodic reassessment and recertification of teachers based upon continued performance, growth, and development over time. In those occupational areas of vocational education where technology is expanding rapidly, trade competency tests could be used for periodic reassessment of knowledge and skills and recertification of vocational teachers.

Issues in use. Many of the issues already discussed in relation to teacher competency testing for selective admission are also of concern in the context of testing for certification. According to the Educational Testing Service (ETS) (1983), the primary function of the NTE is to "provide objective standardized measures of knowledge and skills developed in academic programs for the preparation of teachers" (p. 3). These measures enable various actors involved in teacher training, teacher certification, and teacher selection to make useful comparisons with National standards. ETS notes that significant information can be obtained from the NTE and argues that the "academic preparation for a profession is obviously and substantially related to the future professional performance in that profession" (p. 3).

As noted earlier, most research trying to relate teacher academic abilities, professional preparation, and knowledge of subject matter to student outcomes has been inconclusive. Ornstein (1984) notes that "at present, we are unable to answer with confidence the influence a teacher has on student performance or behavior. The reasons are that the variables are too numerous and the interactions and relationships are too complex and multidimensional" (p. 109).

Setting higher teacher certification requirements may reduce the pool of prospective teachers, thereby creating or adding to teacher shortages. The practice may result, among other things, in larger teacher-pupil ratios in schools and in more bargaining power for teacher organizations negotiating higher wages and better working conditions.

Some States require vocational teachers to take the NTE to become certified. Although it is a viable way of ensuring that those teachers possess basic skills, this screening procedure might have the adverse effect of eliminating competent technicians from vocational education. Again, the question of test relevancy, validity, and reliability in the area of vocational education must be considered fully.

With regard to test validation, it is interesting to note that ETS recommends validation of the NTE before they are used for specific compliance with Federal civil rights laws relating to disadvantaged and minority groups, such as Title VI and Title VII of the Civil Rights Act of 1964. Furthermore, ETS (1983) strongly discourages the use of the NTE and their scores for the following purposes:

- Using NTE and their scores as the sole criterion for decisions, whether concerning certification, selection, admission, or program evaluation
- Using the NTE and their scores directly or indirectly to determine the compensation, retention, termination, advancement, pay supplements, or change in provisional employment status of teachers once they are employed
- Using NTE and their scores, whether for certification, selection, or admission, without appropriate validation or using qualifying scores without having conducted appropriate standard setting studies (p. 10)

Teacher competency testing, certification, and especially periodic recertification can be costly. For example, Ishler (1985) indicates that to meet the testing requirements of Texas House Bill 72, an estimated $16.9 million would be required to develop and administer the test to incumbent educators. Is there a real payoff from this kind of investment? Would the return be more beneficial if the same investment were made on staff development to eliminate performance deficiencies and discrepancies? Or, would it not be more beneficial to invest in strengthening teacher training institutions?

The teacher competency testing movement for certification purposes is well on its way and gaining greater momentum. Benefits are expected to be considerable, but some of the consequences are unknown. Evaluation of the movement's results is necessary.

Advantages. Following are the main potential advantages to be derived from teacher competency testing:

- If competency tests are good predictors of teaching effectiveness, then the best teachers can be sorted out from poor ones.
- Competency testing and higher certification requirements may help change the negative image of the teaching profession and restore public confidence in education.
- Competency testing helps ensure that beginning teachers possess the minimum prerequisite competencies.
- Competency testing and certification requirements help protect students from exposure to incompetent teachers.
- Competency testing, especially in occupational specialties, may help provide grounds for legal defense of vocational instructors implicated in court cases involving student injuries.
- Since occupational experience is difficult to document accurately, occupational competency testing may be a viable way of assessing the wide coverage of content areas, as well as the currency of technological knowledge.

Disadvantages. Connelly and de Harta (1985) identify the following additional disadvantages of teacher competency testing:

- There is a negative correlation between NTE scores and achievement of students, especially in clinical experiences; there is no research to show a correlation between teachers' scores on a written test and their ability to cause pupil achievement. (Pugach and Raths 1983; Soar, Medley, and Coker 1983)
- Skills needed in one teaching situation may not be essential in a different situation. For example, skills needed for successful teaching in inner-city schools may not be the same as those needed in suburban schools. (Sikula 1984)
- It is unlikely that testing will attract better students to teacher education programs; rewards and working conditions are the most important factors in teacher recruitment. (Pugach and Raths 1983)
- Tests tend to discriminate against minorities; testing is likely to reduce minority teachers to no more than 5 percent [of the total teacher population] by 1990. (Smith 1984, Gallegos 1984)
- Tests emphasize knowledge, not performance, ethical values, creativity, emotional maturity, or attitudes. (Hyman 1984)
- Academic quality of teachers is affected by the dynamics of supply and demand in the education marketplace, not by testing or more strict certification requirements. (Weaver 1984)

- A certification test favors one teacher education program over another; it can eliminate diversity and flexibility in education programs. (Sikula 1984)

- Tests will narrow educational scope at a time when it needs to be broadened. (Pugach and Raths 1983)

- More constraints by the State, such as testing, will result in teacher militancy. (Killian 1984)

- It is wasteful and unethical to deny certification on the basis of test scores; if teachers in the field are not competent, they should be retrained or dismissed. (Soar, Medley, and Coker 1983)

- Testing is wasting teacher potential in an already small pool (5 percent) of freshmen who want to teach. (Gallegos 1984)

- There are problems of test construction, inasmuch as tests emphasize lower, not higher order skills; a single test score is not an adequate criterion for decision making. (Thurston and House 1981)

- Reliance on any one criterion (e.g., paper-and-pencil tests) for removing teachers is not appropriate. (Sikula 1984, p. 90-91)

Conditions for use in vocational education. Today's vocational teachers should have a solid academic foundation, be competent in their occupational area, and possess a sound knowledge of pedagogy. If prospective vocational teachers are screened at the point of entry into teacher education programs through selective admission, then certification requirements should be drawn so that (1) testing efforts are not duplicated and (2) focus is placed on competencies to be acquired through the teacher training program.

In considering the implementation of legislation or regulations for completing testing of vocational teachers for certification purposes, the following critical conditions should be given adequate attention:

- The impact and implications of testing on the supply and demand of candidate teachers must be assessed.

- Whether standardized competency tests are purchased or developed, empirical evidence is necessary regarding the soundness, validity, and reliability of these tests. Moreover, many test producers delegate the obligation and responsibility of establishing test validity and reliability to the test buyers. These are complex activities involving hidden costs that must be considered.

- A cost-benefit analysis of implementing competency testing is desirable to determine if the costs involved are justified by the potential benefits, or whether investments in staff development or other activities for improving teacher quality may be more beneficial.

- Vocational education has always been faced with the problem of attracting qualified individuals from business and industry into teaching because of the low profile of the teaching profession, higher salaries in the private sector, and the frequent perception of teaching as an overworked and underpaid profession. Competency testing might aggravate these problems and perceptions, further reducing the supply of potential teacher candidates.

- The full economic, sociological, and political impact of competency testing on minority groups must be examined in detail.

- Trends regarding teacher turnover in vocational education need to be considered to determine if the resource commitment to competency testing is justified.

- Competency testing of the performance component of teachers' occupational competency calls for trained examiners, specialized materials, and equipment. Availability and cost of these items must be weighed carefully.

- Testing efforts should not be duplicated. Therefore, legislation and regulations regarding the trade competency testing of vocational teachers must take into account individuals who have already passed such tests for admission to their professional organizations or for obtaining journeyworker certification in their trades.

- There are many nonquantifiable aspects of human performance that contribute to teaching effectiveness; these should be part of vocational teacher competency testing efforts.

Legislators and policymakers need to consider these important conditions in light of their full impact and implications before introducing mandatory competency testing for vocational teachers. Some responses to these concerns may be readily apparent; others will have to be discovered through future research. If competency testing is adopted as a genuine effort to improve vocational teacher effectiveness, then deeper probing is necessary into the kinds of issues raised here (also see figures 1 and 2).

Conclusion

Competency testing is one means of reassuring the public of the high quality of teaching and instruction. It constitutes part of an important set of tools that are needed to be sure all teachers meet minimal qualification requirements for teaching. However, policymakers and State legislators must not lose sight of the many limitations of personnel testing. Not all aspects of teaching effectiveness can be easily quantified. The technology of testing is weak, and consequently, judgments based on test results may be less than perfect. Caution in the application of teacher competency testing is in order.

TITLE: Teacher Occupational Competency Test (TOCT)

DEVELOPER: National Occupational Competency Testing Institute (NOCTI)

DATE: 1973–present

AVAILABILITY: National Occupational Competency Testing Institute (NOCTI)
318 Johnson Hall
Ferris State College
Big Rapids, Michigan 49307
Phone (616) 796-4695

Copyright: Yes

Cost: Between $180 to $230 per candidate. Cost does not include materials and supply equipment necessary for performance tests. NOCTI suggests that candidates should support testing cost.

DESCRIPTION: The NOCTI TOCTs are specifically designed for vocational teachers' competencies in terms of the theoretical and technical concept of their occupational specialties (cognitive) as well as the performance aspect of their trades (psychomotor). The TOCT has two components: (2) written and (2) performance. NOCTI recommends the use of TOCT as a screening device for admissions to teacher education programs.

OCCUPATIONAL AREA: The TOCTs are available in the following occupational specialties:

Air Conditioning and Refrigeration	Computer Technology	Mechanical Technology
Airframe and Power Plant	Cosmetology	Painting and Decorating
Architectural Drafting	Diesel Engine Repair	Plumbing
Auto Body Repair	Drafting Occupations	Power Sewing
Automotive Body and Fender	Electrical Installation	Printing–Letterpress
Auto Mechanic	Electronic Communications	Printing–Offset
Baking	Electronic Technology	Quantity Food Preparation
Brick Masonry	Heating	Quantity Foods
Building Construction Occupations	Industrial Electrician	Radio/TV Repair
Building Trades Maintenance	Machine Drafting	Refrigeration
Cabinet Making and Millwork	Machine Trades	Sheet Metal
Carpentry	Major Appliance Repair	Textile Production/Fabrication
Civil Technology	Masonry	Tool and Die Making
Commercial Art	Masonry Occupations	Welding
Commercial Photography	Materials Handling	

COMING SOON:
Building and Home Maintenance Services, Heavy Equipment Mechanic, and Law Enforcement

Number of Items: Between 100 and 200

Type of Items: (Written) Multiple choice

Intended Population: Prospective vocational teachers

ADMINISTRATION:

When: Selective admission or certification

How: On-site, written test–paper-and-pencil; and performance test–work sample

Time Recommended: Varies according to occupational specialties. In general, written tests require 3 hours to administer and the performance tests, between 4 and 6 hours.

Scoring: Performance tests are scored on-site by appointed examiner, and written tests are sent to NOCTI central office for scoring.

TEST DATA:

Reliability: All tests developed are extensively field-tested nationally to establish reliability using the KR20 and the Cronbach ALPHA.

Validity: All tests are validated in the field with the help of incumbent workers.

Figure 1. The Teacher Occupational Competency Test (TOCT)

TITLE: Vocational Teacher Competency Testing

DEVELOPER: National Evaluation Systems, Inc. (NES)

DATE: 1972–1985

AVAILABILITY:

For Further Information:
Michael L. Chernoff, Ph.D.
National Evaluation Systems, Inc.
301 Gatehouse Road
Amherst, Massachusetts 01022
Phone (413) 246-0444

Copyright: Yes

Cost: Contact the National Evaluation Systems, Inc., for more information

DESCRIPTION: These tests are all criterion-referenced objective-based tests of knowledge and skills in the related occupational specialties. They were designed for and are used in teacher certification testing programs.

OCCUPATIONAL AREA: The NES tests are available in the following occupational specialties:

- Accounting
- Agriculture
- Audiovisual Specialist
- Basic Skills
- Business Economics
- Business Education
- Business English
- Business Law
- Business Machines
- Business Mathematics
- Career/Occupational Information
- Consumer Finance
- Distributive Education
- Drafting
- Home Economics
- Industrial Arts
- Marketing
- Metal Work
- Office Procedures
- Shorthand
- Typewriting
- Woodwork

Number of Items: Operational forms of the tests include 100-120 scorable items from a larger pool of items.

Type of Items: All items are multiple choice.

Intended Population: These tests are designed for individuals seeking initial certification in the related areas. They can also be used for other certification-related purposes.

Time to Administer: 2-3 hours.

Response Mode: Paper and pencil (optically scanned answer sheets).

Scoring: ALL scoring and reporting services are provided by the National Evaluation Systems, Inc.

TEST DATA: Extensive statistical information exists on test materials from field tests and operational administrations. Please contact the National Evaluation Systems, Inc., for more information.

Figure 2. The National Evaluation Systems' Vocational Teacher Competency Testing

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Teacher Interviews

Teacher interviews are one approach available to administrators of educational institutions for evaluating instructional personnel. In spite of some apparent limitations, the interview process can yield information about teachers that no other methods can generate. This discussion will focus on the two most basic applications of teacher interviews: teacher selection and teacher appraisal.

Teacher Selection Interviews

Admission and hiring interviews can be used to assess the interpersonal skills of candidates, provide information not easily available from education records and application forms, and give the interviewer an opportunity to judge many personal characteristics of applicants. This opportunity is reciprocal, because candidates can also ask questions, make judgments, and clarify perceptions and concerns.

Feistritzer (1984) reports that 52 percent of the teacher training institutions surveyed by the National Center for Educational Information (NCEI) indicated that they used interviews as a tool to screen applicants for admission to teacher education programs. Selection interviews can be structured or unstructured. Structured interviews with clearly defined objectives usually generate more reliable and valid information about job applicants. Selection interviews can also be conducted by one interviewer, or they can be administered by a group of interviewers to bring extra expertise into the selection process.

Issues in use. In selection interviews, the emphasis is primarily on teacher characteristics, professional non-classroom-related activities, and other personal nonprofessional activities and interests. These are all indirect, high-inference measures of teaching competence. As King (1981) notes, "there is no single set of skills, attitudes, interests, and abilities that all good teachers have and that all poor teachers lack" (p. 174). This fact seriously affects the validity and reliability of selection interviews.

Advantages and disadvantages. Teacher selection interviews have various advantages and disadvantages that must be taken into account in any decision to use them as a screening procedure. Among other things, they provide the following:

- A unique opportunity for face-to-face interaction between interviewers and interviewees
- An indication of the verbal communication skills of candidates under stressful conditions
- An opportunity to assess candidates on other dimensions of competence
- An opportunity for the interviewee to learn more about the job, intended responsibilities, obligations, and reward system

Following are two major disadvantages of teacher selection interviews:

- Information gathered by selection interviews usually is colored with interviewer biases.
- Teacher selection interviews are high-inference, subjective screening techniques that, to be effective, must be used in conjunction with other selection techniques and information that can provide valid and reliable information.

Conditions for use in vocational education. In spite of its limitations, the selection interview, when used in conjunction with other sources of data, can help administrators make more informed decisions. A team of interviewers is sometimes used in selection interviews. Such a practice is particularly useful in vocational education, where school district administrators or principals may not have the technical background and expertise necessary for adequately assessing the technical competency and experiences of prospective vocational teachers. The interview process can be strengthened by assembling a selection committee made up of administrators competent in personnel matters, educators with a solid background in teaching and learning theories, and vocational educators with subject-matter expertise in the specific occupational area. Group or team interviewing also helps to eliminate personal bias on the part of the interviewers.

Good interviewing skills can be developed and are essential prerequisites for conducting successful interviews. To be successful, interviewers must be skilled in the following areas: listening; questioning; and processing, analyzing, interpreting, and evaluating information obtained through interviews.

When properly used, the selection instruments can be important tools. Most instruments available for teacher selection interviews are primarily designed for selecting academic teachers. Therefore, care must be exercised in choosing interview instruments to be sure they adequately reflect any special needs of vocational education.

Teacher Appraisal Interviews

When used as a teacher evaluation strategy, the teacher appraisal interview can have multiple applications and objectives. Haefele (1981) identifies the following specific applications:

- Warning that improvement in teaching is needed
- Establishing teaching performance standards
- Motivating teaching performance
- Assessing the degree to which teaching performance standards have been achieved
- Determining what the evaluator or others can do to sustain or improve teaching performances (p. 51)

Darling-Hammond, Wise, and Pease (1983) indicate that although classroom observation followed by an appraisal interview with the teacher represented the totality of the teacher evaluation process in the past, there has recently been a major shift in the use of interviews for teacher evaluation. They note that

> recently . . . the interview has been viewed as an important element of a broader evaluation procedure. In particular, a preobservation conference has been recognized as useful for the involvement of teachers in their own professional development and for a more regularized exchange of feedback from supervisors. (p. 305)

The teacher appraisal interview is not a stand-alone approach. However, when used with other approaches, it can enhance the teacher evaluation process. When administered prior to the evaluation, an interview gives teachers and evaluators an opportunity to set goals and standards and to agree on the evaluation focus. When given after the evaluation, the appraisal interview brings

teachers and evaluators together to discuss the evaluation results, clarify any ambiguity, and set a plan of action for improvement. Standardized instruments and interview guides can be used to increase the objectivity of the information gathered through the performance interview procedure. Teacher appraisal interviews can be used as effectively in vocational education as in general education.

Issues in use. Teacher appraisal interviews can be used for both improvement and personnel decisions. When used for improvement, the interview can be conducted by peers, supervisors, or staff development personnel. However, when used for personnel decisions, such as salary and promotion decisions, the credibility of the process becomes an issue and the interview should be conducted by supervisors.

Appraisal interviews can be the source of in-depth qualitative data that are extremely useful for focusing evaluation activities and improvement efforts. However, because of the two potentially conflicting purposes of the teacher appraisal interview—formative and summative evaluation—prior agreement must be reached regarding the explicit use of the information generated for each purpose to protect teachers from misuse of inappropriate information.

Advantages and disadvantages. The major advantage of using the teacher appraisal interview is that it provides an excellent opportunity for briefing sessions to focus evaluation efforts, as well as for debriefing sessions after the evaluation to make an action plan for improvement. It also provides rich qualitative data that are valuable for formative evaluations and that can only be obtained through such interviews. One disadvantage is that when the appraisal interview is used for summative purposes, the evaluator's subjectivity may seriously affect the validity and reliability of the information obtained.

Conditions for use in vocational education. To increase the validity of the information gathered through the performance appraisal interview, the interviewer should be knowledgeable about theories of instruction generally and vocational education instruction specifically. In some instances, when evaluating critical competencies related to occupational specialties, the interviewer may also need to have an in-depth knowledge of the subject matter.

Teacher appraisal interviews also have a great potential when used in conjunction with other teacher evaluation strategies. At the initial stage, they can be used for setting the focus and parameters of the evaluation. At the postevaluation stage, the interview process can be used to communicate results and to draw up an action plan for making improvement. The potential of the appraisal interview is particularly applicable in assessing vocational teachers, where evaluation of some competencies may call for advance planning to assemble specialized equipment and materials. The preobservation appraisal interview can help clarify and identify these needs.

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Student Achievement

The issue of evaluating teachers based on their students' achievement has always generated heated debates. Because of the controversy surrounding this teacher evaluation strategy, it has never gained general acceptance for full-scale implementation. In this period of educational reform, the teaching profession is under close scrutiny, and there is an ever-increasing call for better and more teacher evaluation. Educators are likely to encounter requests to use student achievement as a teacher evaluation strategy. It is therefore examined next to help educators think about its strengths and weaknesses.

Overview

The growing concern for accountability in public education has led some educational administrators, policymakers, and researchers to view education from the perspective of the industrial input-output model. In this model, the teacher functions as the input and, through the process of instruction, generates the product, namely, the students' gain in learning. The process of instruction viewed in this narrow sense makes teachers directly responsible for students' learning, as measured by scores on standardized tests. This proposition is interesting from a political viewpoint for two reasons. First, it is based on an accountability system that can be easily monitored. Second, it places all the obligation for student progress directly on teachers. It should be noted, however, that there is no body of research in vocational education to indicate a relationship between teaching effectiveness and student outcomes. Interestingly, in spite of this lack of empirical evidence, conventional wisdom within teacher education has traditionally held that if the student has not learned, the teacher has not taught.

There are three dimensions to teacher competency, namely, teacher competence, teacher performance, and teacher effectiveness (Medley, Coker, and Soar 1984). Teacher competence is viewed as a presage variable, that is, the knowledge, skills, and attitudes that a teacher possesses. Teacher performance is related to the process of teaching, and teacher effectiveness is related to the capabilities of the teacher to successfully impart knowledge to the students. Teaching effectiveness is one of the most difficult dimensions of a teacher's competency to evaluate. It has been argued that if the entry behaviors of students before instruction and their exit behaviors after instruction are known, learning gain, and thus teacher effectiveness, can be established. However, many methodological and measurement problems plague such estimates.

McNeil and Popham (1977) identify the contract plan as an alternative method of evaluating teachers' effectiveness using data on students' learning gain. In setting up a contract plan, the teacher and the administrator develop a set of student objectives and a set of criteria for measuring the attainment of these objectives as a result of instruction. The contract period for which the teacher is accountable can vary from a single day's lesson to a semester or a whole year.

McNeil and Popham (1977) suggest the use of performance tests as a valid and fair proposition for measuring teacher competency. They describe a performance test as a test of teaching power, in which several teachers are given a set of identical objectives, usually novel to both teachers and students, and are asked to plan and teach a lesson that accomplishes these objectives. In this situation, the students are randomly assigned to teachers who use their own judgment in the selection of appropriate instructional strategies. At the end of the lesson, a test is administered by a third party to assess the students' achievement of the identified objectives, and the mean test score is used as a criterion of effectiveness. McNeil and Popham indicate that a number

of studies have shown that some teachers "are consistently more successful than others in getting results" (p. 273). They suggest that there is a need to verify the finding that

> teachers who can produce desired effects under conditions of teaching performance tests maintain their effect over time and in the presence of a greater range of conditions such as effective use of their instructional time and in targeting their instruction to areas in which learning is most desired. (p. 147)

These various propositions for evaluating teaching effectiveness using student achievement seem attractive enough at first glance. However, their implementation is plagued by several confounding issues, some of which are discussed next.

Issues in Use

Two fundamental types of problems—philosophical and methodological—surface in any attempt to evaluate teaching based on measures of student learning (Doyle 1983). Doyle argues that "it seems unfair to evaluate a person in terms of what other people do or fail to do, at least when those other people are at best only partially under the control of the person being evaluated" (p. 10). Such a situation can be very counterproductive to teacher growth and student development and can only, in the long run, perpetuate mediocrity in our schools.

Another problem advanced by Doyle (1983) against making teachers accountable for students' achievement is methodological. He argues that

> the technology of testing and statistical analysis is not yet advanced enough for acceptable and sure conclusions of this sort. First, a testing procedure for evaluating teachers would need to account, at least, for student ability, student knowledge at the beginning of the course, and student motivation throughout the course, so that an instructor does not appear good or poor simply because of the capacities of the students in the class. (p. 10)

Glass (1974) asserts that it is "invalid and unfair" to evaluate teaching effectiveness on the basis of students' achievement on standardized tests. He further argues that "standardized tests will uncover gross educational deficiencies in basic skills, but such instruments are not designed to reveal the variety of ways in which teaching and learning can be creative, favorable, opportunistic, and uniquely meaningful to students" (p. 11).

Glass (1974) also states that all attempts to evaluate teachers on the basis of student standardized test results are unjust because much of a standardized test's content is irrelevant to teaching situations and because it is not possible to account for variations among individual students' entry-level abilities. According to Glass, statistical manipulation of students' scores cannot overcome this problem, and only random assignment of students to teachers could ensure fairness in the process. Glass also argues that "any attempt to measure teacher effectiveness through standardized test scores of students would inevitably result in a tendency for teachers to teach for the test—teach the 'safe' topics—possibly at the expense of the more elusive and more important ones" (p. 12).

Educators have always been suspicious of providing instruction directly correlated to tests measuring students' achievement. However, an examination of most models for instructional development show that test items are usually written before instructional activities are determined and that these test items are then criterion-referenced to the instructional objectives. If teaching

for the test can improve students' achievement of course objectives, then this approach has more merit than teaching without any specific target. In vocational education, where many delivery programs are competency based and where test items are referenced to enabling objectives, helping students to attain mastery of these objectives should also help them score high on achievement tests, provided these tests are also criterion referenced.

When teaching is viewed from the perspective of a process-product model, the only way to evaluate "products" is to look at the amount of learning gained by the students as a result of instruction. Borich and Fenton (1977) indicate that "process measures assess teacher performance, while product measures assess pupil change. Though pupil outcomes can be unstable and difficult to measure, they nevertheless must stand as one index of teacher effectiveness" (p. 45).

Formative evaluation. In the midst of this controversy, McGreal (1983) suggests that, "to maintain emphasis on instructional improvement that characterizes effective evaluation systems, an informal approach to monitoring and using student performance data seems most useful" (p. 130). Millman (1981) identifies a set of criteria for generating good student achievement measures for the formative evaluation of teachers. He feels that achievement measures should be "free from teacher bias," both in their construction and in their scoring. The measure should have a "diagnostic function indicating students' greatest strengths and weaknesses so that teachers are able to modify instruction most effectively" (p. 148). The test items should be reliable and broadly conceived to assess both intended and unanticipated learning outcomes.

Millman (1981) also provides some useful guidelines regarding methods of data collection on student achievement for teacher evaluation purposes. He suggests the use of baseline data from curriculum-embedded tasks, such as completed homework, in-class assignments, answers to questions posed by the teacher, questions asked of the teacher, and students' self-appraisal (p. 150).

Summative evaluation. Summative evaluation usually is more threatening, more controversial, and deeper in the implications than is formative evaluation. Consequently, attempts to measure teaching effectiveness for personnel decisions often result in heated debates. Whereas some individuals view student achievement measures as the only relevant source of data for assessing teaching effectiveness, others argue that "too many confounding factors affect student learning besides the teacher's performance" (Millman 1981, p. 156).

Research studies indicate that teachers cannot be held totally accountable for student outcomes. Bloom (1982), in his classic work entitled *Human Characteristics and School Learning*, notes that

> cognitive entry behaviors can account for about 50 percent of the variation in achievement, while affective entry characteristics alone account for about 25 percent . . . in combination these entry characteristics could account for about 60 percent of the achievement variation on a new set of learning tasks. (p. 108)

He further adds that

> we doubt that the quality of instruction can overcome the effect of lack of the prerequisite cognitive entry behaviors. . . . The lack of the necessary prerequisite cognitive entry behaviors for a particular learning task should make it impossible for the student to master the learning task requirements no matter how good the quality of instruction for that task. (p. 108)

Ornstein (1984), commenting on research findings of teacher effect on student outcomes, points out that

> until replicable findings of teacher effectiveness can be established, the notion of teacher evaluation, teacher accountability, teacher performance and teacher competencies are nonworkable. If such empirical data are lacking, then various forms of teacher effectiveness have been sold before they exist in reality. (p. 109)

Some researchers have tried to establish the relationship between teaching and student achievement. The Rosenshine and Furst (1971) review of teacher process-product studies showed

> teacher process strongly and consistently related to student achievement or attitude. The first five [teacher processes] were the strongest: clarity, variability, enthusiasm, task orientation, and student opportunity to learn. The next six were characterized as promising: use of student ideas, justified criticism, structuring comments, various types of questions, probing and encouraging student elaboration, and high standards of performance. (p. 112)

Gage's (1978) analysis of 49 process-product studies showed 4 types of teacher behaviors having strong relationships with student outcomes. These behaviors were teacher indirectness praise, acceptance, and criticism. After conducting a comprehensive and sophisticated review of 289 teacher process-product studies, Medley, Coker, and Soar (1984) concluded that "effective teachers behave differently with different types of students" (p. 113).

The Beginning Teacher Evaluation Study (BTES) has provided a consistent, important finding about teacher effectiveness—that academic learning time is the most important variable associated with student learning. Academic learning time is defined as the amount of time a student spends attending to academic tasks while also performing with a high success rate. In other words, both the quality and the quantity of learning time on task are considered important in improving student learning.

There seems to be little or no agreement among researchers as to the influence of teachers on student learning outcomes. Whereas many support the thesis that teachers do have a significant influence on student achievement, others conclude that teachers' influence on student learning is null or negligible. In considering the use of student achievement measures to evaluate teaching effectiveness, it is important to distinguish between student achievement of trivial, easy learning objectives and achievement of important and difficult educational objectives. A teacher who helped students consistently achieve more important learning objectives should receive a higher rating of effectiveness than one whose students were achieving mostly easier learning objectives. This kind of analysis is important and useful for providing greater insight into student achievement not evidenced by test scores alone.

The uncertainties surrounding the relationship between teaching effectiveness and student achievement suggest that student outcome data should *not* be used in teacher evaluations for summative purposes. Until more is known about the relationship between teaching effectiveness and student outcomes, teachers should be encouraged to use student learning data for self-improvement purposes only.

Advantages and Disadvantages

When used as a formative, self-evaluation strategy, student achievement measures can help teachers identify weaknesses and seek help in improving their teaching. However, there are several major disadvantages to using student achievement measures as an indication of teaching effectiveness. Some of these are as follows:

- The relationships between teacher effectiveness and student outcomes have not been reliably established. The stability of teacher influences is low.
- Too many factors beyond the control of teachers contribute to learning gains among students, such as prerequisite cognitive entry behaviors and affective entry behaviors.
- Gain scores, not merely end-of-instruction achievement measures, are needed to estimate achievement, but such measures are hard to obtain and difficult to assess.
- Testing technology is too weak to generate valid and reliable standardized measures of student gain.

Conditions for Use in Vocational Education

The limits identified regarding the use of student achievement data for teacher evaluations cut across subjects and grade levels of education. Consequently, the use of such data as the basis for summative judgments about vocational teachers' effectiveness is inappropriate. Its use in personal evaluations for self improvement purposes has some merit.

Instruction in vocational education is aimed at developing student skills, knowledge, and attitudes. Attempts to assess teaching effectiveness on the basis of student achievement must take these three components into account inasmuch as they are all critical elements in the total preparation of vocational education students for the workplace. Additionally, vocational teachers are informally assessed on the basis of tangible student achievement indicators, such as completed projects, accident reports, employer evaluations of students, and employers' satisfaction with graduates.

Student learning gains related to skills, knowledge, and attitudes must be assessed independently. Bloom's (1982) taxonomy of educational objectives and related learning domains may be useful in developing tests. Often, tests designed to gauge student achievement are written to reflect behavior found at the lower end of the domains of learning. This is largely because test items for measuring complex learning at higher levels are more difficult to write.

In general education, student achievement is usually measured on the basis of paper-and-pencil tests. Vocational education offers an additional dimension to evaluation, through the correct demonstration of acquired competencies. At least two major types of National standardized tests are available for assessing student achievement in vocational education: (1) the Student Occupational Competency Achievement Tests (SOCATs) developed by NOCTI and (2) the Vocational Competency Measures (VCMs) developed by the American Institutes for Research (AIR). The SOCATs are available in 32 different occupational areas, and the VCMs cover 17 different occupations. Both tests contain cognitive and psychomotor assessment components and are typically used as terminal measures for summative evaluation, that is, for generating end-of-training data related to overall student achievement. The validity and reliability of the SOCATs and VCMs have been established through extensive and carefully designed National field trials and revisions.

NOCTI has identified the following benefits that may be derived from use of the SOCAT:

- **Students**—Secondary and postsecondary students will be able to demonstrate their competence on a National standardized test and use the test results as a credential for employment and advanced standing in educational programs.

- **Teachers**—Teachers, by examining the strengths and weaknesses of their students, will be able to improve their curriculum for maximum student achievement. SOCATs can not only provide an objective means of grading, but they can be used to help document teacher effectiveness.

- **Vocational administrators**—SOCAT results reported for classes, schools, and States will enable vocational administrators to assess relative strengths and weaknesses of programs more accurately and will indicate whether present curriculums are up to date and valid relative to occupational requirements

- **Employers**—SOCAT results will enable employers to assess and hire individuals on the basis of demonstrated competence, as opposed to mere letter grades and course titles.

The profiles at the end of this section provide more detailed information about the SOCAT and VCM (see figures 3 and 4).

In spite of all the shortcomings associated with the use of student achievement measures for evaluating teacher effectiveness, there is growing evidence that the public quest for quality and accountability in education will encourage greater reliance on student data as a primary indicator of teacher effectiveness. As advancements in instructional and assessment technology make it possible to monitor student progress more closely, perhaps more reliable and defensible measures and techniques will be developed for evaluating teacher effectiveness in terms of student learning gains. Until such time, student achievement measures still have a legitimate and useful place in self-initiated and self-administered teacher evaluation efforts geared toward self-improvement.

TITLE: Student Occupational Competency Achievement Test (SOCAT)

DEVELOPER: National Occupational Competency Testing Institute (NOCTI)

DATE: 1973—present

AVAILABILITY: National Occupational Testing Institute (NOCTI)
318 Johnson Hall
Ferris State College
Big Rapids, Michigan 49307
Phone (616) 796-4645

Copyright: Yes

Cost: Varies according to quantity purchased and membership of purchase.

SOCAT PRICE SCHEDULE
(effective July 1, 1984)

Quantity Ordered	Full Member	Associate Member	Nonmember
10-100	$6.00	$6.75	$7.50
101-200	5.50	6.25	7.00
201-300	5.00	5.75	6.50
301-up	4.50	5.25	6.00

DESCRIPTION: The SOCAT is designed to assess student end-of-training competencies in thier area. All SOCATs are written tests designed to assess learning in the cognitive domain.

OCCUPATIONAL AREA: The SOCAT is availabe in the following occupational specialties:

Accounting/Bookkeeping
Agriculture-Mechanics
Auto Body
Auto Mechanics
Carpentry
Commercial Foods
Computer Programming
Construction Electricity
Drafting
General Merchandising
General Office
Heating and Air Conditioning
Horticulture
Industrial Electricity
Industrial Electronics
Machine Trades
Plumbing
Practical Nursing
Printing
Radio and TV Repair
Sewn Products
Small Engine Repair
Welding

Number of Items: Varies with each test

Type of Items: Multiple choice

Intended Population: Graduating seniors in vocational education.

ADMINISTRATION:

Time: Varies with each test.

Response Mode: Paper and pencil.

Scoring: All tests are scored by NOCTI.

TEST DATA:

Reliability/Velidity: NOCTI field-tests all SOCAT instruments for validity and reliability.

Figure 3. The Student Occupational Competency Achievement Test (SOCAT)

TITLE: Ohio Vocational Education Achievement Test Program (OVEAT)

DEVELOPER: Vocational Institutional Material Laboratory
The Ohio State University

DATE: 1964-present

AVAILABILITY: Vocational Instructional Materials Laboratory
The Ohio State University
1885 Neil Avenue
Columbus, Ohio 43210

Copyright: Yes

Cost: Ohio schools: March Order—$1.30/student
Out-of-state schools: March Order—$2.50/student
All schools other than March Orders—$3.00/student
Cost includes test instruments, scoring, and reporting

DESCRIPTION: These tests are specifically designed for use by teachers, supervisors, and administrators for evaluation and diagnosis of vocational achievement for the improvement of instruction. The test battery consists of three components: (1) The California Short Form Test of Academic Aptitude (SFTAA); (2) Vocational Achievement Test, Part 1; (3) Vocational Achievement Test, Part 2. The test battery is administered on 3 consecutive days.

OCCUPATIONAL AREA: The OVEAT is available in the following occupational speciality areas:

Agricultural Education
1. Agricultural Business
2. Agricultural Mechanics
3. Farm Management
4. Horticulture
5. Production Agriculture

Health Occupations Education
1. Dental Assisting
2. Medical Assisting
3. Diversified Health Occupation

Construction Trades
1. Carpentry
2. Construction Electricity
3. Heating, Air Conditioning, and Refrigeration
4. Masonry

Metal Trades
1. Machine Trades
2. Welding

Business and Office Education
1. Accounting/Computer Clerk
2. Clerk Stenographer
3. Clerk Typist
4. Data Processing
5. General Office Clerk

Home Economics Education
1. Community and Home Services
2. Fabric Services
3. Food Services
4. Nursery School Teacher Aide

Electronics
1. Communication Products Electronics
2. Industrial Electronics

Personal Services
1. Cosmetology

Distributive Education
1. Apparel and Accessories
2. Food Marketing
3. Food Service Personnel
4. General Merchandising

Trade and Industrial Education
1. Auto Body Mechanics
2. Automotive Mechanics
3. Diesel Mechanic

Graphic Communications
1. Commercial Art
2. Drafting
3. Lithographic Printing

Equipment
1. Small Engine Repair

Number of Items: Between 150 and 200.
Types of Items: Multiple choice, with four possible responses.
Intended Population: Secondary vocational education students in grades 11 and 12.
Respondent: Student.

ADMINISTRATION:

When: Annually, preferably in March
How: On-site
Time Recommended:

Day	Test	Time
1	SFTAA	1 hour
2	Vocational Achievement Test, Part 1	2 to 2½ hours
3	Vocational Achievement Test, Part 2	2 to 2½ hours

Response Mode: Separate answer booklet
Scoring: Scoring and reporting services are provided by the test developers.

TEST DATA:

Reliability: KR_{20-21} .9 and above

Validity: Content and Construct

Figure 4. The Ohio Vocational Education Achievement Test Program (OVEAT)

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Classroom Observation

Introduction

Classroom observation is perhaps one of the earliest developed approaches used for evaluating teachers and is still the most universally used teacher assessment strategy. It is "the mainstay of most teacher evaluations" (Darling-Hammond, Wise, and Pease 1983, p. 306).

Teacher performance can best be assessed by documenting the teaching process, and classroom observation provides a unique opportunity for a third party to obtain "a view of the climate, rapport, interaction, and functioning of the classroom available from no other source" (Evertson and Holley 1981, p. 90). As its name implies, classroom observation consists of observation of the teaching act by an observer who can be an administrator, supervisor, or peer, which results in a judgment about the teacher's performance based on some predetermined set of criteria. The primary emphasis is on the *process* of teaching. Some kind of instrument is generally used to focus the assessment and to ensure greater objectivity by observers.

Two basic approaches are currently used for evaluating teachers through classroom observation: (1) classroom visits and (2) systematic observations. Both of these approaches are described next, followed by profiles of instruments appropriate for these approaches.

Classroom Visits

Description. Teacher evaluation conducted through classroom visits employs short-term, data-gathering visits by administrators, supervisors, or peers (Peterson and Kauchak 1982). It is the most widely used teacher evaluation strategy, primarily because of its cost-effectiveness and ease of administration. Checklists, rating scales, and narrative reports are typically used in conjunction with classroom visits for data-recording purposes. Sometimes, videotaping is used to record teaching behavior and classroom activities.

In most instances, classroom visits are short, usually once-a-year teacher appraisal efforts. Consequently, not much credibility is ordinarily attached to data gathered in this way, and few critical personnel decisions are made solely on the basis of this evaluation strategy.

Issues in use. Although the classroom visit appears useful for evaluating teachers, the strategy is typically plagued with problems that affect the validity and reliability of the results. Such problems include observer bias, insufficient sampling of performance, and poor measurement instruments.

In explaining how observer bias affects information gathered through classroom visits, Peterson and Kauchak (1982) note that "due to biases, lack of perception of all that occurs, and a limited personal perspective, much that is relevant is missed and that which is noted falls within a personal frame of reference" (p. 20). In current practice, teachers often are evaluated by infrequent classroom visits—in some instances as seldom a once a year. This "snapshot" approach to the evaluation of teacher classroom performance cannot provide defensible information for personnel decisions or meaningful guidelines for improvement of teaching effectiveness. Peterson and Kauchak (1982) argue that "classrooms are very complicated places, and they change over time. For those reasons many visits are required to observe teachers in a representative manner" (p. 21).

Data collection is a major problem jeopardizing the validity and reliability of classroom visits. Three data-gathering strategies are commonly used in conjunction with classroom visits: (1) checklists, (2) rating scales, and (3) narrative reports.

Usually, a checklist or a rating scale identifies predetermined, desirable teacher behaviors. When using a checklist, the observer simply checks the occurrence or frequency of a behavior. A rating scale is used not only to record the occurrence of a behavior but also to make judgments about the quality of a teacher's performance.

The narrative report is an alternative technique that can be used for data collection during classroom visits. Observers attempt to report completely and objectively the activities taking place during classroom visits, as well as their sequence. The process can be enhanced by audiotaping or videotaping to provide more objectivity and a more in-depth description of the teaching process. Each of these data-recording techniques represents a high-inference measure of teaching effectiveness—a fact that raises serious questions about their objectivity, validity, and reliability.

Peterson and Kauchak (1982) identify some of the following problems associated with checklists and rating scales:

- Checklists and rating scales often contain items that are difficult to observe or are not related to student learning.
- Rating forms often have both formative and summative uses, which interferes with the function of either intention.
- The test forms contain too many items.
- The great majority of the rating forms in current use have not been checked for reliability.
- Most forms have not been developed on the basis of empirical foundations related to teaching effectiveness.
- These forms often fail to facilitate the summary of the evaluation effort. (p. 21)

In spite of their inherent attractiveness, classroom visits have many limitations that reduce their utility and effectiveness as a teacher assessment strategy. After reviewing numerous studies on classroom visits, Evertson and Holley (1981) conclude that "there is a fairly consistent failure between ratings of teacher performance and other external measures of competence" (p. 96). However, according to Peterson and Kauchak (1982), "the question of the soundness of classroom visits as an evaluation technique is overlooked because of their widespread use" (p. 21). As presently practiced, classroom visits are not an effective means for accurately diagnosing teacher strengths and weaknesses. Scriven (1981) observes that to evaluate teachers through classroom visits "is not just incorrect, it is a disgrace" (p. 251).

Advantages and disadvantages. Like other teacher assessment strategies, classroom visits have several pros and cons associated with them.

On the positive side, they—

- are a cost-effective and timesaving way for busy administrators to meet local requirements for teacher evaluation;
- enable a rater to note any gross deviation from accepted norms for teaching practices; and
- provide the raters with opportunities to evaluate classroom organization, appearance, and neatness—conditions that cannot be assessed in any other way.

On the negative side, classroom visits—

- lack objectivity, validity, and reliability;
- generate high-inference measures that often are not defensible and that have limited application in personnel decisions;
- generally do not provide a representative sample of the wide repertoire of teacher competence, especially if they are short and infrequent; and
- are often disruptive of normal classroom routine and behavior and can be humiliating for the teachers.

Additionally, Scriven (1981) identifies the following disadvantages related to classroom visits: (1) they alter the classroom and consequently alter teaching, (2) they do not provide a representative sample of teacher behavior because they are usually too few in number, (3) independent personal prejudices can creep into the evaluation and the evaluator's judgment for or against the teacher, (4) information gathered during visits does not readily permit the generation of valid inferences as to the quality of teaching, and (5) the influence of the evaluator's personal bias is too strong in this approach.

Applications in vocational education. In vocational education, the laboratory visit or site visit is frequently used to evaluate the management and organizational skills of vocational teachers. Such skills are frequently assessed with respect to the following areas: workshop organization and management; workshop procedures; safety standards; procedures for the care and maintenance of equipment, tools, and machines; housekeeping practices; inventory control; budgeting and cost control; and student project storage and control. These are all important aspects of a vocational teacher's daily responsibilities that contribute to efficient and safe instruction. Nevertheless, because they are not teaching behaviors per se, their assessment may reveal little about teaching effectiveness or learning achievement. In fact, the relationship of such classroom or shop management skills to effective teaching is uncertain.

Systematic Observation

The systematic observation approach to teacher evaluation consists essentially of observing a classroom teacher and documenting and analyzing classroom performance. Peterson and Kauchak (1982) note, "classroom observation is systematic when it fairly represents what goes on in classrooms; can be agreed upon by knowledgeable persons; and when the content of the observation is defensible in terms of its educational importance" (p. 34). Lyons, Morris, and Fitz-Gibbon (1978) state that observation is systematic "when the observer is told what to look at beforehand" (p. 90). When used properly, systematic classroom observation can be a powerful tool in helping teachers improve their effectiveness by providing rich, in-depth data about specific classroom behaviors.

Griffith (1973) identifies the following functions of systematic classroom observation:

- To find out what learning activities students are engaged in and to appraise their value
- To encourage and assist teachers to teach more effectively
- To find out whether courses of study are related to students' needs and abilities and contribute to the goals of education

Issues in use. Systematic classroom observation is a very powerful tool for documenting specific teacher classroom behaviors. However, some important issues must be dealt with when considering its implementation in a teacher evaluation system. Peterson and Kauchak (1982) note, "systematic observation provides a great deal of information about how well a teacher performs, but has significant limitations for evaluating *overall* teacher quality" (p. 37). They point out that

> observations can be disruptive to individual teaching patterns and that because performance judgments are context-dependent any comparisons among teachers or between observations of individual teachers are difficult and risky. (pp. 37-38)

They further note that the use of systematic observation for formative teacher assessment is desirable, but that the same is not true for summative evaluation.

Although classroom observation is an important and desirable means of obtaining teacher evaluative information, the process presents problems related to validity and reliability. According to Glass (1974), unsuccessful attempts to rate teacher behavior in a reliable manner "stem largely from vague, general definitions of the behaviors to be rated and the lack of rater training" (p. 26). He recommends that no teacher characteristic be included in classroom observation rating scales "until research has established both that it can be reliably observed and that it bears some significant relationship to desired pupil cognitive and affective states" (pp. 27-28).

Evertson and Holley (1981) also discuss the problem of reliability and validity related to systematic classroom observation as a teacher evaluation strategy. They point out the difficulty of establishing any observation as a true representative sample of student and teacher behaviors during a typical day. Observations are affected by the time of day, the subject being taught, the calendar of holidays and special events, and any number of other temporal factors (p. 94).

As in classroom visits, rating error is an important issue in systematic observation. In the context of formative teacher evaluation, rating error may lead to identifying inappropriate improvement needs and result in wasted time and resources without any improvement in critical performance. In the context of summative evaluation, rating errors can result in grave consequences and may have legal implications.

Latham and Wexley (1981) are among a growing body of experts who consider training raters in performance appraisal techniques absolutely necessary to reduce errors of judgment in evaluation. They point out, for example, that AT&T has paid compensation fees amounting to approximately $12-15 million to employees who were victims of discrimination in promotions, transfers, and salary recommendations through rating errors. These two experts also identify six main types of rating errors, which can be summarized as follows:

- The **contrast effect error** is the tendency for a rater to compare and evaluate a person relative to other individuals rather than to rate him or her based upon the requirements of the job.

- **First-impression error** or unfavorable judgments about an employee may cause the rater to ignore or perceptually distort subsequent information, so as to support initial impressions.

- The **halo effect** refers to generalization from one aspect of a person's performance on the job to all aspects.

- The **similar-to-me** effect is the tendency for raters to reserve their highest ratings for persons whose backgrounds and attitudes are most similar to their own, even if these are not job related.

- **Central tendency error** is committed by the rater who plays it safe by consistently rating an employee on or close to the midpoint of a scale even when the employee's performance clearly warrants a substantially higher or lower rating.

- **Negative and positive leniency errors** are committed by the rater who is either too hard or too easy in rating employees. In the performance appraisal process, positive leniency may raise unwarranted expectations of the employee for raises, promotions, or challenging job assignments. With negative leniency (or toughness) employees may get frustrated because no matter how hard they try, the rater cannot be satisfied.

Rating errors also pose a significant problem in education and in classroom observations. Evertson and Holley (1981) document the fact that teacher organizations and unions regularly seek legal assistance regarding infringements arising from teacher observations or evaluations. They also strongly recommend the careful training of observers as an essential component of teacher evaluation.

Instrumentation problems are an important issue related to all classroom observations. Coker (1985) has identified the following instrumentation problems affecting systematic classroom observation:

- The extent to which the same observation instrument can be used in different grades and subject areas

- The length and number of observations of teacher performance necessary to achieve reliable assessment

- The amount and kind of training an observer or rater must have to produce credible and accurate ratings of teachers

- How often observers or raters need retraining in order to maintain their accuracy

- The type of coding that provides the most valid and reliable data

These critical issues need to be addressed so that more informed decisions can be made when using systematic observation as a teacher evaluation strategy. Coker also indicates the need to establish criteria for assessing the quality and usefulness of teacher evaluation instruments.

Conditions for use. A number of conditions must be met to implement systematic observation successfully in teacher evaluation. Peterson and Kauchak (1982) identify five essential characteristics of systematic observation, which are summarized as follows:

- The observer is *trained* in the techniques of observation and is *checked* for actual reliability in practice.

- The number and timing of visits are planned to ensure a fair and reliable sample of classroom time and events. (This may involve approximately eight sessions—depending on what is observed and how variable the activities in the classroom are.)

- The focus of the observation is limited to a specific number of visible categories that have proved to be reliable and observable in practice. (Since there are limits to what trained observers can pay attention to, their attention needs to be focused.)

- The recording system (checklists, entry forms, scoring) needs to be systematic, verifiable, and permanent.

- Data should be analyzed with a single, coherent conceptual framework that has been systematically validated to show its links with important features (e.g., student learning, school needs, legal expectations).

Evertson and Holley (1981) suggest three essential characteristics of good teacher evaluations through classroom observation. These are as follows:

- The individual to be observed is fully informed about the purpose and nature of the observation.

- The entire process is conducted as unobtrusively as possible and with as little disruption to the normal routine as possible.

- Good communication between teacher and rater is maintained throughout the evaluation process. (p. 93).

Pre- and postobservation conferences between the teacher being evaluated and the rater are necessary to capitalize on the full benefits of systematic observation. The preobservation conference helps focus the evaluation efforts and set the evaluation guidelines. The postobservation conference provides for exchange, clarification, and counseling related to the evaluation and improvement strategies.

Advantages and disadvantages. The literature documents various advantages regarding the use of systematic observation as a teacher evaluation strategy. A summary follows of the most commonly cited points:

- Observations can be focused on effective teaching practices that contribute to student achievement, such as—
  —clarity of presentation and explanation,
  —enthusiasm,
  —variety in the use of instructional materials and techniques,
  —task orientation and businesslike behavior,
  —provision for ample learning opportunities,
  —teacher use of student ideas,
  —use of multiple levels of discourse, and
  —absence of negative criticism or probing.

- Because of the ongoing nature of systematic classroom observation, improvement efforts can be closely monitored and corrective action taken to ensure successful achievement of improvements.

- The frequent interaction between evaluator and teacher can help develop a collegial relationship and an atmosphere of trust that alleviates the threatening aspects of evaluation.

- Frequent visits of evaluators in the classroom may help students get used to their presence and act normally during observations.

- Multiple visits enable evaluators to observe a broad variety of teacher behaviors under different conditions, as well as allow them to observe a wide range of the teaching behaviors over time.

- Systematic observations may result in more in-depth and richer data that can be generated and translated into improvement recommendations.

- A trained observer, using an appropriate behavior-recording system, can generate valid, objective, and reliable teacher evaluation data.

- Valid, reliable, and defensible observation records can be used to support personnel decisions, such as reassignment or termination.

- Using videotaping techniques, individual teachers can rate themselves and reflect on their own teaching. Teachers can also make weekly videotapes, which can supplement direct classroom observations.

Following are some of the major disadvantages of systematic classroom observations mentioned in the literature:

- Such observations are more suitable for formative evaluation than for summative assessment.

- Classroom observations can be costly and time consuming.

- Raters or evaluators must be adequately trained in systematic classroom observation, a process that requires time and money.

- Instrument development is complex; consequently, commercial instruments may have to be purchased at additional cost.

- The observation process can substantially alter teacher behaviors.

- Observations of teacher behaviors may not cut across relevant subject-matter, grade-level, contextual, and situational factors.

- The observation process may infringe on the privacy rights of students, and parents may oppose frequent evaluations.

Applications in vocational education. No evidence was found in the literature to refute or support using systematic classroom observations in the assessment of vocational teachers. Additionally, little research exists about effective vocational teacher behaviors that contribute to students' learning. Most classroom observation research has been conducted at the elementary school level and in the general education area. Consequently, one cannot apply these research findings to vocational education settings with a high degree of confidence. However, with a sound guiding theoretical framework and proper instruments, systematic classroom and laboratory observation can be used to advantage in vocational teacher assessment. Figures 5-9 describe assessment instruments that are designed for use in conducting systematic classroom observations.

The time-on-task literature is an emerging area of research that has promising applications in vocational education. Time-on-task studies that make use of systematic observation can provide valuable information to vocational teachers for improving their teaching effectiveness (as well as potentially valuable instrumentation). The National Center for Research in Vocational Education has already conducted several time-on-task studies in vocational education settings at both the secondary and postsecondary levels. These studies indicate that postsecondary vocational education students spend more time on task than their counterparts in high schools. Because time on task is also related to student outcomes, it will surely be used more extensively in teacher evaluations in the future. However, the process still has limitations. For example, (1) students' on-task behaviors are often recorded without knowing the worth or the meaningfulness of the tasks being executed; (2) student interactions may be recorded as being off task, when in fact, considerable learning may be taking place in sharing ideas, (3) students engaged in cognitive tasks may be recorded as being off task; and (4) time-on-task research violates principles of individual differences with respect to learning styles. In spite of these conceptual and methodological problems, time-on-task observations may become viable tools for use with other strategies in the assessment of vocational teachers.

TITLE: Classroom Observation Keyed for Effective Research (COKER)

DEVELOPER: H. Coker and J. G. Coker

DATE: 1979

AVAILABILITY: H. Coker and J. G. Coker
P.O. Box 1017
Athens, Georgia 30117

Copyright: Yes

Cost: Cost information not available

DESCRIPTION: The COKER is an objectively administered, low-inference sign system for observing teacher/student behaviors during classroom sessions.

Procedure: The COKER instrument consists of two sections, A and B. Section A involves reading a 5-minute observation regarding specific teacher and student transactions and/or interactions. Section B entails reordering observed teaching strategies and student and/or teacher cognitive and affective behaviors from memory following the previous 5-minute set of observation and recording of section A. Two 5-minute observations and recording periods using the COKER instrument are necessary during 1 observation and recording periods using the COKER instrument are necessary during 1 observation session.

ADMINISTRATION:

When: During classroom observation sessions

How: By observer through direct observation and systematic recordings

Time: A total of 20-25 minutes to complete 10 minutes of observation and recording

Scoring: The observation forms can be computer scored. Scoring keys and a user's manual are also available

INSTRUMENT DATA:

Reliability/Validity: This instrument has been extensively used for research on classroom observation and has been found to be both valid and reliable.

Figure 5. The Classroom Observation Keyed for Effective Research (COKER)

TITLE: Observation Schedule and Record, Form 5 (OSCAR5V)

DEVELOPER: Donald M. Medley

DATE: 1979

AVAILABILITY:

For Further Information:
Donald M. Medley
School of Education
University of Virginia
Charlottesville, Virginia

Copyright: No

DESCRIPTION: The OSCAR5V is a verbal category system designed to describe the classroom learning environment according to the relative frequencies of 80 different kinds of events in classroom interaction (Medley, Coker, and Soar 1984).

Number of Categories: The OSCAR5V consists of 18 categories: Public Utterance-Nonsubstantive, Public Question-Substantive, Pupil Statement-Substantive, Pupil Response, Problem-Structuring Statement, Convergent Question, Elaboration 1 Question, Elaboration 2 Question, Divergent Question, No Evaluation, Considering-Supporting, Informing-Approving, Describing-Rejecting, Rebuking-Criticizing, Desisting, Procedural, Neutral-Nonsubstantive Question, and Positive.

ADMINISTRATION:

When: During classroom instruction

Time: Class duration

Scoring: Forms are available that are scorable on DIGITEK and IBM computers. Computer programs for scoring and summarizing data generated by the OSCAR5V are also available.

RATER TRAINING: A minimum of 20 hours of training for raters in using the OSCAR5V is necessary.

INSTRUMENT DATA:

Reliability/Validity: This instrument has evolved from 10 years of development efforts. Its validity and reliability has been well established—reliability as high as .91 has been reported.

COMMENTS: For an in-depth discussion of the OSCAR5V, refer to Medley, Coker, and Soar (1984).

Figure 6. The Observation Schedule and Record, Form 5 (OSCAR5V)

TITLE: The Planning/Observation Instrument (P/OI)

DEVELOPER: Teacher Assessment Unit
Division of Staff Development
Georgia Department of Education

DATE: 1985, revised version

AVAILABILITY: Teacher Assessment Unit
Division of Staff Development
Georgia Department of Education
Atlanta, Georgia 30330
or from the regional assessment centers (RAC)

Copyright: Yes

Cost: Not indicated

DESCRIPTION: The P/01 is designed to assess teacher competence on two dimensions: (1) planning for instruction, evaluating learner progress, and using acceptable written expression, and (2) observing teacher skill in the classroom. The planning component addresses the following competencies:

1. Plans instruction to achieve selected objectives
2. Obtains information about the needs and progress of learners
3. Demonstrates acceptable written and oral expression and knowledge of the subject

The observation component focuses on the following competencies:

1. Organize time, space, materials, and equipment for instruction
2. Communicates with learners
3. Demonstrates appropriate instructional methods
4. Maintains a positive learning climate
5. Maintains appropriate classroom behaviors

A set of indicators for assessing these competencies is also provided.

Intended Population: The P/01 is specifically designed for initial teacher certification purposes, but it can also be used in training, teacher preparation, and research. It is also promising for use in ongoing teacher evaluation.

ADMINISTRATION:

When: Twice per year, or until performance requirements have been reached on all competencies

Time: Entire class period

Conditions for Use: Teachers must prepare and submit a portfolio representing a 7-10-day instructional unit for the assessment of the planning competencies. Teaching skills are evaluated through direct, scheduled observations of instruction as the teacher implements the lessons that have been planned and prepared in the portfolio. Teachers are rated by trained external evaluators and administrators.

Scoring: A user's manual provides guidelines for the scoring procedures.

INSTRUMENT DATA:

Reliability/Validity: Both have been established in the instrument's developmental phase.

Figure 7. Planning/Observation Instrument (P/OI)

TITLE:	Student Time-on-Task Observation Guides (Class Observation and Student Observation)
DEVELOPER:	Ida M. Halasz and Karen S. Behm
DATE:	1983
AVAILABILITY:	The National Center for Research in Vocational Education The Ohio State University 1960 Kenny Raod Columbus, Ohio 43210-1090
Copyright:	No
Cost:	Not included

DESCRIPTION: To determine how time is spent in vocational education classes

Content:	The class observation guide is used to record the classroom activities of all the students and the teacher in a class during each minute. The student observation guide is used for observing individual students.
Number of Items:	Not applicable
Type of Items:	Coding observations
Intended Population:	Students and teachers
Respondents:	Observer

ADMINISTRATION:

When Administered:	Periodically
How Administered:	On-site, in classroom
Time Recommended:	Class period
Response Mode:	Recording observations
Scoring:	Keypunched and machine scored

TEST DATA:

Reliability:	Interrater reliability was found to be adequate.
Validity:	Content validity

Figure 8. The Student Time-on-Task Observation Guides

TITLE: Flanders System of Interaction Analysis

DEVELOPER: Ned A. Flanders

DATE: 1970

AVAILABILITY: Refer to Flanders (1970)
Addison—Welsey Publishing Company

Copyright: Yes

Cost: Not indicated

DESCRIPTION: This observation instrument is used to analyze the influence of teachers in the classroom.

Content: The instrument classifies teacher and student behaviors in a 10 x 10 matrix on the following 10 categories:

Teacher—Indirect Influences

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

Teacher—Direct Influences

5. Lectures
6. Gives directions
7. Criticizes or justifies authority

Student Categories

8. Student talk—response
9. Student talk—initiative
10. Silence or confusion

Number of Items: Not applicable

Type of Items: Observation coding

Intended Population: Teachers

Respondent: Trained observer

ADMINISTRATION:

When: Periodically

How: On-site, classroom

Time: Class period

Response Mode: Observation coding of behavior

Scoring: Hand scored, frequency tabulation

TEST DATA:

Reliability: Coefficients of observer agreement have been reported to be as high as .85.

Validity: Not indicated

COMMENTS: For additional information, refer to Borich and Madden (1977).

Figure 9. The Flanders System of Interaction Analysis

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Student Rating of Teachers

Description

This section discusses the use of student ratings in evaluating instructional staff. The discussion focuses on two basic methods of using student ratings: (1) student questionnaires and (2) student interviews.

Of all the information sources available for use in evaluating instructional staff, student rating of teachers' performance is one of the most valid, reliable, defensible, readily accessible, efficient, and cost-effective. The use of student feedback for the evaluation of instructors dates back to the Middle Ages. More formalized implementation started at Harvard and the University of Washington in the 1920s, when students began collecting the results of their assessment of instructors' performance to share with other prospective students (Eastridge 1976).

The day-to-day close contact that students have with their teachers places students in an ideal position to document the teaching and learning transactions that take place in the classroom. Braskamp, Bradenburg, and Ory (1984) note that "as the primary recipients of instruction, students can provide an impartial and unique insight into the evaluation process" (p. 36). The student ratings approach consists essentially of asking students who have been exposed to the teaching of a particular instructor to document the teaching and learning transactions that went on in the classroom. These ratings are then used to evaluate the instructor's effectiveness.

Approaches and Techniques

Student questionnaires. The student questionnaire is a paper-and-pencil instrument designed to elicit students' reactions to their teachers and their courses of study. Machine-scored questionnaires are useful for collecting large amounts of data within relatively short periods of time. These data can be processed by a central system with speed and accuracy at relatively low cost. With various statistical software packages, the data can be subjected to different computer analyses to facilitate their interpretation and use.

Machine-scored questionnaires use objective questions, by which students rate various aspects of teaching on a scale. Centra (1982) notes that the following dimensions of student ratings are commonly included in such questionnaires:

- Organization, structure, or clarity
- Teacher-student interaction or rapport
- Teaching skill, communication, or lecturing ability
- Work load and course difficulty
- Grading and examinations
- Impact on students and student self-rated accomplishments
- Global, overall ratings (p. 23)

Hand-scored questionnaires can be designed much the same way as machine-scored questionnaires; however, they can also use open-ended questions. Objective questions are easy to score using an answer key. Open-ended questions can generate rich, in-depth information but are much more difficult to score and assess. Decisions about which questionnaire format to use depend on what information is needed. Objective questions can cover a wide array of topics within a short time. Open-ended questions are more time-consuming to administer and tend to be narrowly focused, but they yield more complete information and provide a better understanding of the topics under investigation. Often, both formats are combined in a single instrument.

Student interviews. Student interviews can be used to elicit student reactions to a particular course or a particular teacher. This evaluation strategy is used less frequently because it is costly. Even so, it can yield important information not readily obtainable through student questionnaires. The interview setting offers a unique opportunity for interviewers to prompt for additional student feedback on responses requiring further clarification and insight.

Sometimes it is useful to interview all or a sample of students in a particular course or of a particular instructor. Student interviews can be structured or informal. Zemke and Kramlinger (1981) identify the following common features of a structured interview:

> First, the interview is the only contact we will probably have with the informant. Second, the interviewee is in a unique position and is privy to information we can only obtain from him or her. Third, the interview is positioned as a formal, fact-finding affair; it is scheduled, planned, has rules of conduct, and a defined focus. Fourth, the results are formally analyzed in some fashion. (p. 100)

Informal interviews tend to be more spontaneous than structured interviews. However, structured interviews generally yield more objective, valid, and reliable information. The use of an interview protocol also helps to generate more objective data.

Issues in Use

There is general consensus among educators and instructional developers that students play an important role in the revision of instructional materials during the instructional design process. The most common technique used to elicit student input in this process is that of learner verification and revision (LVR). The rationale for evaluating and revising instructional materials is that if the assumptions made in the design process rest on weak learning theories, the resulting product may be weak or flawed. Systematic tryout of materials with students through LVR provides an opportunity to validate these assumptions empirically and to identify and correct errors in the materials.

The use of student feedback to evaluate teaching raises substantial concern and controversy among educators. Some of these concerns are expressed by Aleamoni (1981) in the following passage:

> Faculty have solicited and chastized them (i.e., student ratings), whereas students and administrators have requested, used, misinterpreted, and misused them. Faculty, students, and administrators have all claimed, at one time or another, that the ratings are both reliable, valid, and useless. (p. 110)

Student ratings of teachers can be used both formatively (for improvement of instructional delivery) or summatively (for personnel decisions). McGreal (1983) presents the following cautions, however, about using student feedback for summative purposes at the elementary and secondary school levels:

> Teachers generally lack faith in the students' ability to accurately rate their performance. In many respects, their fears are justified. There is not a great deal of support for the accuracy of student ratings [at these levels], and the support that does exist is not enough to justify using student ratings in any summative evaluation sense. (p. 134)

He adds the following:

> The major ingredient for successful use of student evaluation is the acceptance of the idea that students are much more reliable in describing life in the classroom than they are in making evaluative judgement of the teacher. (p. 134)

According to McGreal, student ratings should only be used to help beginning and nontenured teachers identify their weaknesses. He believes that because tenured, experienced teachers are at a "different stage of development, student evaluation should not be required of them" (p. 136) unless, of course, there is a joint agreement between the teacher and the supervisor.

The use of student rating as a teacher evaluation strategy has not gained widespread use at the elementary and secondary school level, probably because of doubts and concerns about the age and maturity of the students and their ability to provide thoughtful and accurate information. A National survey conducted by the Educational Research Institute (Kowalski 1979) indicates that only a very small percentage of the elementary and secondary schools surveyed (1.7 percent of elementary schools, 1.8 percent of junior highs, and 2.1 percent of high schools) actually use students as a source of information for the evaluation of teachers. In most cases, the evaluation results are used for formative evaluation purposes.

These cautions about using student feedback in evaluating elementary and secondary schoolteachers is perhaps due in part to the paucity of research in this area. Peterson and Kauchak (1982) cite a few studies that support the use of student ratings at the elementary and secondary school level; on the other hand, Eastridge (1976) found disagreement among research findings on the validity of student evaluation at these levels. Eastridge does cite a few studies, however, that indicate that student feedback tends to be more effective than feedback from supervisors in changing teacher behavior.

Another explanation for the apparent lack of interest in using student evaluation for assessing elementary and secondary schoolteachers may be related to the lack of resources necessary for processing, analyzing, summarizing, and interpreting the massive amount of information often collected from students. With the increasing availability of computers in schools and affordable software packages, however, these problems are vanishing. Special machine-scored student questionnaires can be designed for scoring using a microcomputer and an optical scanner.

At the postsecondary level, student ratings of faculty effectiveness have become an accepted evaluation resource in many university and community college settings. Student evaluation of postsecondary instructors has been legitimized by a substantial amount of research documenting its appropriateness, validity, and reliability. For example, Centra (1982) reports reliability coefficients of .70 to .90 for student ratings of postsecondary teachers. Because reliability seems to be lower with a small sample of raters, however, evaluation results should be used only for improvement purposes. For personnel decision purposes, both the number of raters and the number of teachers and classes being rated should be given careful consideration in order to ensure high reliability.

Research studies (e.g., Centra 1982) have also shown that some factors have nothing to do with teacher effectiveness and cannot be controlled by the teacher, yet can directly influence student ratings. Some of these factors are class size, subject matter, type of course requirement (i.e., elective or required), and grade expected.

In the absence of further research on whether student ratings should remain anonymous, it is probably best to keep the process confidential. An effective, anonymous rating will avoid instruments that require writing, thereby eliminating any chance that a student's handwriting will be recognized. Unfortunately, this procedure limits the expression of student perceptions. Keeping student evaluations anonymous must also be considered when conducting face-to-face student interviews. In this case, using an interviewer such as a peer or another teacher from another school or different department may effectively preserve student anonymity.

Advantages and Disadvantages

Student rating is a viable source of teacher evaluation data. As with other techniques, however, it has its strengths and weaknesses. The following are some of the advantages associated with student ratings:

- Student ratings can generate valid, reliable, and defensible data if they are obtained carefully.
- Students are in a unique position to make valid judgments about their teachers and courses.
- Other strategies only collect data from a slice in time, whereas student ratings can provide a more complete picture of life in the classroom over longer periods of time.
- Student ratings of teachers correlate with their achievements.
- Teaching activities are often based upon weak assumptions and weak instructional theories; student ratings can validate teaching processes.
- Comparisons of ratings across courses can provide unbiased estimates of overall teaching effectiveness.

The major disadvantages of having students rate teacher performance are as follows:

- If ratings are not kept anonymous, students may not reveal their true perceptions of their teachers' effectiveness.
- If the process is not kept anonymous, it may have negative consequences for students.
- Some extraneous factors, such as class size, subject matter, type of course requirements, and expected grade, may confound evaluation results.
- Student ratings are perceived negatively by some instructors, more so at the elementary and secondary school level.
- It is possible for teachers to manipulate student ratings in their favor.
- Positive bias in student ratings can mislead teachers who need improvement.
- Administrators would be advised to avoid using student ratings gathered for teacher improvement purposes when making personnel decisions.

Applications in Vocational Education

The review of the literature and research on student ratings provides no special indicators to support or negate the use of this strategy in evaluating vocational teachers. In fact, no specific research studies related to using student ratings in vocational education were identified. The following speculations about its applications, however, would seem useful:

- Because of their long and continuous exposure to their teachers, vocational students are in a favorable position to evaluate their teachers' effectiveness reliably.

- Vocational education students are, in general, mature enough to judge the quality of teaching to which they have been exposed.

- Vocational students can evaluate their exposure to both classroom and laboratory teaching.

- Vocational education is results oriented, which often leads to tangible project outcomes. This feature provides a unique and concrete means of comparing the effectiveness of the teaching processes to student outcomes.

- Critical competencies required by vocational teachers have been empirically identified and validated nationally by the National Center. If these competencies are included in student rating forms, areas in which individual teachers need improvement can be accurately identified. The National Center has developed performance-based, individualized, self-study modules for all critical competencies needed by vocational teachers. These modules can be prescribed to address improvement needs. For example, if student evaluations indicate that the course objectives were not clearly formulated, the National Center module entitled *Develop Student Performance Objectives* can be used to improve this set of skills.

- Vocational education often includes a cooperative education component, whereby the school program is supplemented through training in business and industry. This gives vocational education students a unique opportunity to assess the relevance of their schooling to the occupational requirements and to their career objectives.

- Because of the nature of vocational education, where instruction is frequently provided on a one-to-one basis, students have more opportunity to know their teachers and thus provide a more reliable assessment of teaching effectiveness.

All of these features promise to make student rating a viable tool for the assessment of vocational teachers. Because these features tend to cut across the subject matter and levels of vocational education, they apply to both secondary and postsecondary teaching.

The literature reflects very strong support for using student rating of instructional staff for formative evaluation purposes. Student rating of teachers can provide useful information not readily generated by other techniques. Further, in combination with other sources of information, student ratings have the potential to improve vocational teacher quality and the quality of instruction in vocational education. Some of the instruments available for use in obtaining student input on teacher performance are described in figures 10-13.

TITLE: The Student Perceptions Instrument

DEVELOPER: Teacher Assessment Unit
Division of Staff Development
Georgia Department of Education

DATE: 1985, revised edition

AVAILABILITY: Teacher Assessment Unit
Division of Staff Development
Georgia Department of Education
Atlanta, Georgia 30330
or from the regional assessment centers (RAC)

Copyright: Yes

Cost: Not indicated

DESCRIPTION: The Student Perceptions Instrument is intended to determine how students perceive the performance of their teacher in selected areas in order to identify improvement needs for staff development purposes. When using this instrument, the students rate their teachers on 35 competency indicators on a 3-point scale: NEVER, SOMETIMES, OFTEN.

Intended Population: All learners from grade 3 and above

ADMINISTRATION:

When: During the middle of the school year or when students have had sufficient time to get to know their teachers

Time: Not indicated

Condition for Use: The instrument is administered by an external evaluator, in the absence of the teacher being assessed. Questions are read aloud to the students.

Scoring: All completed instruments must be sent to the RAC for processing.

INSTRUMENT DATA:

Reliability: Not indicated

Validity: Not indicated

Figure 10. The Student Perceptions Instrument

TITLE: Student Perceptions of Teacher Style (SPOTS)

DEVELOPER: Bruce W. Tuckman

DATE: 1970

AVAILABILITY:

For Further Information: Refer to Tuckman (1970)

Copyright Yes

Cost: Not indicated

DESCRIPTION: The instrument is designed to measure student perception of teacher directiveness.

Content: Each item consists of a stem followed by a response scale. Example:

Your instructor is mainly concerned with–

1 2 3	4 5 6	7 8 9
The number of facts you know.	Getting an idea across to you.	Your ability to think for yourself.

Number of Items: 17

Type of Items: Rating scale

Intended Population: Teachers

Respondent: Students

ADMINISTRATION:

When: Not indicated

How: Self-administered

Time: Not indicated

Response Mode: Consumable instrument

Scoring: Hand scored

TEST DATA:

Reliability: Interrater reliability was determined to be sufficient

Validity: Not indicated

COMMENTS: For additional information, refer to Borich and Madden (1977).

Figure 11. The Student Perceptions of Teacher Style Instrument (SPOTS)

TITLE: Classroom Climate Questionnaire (CCQ)

DEVELOPER: Herbert J. Walberg

DATE: 1966

AVAILABILITY:

For Further Information: Refer to Walberg (1966)

Cost: Not indicated

DESCRIPTION: The CCQ is designed to assess the climate of the classroom as perceived by students.

Content: The CCQ yields 18 subscores on the following dimensions of classroom climate.

1. Friction
2. Classroom Intimacy
3. Goal Direction
4. Group Status
5. Interest Heterogeneity
6. Goal Diversity
7. Group Status
8. Democratic
9. Subservient
10. Satisfaction
11. Strict Control
12. Disorganization
13. Alienation
14. Personal Intimacy
15. Stratification
16. Egelitarian
17. Formality
18. Speech Constraint

Number of Items: 80

Type of Items: Likert type

Intended Population: High school juniors and seniors

Respondent: Students

ADMINISTRATION:

When: Periodically

How: On-site, classroom

Time: Not indicated

Response Mode: Paper and pencil; consumable instrument

Scoring: Hand or machine scored

TEST DATA:

Reliability: Split-half reliabilities for the 18 factors have been reported to range from .41 to .86.

Validity: Validity of the CCQ is based on nonrandom standardization sample.

COMMENTS: For additional information, refer to Borich and Madden (1977).

Figure 12. The Classroom Climate Questionnaire (CCQ)

TITLE: An Instrument to Assess Student Attitudes toward Instruction (Student Instruction Attitude Inventory)

DEVELOPER: Curtis R. Finch

DATE: 1970

AVAILABILITY:

For Further Information: The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210-1090

Copyright: Yes

Cost: Not Indicated

DESCRIPTION: This instrument is designed to measure students' attitudes toward instruction.

Content: Example—The instruction was very boring.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Disagree

Number of Items: 47

Type of Items: Likert type

Intended Population: Students in vocational education

Respondent: Students

ADMINISTRATION:

When: End of course evaluation

How: On-site; classroom setting

Time: 10 minutes

Response Mode: Paper and pencil; consumable questionnaire

Scoring: Keypunched and machine scored, hand scored, optical scanning

TEST DATA:

Reliability: Not indicated

Validity: Not indicated

Figure 13. Student Instruction Attitude Inventory

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Peer Review

The use of teacher evaluations of peers and colleagues is a concept that has been used extensively at the university and college level for some time. Such evaluations are gaining ground as an additional source of data for teacher evaluation at other levels of the educational system. The strategy discussed here has promise as an alternative for assessing vocational teachers.

Description

The peer review approach to teacher evaluation consists of a process whereby a colleague known to be competent both in a particular subject-matter area as well as in pedagogy documents the teaching practice of a fellow teacher through various evaluation strategies in order to establish the fellow teacher's instructional effectiveness. The peer review evaluation strategy is not in widespread use at the elementary and secondary school levels. Kowalski (1979) indicated that only 3.0-3.5 percent of the sample elementary and secondary schools he surveyed reported using peer review as part of their teacher evaluation process. Growing public pressure for more and better teacher evaluations, however, has led some States and large public school systems to adopt the peer review process.

Peer review can be used for making both staff improvement and personnel decisions. The sections that follow describe the use of peer review for formative and summative teacher evaluation.

Formative evaluation. When used as a staff improvement tool, the peer review technique can be implemented in two distinct forms: (1) teacher-mentor and (2) peer-to-peer reviews. In the *teacher-mentor model*, the mentor is presumed to be a master teacher with broad knowledge, skills, and experiences. The mentor may assist the teacher comprehensively through such activities as classroom observation, assistance in lesson planning, and assessment of student evaluation instruments. Although the responsibility for improvement of performance rests firmly on the shoulders of the teacher, the mentor acts as a role model, resource person, and linker to additional sources of assistance. Thus, the mentor must have good leadership skills and be capable of advising adults.

The one-on-one approach to evaluation may require considerable time and energy on the part of both teacher and mentor. The mentor needs time not only to evaluate and counsel but also to prepare before each intervention. The Charlotte-Mecklenburg (NC) program explicitly allocates one-half day a month for each provisionally certified teacher and mentor team to work together. The Toledo (OH) school system peer review plan assigns a full-time consulting teacher to no more than 10 new interns in any given school year (Lawrence 1985).

In general, costs to the system may include the costs of replacing the mentor in the classroom, offering incentives to encourage teachers to take additional responsibilities as mentors, and providing training for both mentors and interns. The benefits of such an approach, however, may well outweigh the costs involved.

Investment in a formative peer review process early in the working life of a teacher helps establish sound professional practices—an invaluable foundation for building a successful teaching career. Problems are much more likely to be diagnosed and corrected early, resulting in greater teacher satisfaction and instructional quality. This is especially relevant in vocational education, where many new teachers have little or no previous training in pedagogy or experience in teaching.

In addition to the potential benefits to the intern teacher and the students, the mentor process also offers advantages for the mentor. Mentors may use the process to develop or refine their own leadership, counseling, and teaching skills. Increased monetary gains, higher status, and renewed motivation represent additional rewards to mentors. Teachers may benefit by developing a forum for discussion of their craft among others, rather than experience the frustration and isolation that has often characterized the profession in the past.

The **peer-to-peer** model is also used in the context of formative evaluation, that is, staff improvement. The major characteristics that differentiate the peer-mentor and the peer-to-peer processes are (1) the relationship of equal status existing between peers, as opposed to the superior status of the mentor in the peer-mentor relationship; and (2) the level of formality of each process. Peer-to-peer review may be more informal, with no specified time frame, or it may revolve around a specific staff development activity.

Stallings (1984) has devised a model whereby peers observe each other in the classroom and "collect data" to be used by the observed teacher only for improvement purposes. All information collected is strictly confidential, and participating teachers sign an oath to this effect. The types of information to be collected, as suggested by Stallings, include the specific behaviors of students and teachers in a framework that allows for time-on-task analysis. (This, of course, may be varied according to the intended focus of the staff development.)

Another option has supervisor, administrator, or other facilitator guide a group of six to eight teachers in interpreting and analyzing the results of their mutual observations. Another approach involves viewing and analyzing videotapes of a faculty member by peers as a growth experience for the entire group.

One form of peer-to-peer review can occur in the process of team teaching. This particular model has been used successfully in a vocational setting in which a vocational instructor is paired with a technical expert from industry to teach a specific topic in which the teacher has only a limited knowledge. The vocational instructor provides the instructional expertise and the technical expert brings the technical knowledge. The two may work together to develop a curriculum that facilitates students' learning while providing technically up-to-date information. Each peer may learn something from the other in the process.

Similarly, pairs or small groups of instructors with various levels of subject-matter expertise and interest may use the team teaching approach to observe each other's teaching and to improve their own instructional strategies. Each of these peer review techniques is geared toward improvement and each necessitates the open, honest sharing of information among peers. Diagnosing problems and evaluating teacher performance is the joint responsibility of the reviewer and reviewee and, therefore, implies a trust on the part of each that the information so obtained and shared will not be used to harm the reviewee in any way.

Summative evaluation. The tradition of peer review in summative evaluation is the foundation of the faculty personnel decision-making process at the university and college level. In this context, peer review serves any combination of the following purposes:faculty appointments, promotions, granting of tenure, selection of manuscripts for publication, and approval of research grants. Since the introduction of summative peer review at the elementary and high school level is very recent, most of the issues, arguments, and methods discussed here relate to application at the postsecondary level.

One of the major arguments in favor of using peers in the summative evaluation process is that since peers have had experiences involving the conditions in a given school and in similar or identical classrooms, they will be more likely to make valid judgments about the appropriateness of various teaching practices and behaviors. The problom with this approach, of course, lies in the lack of certainty with which such judgments can be made and the lack of knowledge related to actual student outcomes. This point is illustrated by Wise et al. (1984) in the following case-study example:

> Through interviews with teachers and administrators who had served on remediation teams, the authors noticed a systematic intolerance of teachers who departed too blatantly from conventional strategies, even if they were educationally effective. (p. 9)

Clearly, peers bring their biases, values, and understandings of the world with them to the evaluation process. Thus, the use of peers in summative evaluation invoives questions as to the validity and reliability of their judgments. For example, Centra (1982) found that rating of teacher classroom performance by peers and administrators is often based primarily on teachers' reputations and evidence from student evaluations. When peers rate colleagues' overall instructional effectiveness on the basis of actual classroom observation (with no prior exposure to student evaluations or information about teacher "reputation"), the ratings tend to be overinflated and unreliable, and the results do not correlate with student ratings or ratings performed by administrators.

Many studies conclude that the notion that peers are somehow inherently better prepared and in a better position to evaluate the teaching effectiveness of their colleagues is a misconception. Clearly, several factors will make a difference in their ratings. Included among these are the following:

- The ability of peers to assess performance, which depends upon the number of repeated observations of random and representative samples of performance
- Training of observers with regard to the observations expected and observational and recording techniques
- The availability and quality of additional "evidence," such as student evaluations
- The nature of the rating instrument and whether it elicits responses on specified behaviors or on overall performances
- Whether multiple sources of independent observations are available

In order for peer evaluation to be successful, Dienst (1981) suggests the following guidelines:

- A sufficiently large number of colleague evaluators should be selected.
- Colleagues should have fair knowledge of the subject matter. and they should be perceived as being fair.
- Each colleague should make at least two visits. The faculty being evaluated should participate in organizing the classroom visits to ensure that the nature of the particular classes visited are more or less typical, especially where a variety of teaching methods is used (i.e., lecture, discussion, student presentations, labs, and shops).

- The criteria by which colleagues are to make observations and evaluations should be made explicit and should reflect broad departmental consensus.

- Information collected by peers should reflect only what they are in a position to observe (i.e., coverage of a topic or appropriateness of teaching strategy and student participation, as opposed to availability outside of class and student participation).

- Confidentiality of sources and findings is required if the peer review process is used for personnel decisions. This is less necessary when the information is used for formative purposes only.

Issues in Use

Because peer evaluation, more than any of the other strategies examined, implies a shift in the roles and responsibilities of both teachers and administrators, what happens during the transition stage is critical to the success or failure of this type of program. No transition is entirely smooth or without its opponents; however, in anticipation of potential problems, the following suggestions are offered:

- Include both teachers and administrators at all levels if they will be affected by the outcomes in the decision-making process.

- Provide ongoing training for both teachers and administrators in both the evaluation processes and in mentoring and leadership roles.

- Encourage frank, open communications with a sincere effort to try to solve peer review problems as they arise.

Of the school systems visited in the conduct of this study, two used peer reviews as an integral part of the overall evaluation process. The Toledo (OH) public school system used 20 consulting teachers, selected on the basis of their exemplary teaching to assist new intern teachers as well as veteran teachers who might be having specific difficulties. Once in place, the peer review system at Charlotte-Mecklenburg (NC) will draw from a pool of "Career I" (highly experienced) teachers to act as mentors for new and provisionally certified teachers and to serve as members of their provisional advisory assessment (PAA) teams.

In both of these school systems, the peer reviewers are experienced and respected teachers who have additional training in assessment and mentoring techniques. Although the primary role of these individuals is one of formative evaluation, they also participate in the summative decision-making process as it affects new, provisionally certified teachers. In the Toledo school system, where peers are also used to help diagnose and intervene in cases of tenured teachers, their participation is purely formative in nature (Toledo Public Schools 1983).

The extent to which development and growth occurs as a result of the peer process will determine its usefulness. This is an important consideration for administrators and teachers alike, because there are many ways in which evaluation and staff development funds and other administrative resources might be allocated. One test of the usefulness of formative peer reviews as an alternative for teacher evaluation is whether the results of staff development that were planned on the basis of peer reviews are more effective, less effective, or comparable to those achieved through alternate programs or approaches.

Clearly, peer selection and matching can have considerable impact on the effectiveness of the overall process. Selection of mentors requires a much more extensive screening process than selection of individuals to participate in a peer-to-peer review process. Knowledge of facilitation skills, a keen understanding of human development, and appreciation for the needs of adult learners are skills that should be required of peer and mentor reviewers if the peer review process is to succeed.

Advantages and Disadvantages

Although peer review is a viable option in teacher evaluation, it is not a panacea. As with other approaches, peer review has its strengths and weaknesses. The following advantages of peer review are associated with the implementation of peer review in a teacher evaluation system:

- Peer review helps make teachers more responsible professionals capable of monitoring their own growth and development as well as those of their colleagues.
- If implemented properly and within the appropriate organizational climate, peer review can remove the threatening aspects of performance appraisal.
- Peer review can broaden the focus of teacher evaluations to include the content area. Traditionally, evaluation activities have been restricted to teaching effectiveness. Peer review brings in subject-matter expertise as an additional dimension to the evaluation process.
- The collegial approach to evaluation through peer review can help change the negative connotation of teacher evaluation.
- Peer review provides opportunities for more frequent evaluation and more direct monitoring of interventions than do other methods.
- Peer review can help minimize problems associated with the validity and reliability of evaluation data.

The following are some disadvantages associated with using peer review to evaluate the performance of vocational education teachers:

- Peer review can be costly to implement.
- The appropriate organizational climate necessary for successful peer review implementation may be difficult to create.
- Training and support for peer reviewers and mentors are critical for successful implementation. When peer review is used in systems having other summative evaluation mechanisms in place, conflicting information from all evaluation techniques can create serious problems and lack of confidence in the results.
- In schools where many teachers have little real commitment to teaching, the process will result in little improvement.

Applications in Vocational Education

The peer review process has great potential for application in vocational teacher assessment aimed at teacher improvement, although its application for personnel decisions is not clear. The most important condition for successful implementation of the peer review process in vocational education is the existence of an appropriate organizational climate. A supportive and collaborative organizational climate, open communication channels, and an administration that supports and fosters academic excellence are required. In addition, peer reviews probably should not be used in a school system experiencing staff surpluses that are the result of decreasing enrollment because such a practice can generate an undesirable climate in the school.

Implementation of peer review, however, should not create a sense of competition within the school. Improvement should be viewed as a team effort, and all team members must feel that they have the entire support of the school. Teachers should be involved in the choice of their peer reviewers, and personality conflicts that may arise between peers must be identified and resolved.

In vocational education, peer reviewers need not always be matched on the basis of subject-matter expertise. In fact, there can be beneficial matches between vocational teachers and academic teachers. Mutual collaboration between them can help make the teaching of basic skills more effective and relevant to vocational education students and enhance their infusion into vocational education teaching.

Adequate training should be provided for both school administrators and teachers before the peer review process begins. The confidentiality of the information gathered through peer reviews must be guaranteed. Also, prior agreement is necessary to ensure that information gathered for staff improvement purposes will not be misused for personnel decisions.

A qualified, neutral arbitrator should be identified and available to settle conflicts between peers and to provide necessary teacher counseling that may be beyond the capabilities of peer reviewers. Time for peer counseling, as well as adequate time for preliminary preparation for such activities, should form part of the reviewers' and mentors' normal work loads. Salary incentives are appropriate for these additional responsibilities.

The conditions related to the successful implementation of the peer review process in vocational education that have been outlined in this section by no means constitute an exhaustive list. Rather, they reflect some of the major concerns that must be considered in implementing a peer review process.

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Self-Evaluation

Description

The teacher self-evaluation strategy is based on the premise that, as presumably competent professionals, teachers ought to be able to critique their own performance. The validity of this premise may vary, however, depending upon who requests the information, the purpose of the evaluation, and the approach or method needed to obtain the information necessary to make the judgment.

The purpose of teacher self-evaluation may be as follows:

- **Informative**—Teachers provide descriptive information about their activities and accomplishments that may be highly relevant for assessing performance but difficult for others to obtain by other means.

- **Evaluative/Judgmental**—Teachers rate their performance on rating scales, questionnaires, or in other forms of self-reports, such as reacting to videotapes. Factual reports/documents provided by the teacher may be used as a part of an overall summative decision-making process. This is a particularly common practice at the postsecondary level, where faculty are expected to submit curriculum vitae of their accomplishments as well as other documentation of their performance (e.g., papers, and so forth) to be evaluated by their peers and administration for tenure and other personnel decisions. On the other hand, it is not normally deemed proper for teachers to be asked to make evaluative or judgmental statements of their own performance (or, for that matter, even developmental-type statements) for the purpose(s) of summative evaluations.

- **Developmental**—Teachers express an interest, desire, or need for further development in specific areas and via specific learning mechanisms. Teacher self-assessment may be used to determine development needs not only of individual teachers, but also of groups of teachers, and to prioritize overall staff development programs so they will do the most good.

Teacher self-assessment may involve a variety of approaches or techniques. Iwanicki and McEachern (1984) offer a set of strategies for teacher self-assessment that are based upon the type of information. These are as follows:

- **Individual Assessments**—These may include personal reflection, an analysis of classroom audiotapes or videotapes, and self-assessment checklists. They always involve the teacher in the assessment process. They provide information about teacher behavior that is known to the teacher and that he or she may or may not choose to share with others.

- **Feedback Assessments**—These may include student evaluation ratings provided by peer teachers and supervisory staff, and *interactive assessments*, such as microteaching videotapes. These strategies involve others in the assessment process, at the request of the teacher. Interactive assessment may, in addition, provide a forum for the teacher and others to discover new information about teacher behavior that was unknown prior to assessment.

Most theoretical literature on self-evaluation focuses upon individual assessments, whereas other literature reveals that most self-evaluation programs possess a more comprehensive nature

that involves some feedback and interaction. Recognizing that instructors may use multiple evaluation techniques in deriving information for self-evaluation, Carroll (1981) discusses five techniques or aids that are unique to self-evaluation: self-rating forms, self-reports, self-study materials, observation of colleagues' teaching, and videotape and audiotape feedback of one's own teaching.

Centra (1982) reports that the use of self-reports and evaluations by university department chairpersons for purposes of promotion and tenure decisions is minimal. Even where this information is used for summative evaluation, department chairpersons surveyed by Centra ranked self-evaluation as ninth among a set of 15 criteria.

No comprehensive data currently exist on actual use of self-evaluations for formative or summative purposes, but there is ample testimony to the importance and relevance of teacher self-evaluation for the purposes of staff development and improvement. Self-evaluations are used by teachers at all school levels, and the process is as suitable for vocational instructors as it is for academic instructors.

Issues in Use

Studies (e.g., Centra 1973; Webb and Nolan 1955) of the relationship between student ratings of teacher performance and teacher self-ratings have found correlations from as high as .62 to as low as .21. Centra also found that teachers with no previous exposure to student ratings tend to rate their performance higher than do their students. However, once given feedback from results of student ratings, these teachers tend to decrease their self-ratings (Braskamp and Caulley 1978) or they improved their teaching (Centra 1972), so that subsequent comparisons show a higher correlation between student ratings and self-ratings.

Blackburn and Clark (1975) found considerable divergence between teacher self-rating and ratings by colleagues and administrators. On the other hand, they found correlations of the latter two to be much higher with each other as well as with student ratings. At the high school level, McAfee (1975) found no significant correlation between the responses of teachers and supervisors on estimates of teacher abilities, professional skills, attitudes, public relations, and knowledge and use of various methods and techniques of teaching.

All of these data, however, are based upon assessments of absolute levels of performance. Studies that compare relative strengths and weaknesses of teacher performance in specific sets of skills show much higher correspondence (.77) between student and self-ratings (Centra 1973; Marsh, Overall, and Kesler 1978).

Advantages and Disadvantages

Carroll (1981) provides an excellent description of many of the advantages and disadvantages of teacher self-evaluations, as well as some conditions to be considered for their appropriate use. The following arguments are abstracted.

Advantages. If the ultimate goal of the evaluation process is teacher development or improvement, then this form of evaluation is useful in that individual teachers are more likely to act upon self-gained data than upon information from other sources (Centra 1972). Also, instruments, programs, and projects that are based upon input/feedback from self-evaluations are more likely to be perceived as relevant by the teachers for whom they are developed.

Disadvantages. The disadvantages of teacher self-evaluation deal primarily with the type of self-evaluation that is based solely upon individual assessment, rather than self-evaluation that incorporates feedback or interaction with others. The majority of self-evaluation data lack credibility for most decisions except those involving self-development. The primary concern is the ability of the individual teacher to assess his or her own performance accurately and objectively. This concern is particularly acute when the purpose of the evaluation is to make summative types of decisions, although many question its validity even in less threatening situations as well.

Applications in Vocational Education

Thus far, no reports have been found that specifically outline the roles of teachers' self-evaluation in vocational education. However, this is no indication that the technique as used in traditional academic teaching settings cannot also be adapted to vocational teacher evaluation.

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