

Conceptions of Beginning Teacher Quality: Models for Conducting Research

Prepared for the Center on Personnel Studies in Special Education

EXECUTIVE SUMMARY

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COPSSE research is focused on the preparation of special education professionals and its impact on beginning teacher quality and student outcomes. Our research is intended to inform scholars and policymakers about advantages and disadvantages of preparation alternatives and the effective use of public funds in addressing personnel shortages.

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INTRODUCTION

Efforts to define teacher quality in special education are complicated by the variety of roles special educators play in schools and by the diversity of the children they serve. This paper reviews the trajectory of general and special teacher education conceptions of teacher quality and uses this context to present models for understanding teacher quality in special education. Further, the discussion critiques the appropriateness of the models for conducting research in special education teacher quality. The paper reviews teacher quality as it relates to specific populations in special education and provides recommendations for future research.

METHODOLOGY: RELEVANT LITERATURE

For this research synthesis, systematic strategies were used to locate relevant literature through electronic databases (e.g., ERIC and PsychINFO) for studies and policy papers published since 1990. Web site searches were conducted for: The Council for Exceptional Children (CEC), Interstate New Teacher Assessment and Support Consortium (INTASC), The National Board for Professional Teaching Standards (NBPTS), The National Center for Education Statistics (NCES), The Study of Personnel Needs in Special Education (SPeNSE), Teachers of English to Speakers of Other Languages (TESOL), The National Commission on Teaching and America's Future (NCTAF), and various university-related sites.

THE LANDSCAPE OF TEACHER QUALITY IN GENERAL AND SPECIAL EDUCATION

Teacher Education Research and Reform

Early studies of teachers and the factors accounting for quality in teaching were conducted in the 1940s, 1950s, and into the 1960s, when many researchers concentrated on the search for specific teacher actions that would connect directly to student learning. This *process-product* line of research on teaching, which was based on behavioral psychology and child development, focused on breaking complex tasks into easily identified parts. The language of *effective teaching* and *effective schools* was peppered with such terminology as *time on task* and *brisk-paced lessons*. The growing knowledge base on effective teaching and concerns over the use of process-product findings expanded research into the complexities of teaching, classrooms, and schools. Referred to by several terms—*learning-to-teach research*, *classroom ecology research*, and *interpretive research*—this large, varied program of research focused on understanding the complexities of teachers' actions and interactions with students and contexts. In contrast to process-product research, these lines of research are grounded in cognitive psychology and represented by a diversified array of approaches to the study of teaching. During the 1970s, 1980s, and into the 1990s, the literature grew rich with research on teacher planning/decision-making, teacher thinking, teacher beliefs, and novice versus expert, among other topics. Research on teacher knowledge of subject matter and of teaching and learning expanded.

The 1970s and 1980s brought a new wave of school reform (e.g., teacher empowerment and site-based management) and debates about the worth of process-product research findings. Growing dissatisfaction with schools and teachers by policy makers and the public led to a third wave of research and school reform. Much of this dissatisfaction grew from evidence that federal programs and reform efforts made little difference in the achievement gaps between poor ethnic minority groups and wealthier students. The standards focus of the 1980s and 1990s, which sought to professionalize the field, resulted in: (a) major revision of the standards used by the National Council for the Accreditation of Teacher Education (NCATE); (b) national standards for beginning teaching (INTASC); and (c) national standards for accomplished teaching (NBPTS). At issue was strengthening the major quality control mechanisms for the profession—accreditation, licensure, advanced certification—to produce better quality teachers.

Currently, accountability and performance standards dominate the teacher quality agenda. Standards are being revised (e.g., NCATE) to focus on outputs—holding institutions accountable for providing data to show that their teacher candidates can do what the institution claims they can

do—rather than inputs—specifying which courses teacher candidates take. Even federal requirements (i.e., Title II) are in place to collect data from states on the quality of candidates exiting teacher education programs and entering the teaching profession.

The process-product era contributed competencies to state guidelines for licensure and offerings in teacher preparation. Similarly, the outcomes of the research grounded in cognitive psychology resulted in a focus on such components as content knowledge and specialized content pedagogy. Most recently, standards-based reform has held colleges, schools, and departments of education accountable to show with data that their candidates can do what the unit promises. Like teaching, the process of teacher education has a research base. Research findings support the approaches used to prepare a quality teacher to enter the classroom. Most importantly, research evidence is growing that teachers who are fully prepared in university teacher education programs and fully licensed by the state are more successful with students than teachers who enter the profession via other pathways.

The Intersection of Special Education and General Education

Recent revisions of national teaching and teacher education standards have highlighted how the fields of general and special education have begun to intersect. In addition to NCATE, other national standards (INTASC and NBPTS) make it clear that **all** teachers are responsible for **all** students in their classrooms, including those with disabilities. Likewise, special education's national standards have been revised (e.g., CEC) to place greater emphasis on the need to know the knowledge base in general education.

DEFINING AND MEASURING TEACHER QUALITY

Regardless of how difficult it is to encompass the concept of teacher quality, researchers and teacher educators need clear models to continue to build strong research programs. Such models have been more clearly articulated in general education than in special education. Given special education's history of limited research on teacher quality, exploration of existing models and development of new models for special education are imperative. This grows in importance as general and special education teachers work more collaboratively in schools. Teachers rightly complain that judgments based exclusively on scores from single administrations of achievement tests disadvantage teachers with large numbers of low-performing students. In special education, the problem becomes even more difficult, because classroom teachers and special educators share responsibility for educating most students with disabilities. Without a more definitive link between what special education teachers do and how much their students learn, identifying evaluation methods or approximations that are accurate and credible for teachers, researchers, and policy makers alike is especially important for special education.

MODELS AND MEASURES OF BEGINNING TEACHER QUALITY

This paper offers an original conceptual matrix of three dimensions—teacher quality models (5), research genres (5), and evaluation criteria (6)—to facilitate discussion and comparisons between selected theoretical frameworks and operational measures that have been used or could be used in teacher quality research. The paper elaborates relationships among the three dimensions.

Evaluation Criteria

The six criteria used to evaluate the models and measures of beginning teacher quality are:

1. utility
2. credibility
3. comprehensiveness
4. generality
5. soundness
6. practicality.

Utility. With regard to utility, researchers need to know whether models and measures have been used by other researchers. With a previously used measure, they can benefit from colleagues' experience with it, and their insight and advice may help them decide on appropriate measures for their own research.

Credibility. Credibility is face validity, distinguished from soundness to highlight its relativity. Although models and measures must be credible to the researchers using them, equally important is the credibility of a given model or measure for other stakeholder groups (e.g., teachers, administrators, policy makers, and families). Credibility for stakeholder groups can be inferred to the extent that they were involved in the development or validation process.

Comprehensiveness. Comprehensiveness is derived from the richness and breadth of the model or measure.

Generality. Generality requires researchers to consider how well a single model of beginning teacher quality represents the full range of contexts in which a special education teacher may work.

Soundness. Soundness is the extent to which a measure is reliable and valid.

Practicality. For practicality, researchers need to understand costs, training requirements, and the developmental work required to adapt an existing model or measure for their own purposes. All other considerations being equal, cheap, easy-to-master, and readily adaptable are preferred qualities.

Teacher Education Research Genres

Five research genres used in this paper's framework, following Kennedy (1996), are:

1. identification of factors that influence student outcomes
2. comparative studies of licensed and unlicensed teachers
3. follow-up surveys
4. experiments
5. case studies of change over time.

Factors influencing student outcomes. In spite of limitations with the genre, studies of factors that influence student learning have the distinct advantage in the current policy context of using achievement as the criterion. These studies commonly use large-scale multiple regression models to analyze the statistical relationships between a set of predictor variables and a criterion variable. Teacher education variables (e.g., licensure, specific courses) are common predictor variables, and student achievement is typically the criterion of interest.

Comparisons. Comparisons of licensed and unlicensed teachers typically involve observations of classroom practice or performance in teacher assessments, and differences favoring fully qualified teachers are expected. Such comparisons test the value of teacher preparation explicitly. Unfortunately, teacher education is treated as a consistent and uniform phenomenon, which it clearly is not; and comparative studies presume substantial differences in preparation, although even unlicensed teachers often have some teacher preparation.

Follow-up studies. Researchers operating within the follow-up survey genre presume that teachers themselves are reliable sources of information about their practices and how they were acquired. Such studies may focus on components of teacher education and thereby allow for more precision than either of the first two genres in which teacher education is considered uniform and consistent. Follow-ups that involve telephone or paper-and-pencil surveys can be administered widely for little cost. With large samples that permit stratification, teacher groups can be differentiated on key subject variables.

Experiments. In experimental studies of teacher education, a skill is taught in different fashions with different groups. Differences in skill performance may be attributed to differences in teacher education pedagogy. Experimental studies enjoy several advantages, including clear focus on teacher education components and assessment of outcomes (e.g., the skill being taught). Among the disadvantages, such studies focus on training discrete, narrowly defined skills, which are part—but not the sum of—teacher quality. Absent from experimental research are cognition, reflection, and decision-making—the elements that are thought to make effective teaching a coherent whole.

Case studies. In case studies of teacher and teacher candidate change, candidates are examined at the beginning and end of their programs and possibly more often to describe the process through which a teacher develops. Candidates' knowledge, attitudes, and beliefs are assessed. If cost were no consideration, observations of classroom practice also could be used within this genre. In good case study research, theory is used to generate and organize questions and to suggest directions for change.

Models and Measures

The five traditions of assessing beginning teacher quality are:

1. process-product observations
2. checklists for teacher evaluation
3. standards for teacher quality
4. large-scale teacher surveys
5. PRAXIS III.

Observations of effective practice in process-product research. In the typical process-product study, teachers are observed at work in their classrooms using a special coding system. For example, the Classroom Observation Keyed for Effectiveness Research (COKER) is an objective, low-inference process for observing the ongoing flow of student/teacher interaction. Foremost among the strengths of product-process methods is the potential for highly reliable measurement of the relationships between items on the observation system and key criterion variables, e.g., achievement. Among the weaknesses of process-product measures is the reliance on teachers' actions to the exclusion of internal events available through interviews, logs, and other measures. Their use also can be impractical, particularly when extensive training is required for reliable administration or research designs necessitate repeated observations over time.

Checklists for expanding concepts of effective practice. Englert, Tarrant, and Mariage described a series of detailed, moderate-inference checklists they developed for evaluating field experience students in a frequently cited 1992 paper. The checklists, which constitute a rich, detailed model of beginning teacher quality, have been expanded, adapted, and abbreviated but never widely used for research purposes. Checklists of this sort lend themselves to the same kinds of teacher education studies as process-product observational measures. These seem appropriate for use in comparative studies, experiments, and case studies of change. The full-length checklists are more comprehensive than process-product measures, including considerations of contextual factors, interactions, and community, notably missing from behavioral observation systems. Checklists seem to have wide applicability in assessing teachers of students with high-incidence disabilities.

Standards for teacher quality. CEC began promulgating teaching standards in the early 1990s and in 2001 published a revised edition of *The CEC Standards for the Preparation of Special Educators*. This document begins with narrative descriptions of 10 content standards: foundations; development and characteristics of learners; individual learning differences; instructional strategies; learning environments and social interactions; communication; instructional planning; assessment; professional and ethical practice; and collaboration. Although CEC knowledge and skill items are precisely defined, INTASC standards are fewer in number and more broadly conceived. INTASC standards are organized by the principle to which they are related. Neither CEC nor INTASC standards yet offer an assessment process; at present, standards

seem most useful for guiding the development of surveys of graduates in follow-up studies and in interviews used in longitudinal studies of change. Standards have rarely been used as outcome measures in teacher education research. The standards do represent contemporary professional thought but lack empirical connection to student outcomes, unlike process-product measures.

Representations of teacher quality in large-scale surveys. Questions in the Schools and Staffing Surveys (SASS) and in the teacher survey of SPeNSE also constitute representations of beginning teacher quality. These representations of beginning teacher quality clearly are intended for use in follow-up survey research. Their utility is evident, and these surveys have been used with both general and special education teachers and across special education contexts. Generally, the credibility of surveys like these is limited by the self-report format and its potential for inaccuracy and bias.

PRAXIS III. PRAXIS III is a system for assessing the teaching skills of beginning teachers in a high-stakes assessment environment. Nineteen criteria are organized into four domains: (a) organizing content knowledge for student learning, (b) creating an environment for student learning, (c) teaching for student learning, and (d) teacher professionalism. PRAXIS III involves three data collection processes: (a) direct observation of classroom practice, (b) written materials (class/teacher profiles and a lesson plan), (c) interviews (before/after the observation) related to the lesson. Trained assessors observe teachers as they teach a lesson of their choice to a group of their choice. ETS developed the PRAXIS to market to states as a legally defensible process for licensing beginning teachers. The reliability of assessors' ratings is implied by the extensiveness of their training. However, PRAXIS III administration is costly and labor-intensive. Although the picture of teaching competence derived from PRAXIS III observations is rich and sound, the system may be impractical for some purposes.

BEGINNING TEACHERS SERVING SEVERE DISABILITIES: KNOWLEDGE BASE, RESEARCH, AND APPLICATIONS

Although there is a significant research base on effective teaching practices for students with severe disabilities, there has been surprisingly little effort to define the specific knowledge base that beginning teachers must have to serve this group of students effectively. CEC has developed lists of knowledge and skill standards for teachers who work with students identified as having severe disabilities. Recently, the Association for Persons with Severe Handicaps (TASH) adopted a resolution outlining its position on the specific areas of essential knowledge and expertise (provided as an Appendix to this paper). The specific knowledge, skills, and expertise that this group of teachers must demonstrate before they enter the profession, which varies significantly from state to state, has been a conspicuously absent topic from the dialogue about teacher education reform. Although there is a robust research literature on recommended educational practices for students with severe disabilities, there has been very little research examining effective ways to prepare new teachers to implement these practices or to evaluate teacher competence and understand teacher quality. Although there are some program descriptions, published studies on the effectiveness of program models to prepare teachers for their roles in the schools and the ability of program graduates to impact student learning are few. Future research on teacher quality related to educating students with severe disabilities could use measures based on CEC and INTASC standards, which meet the criteria for credibility (stakeholders' validation) and practicality (costs and training requirements). The standards fail to meet criteria related to utility (used by other researchers); generality (full range of contexts related to role assignments); comprehensiveness (richness and breadth); and soundness (reliability and validity). The paper details the applicability of CEC, INTASC, and TASH standards.

BEGINNING TEACHERS IN TRANSITION PROGRAMS: KNOWLEDGE BASE, RESEARCH, AND APPLICATIONS

Research over the last decade has identified practices associated with the successful transition of students with disabilities from school to adulthood and community life: (a) including students in the general education curriculum, especially vocational education classes; (b) referencing curriculum and instruction to the demands of adulthood; (c) planning person-centered transition; (d) securing paid employment for students prior to leaving school; (e) developing natural supports; and (f) coordinating services between education, post-secondary, and community service agencies. In addition, the knowledge base for beginning teachers working in transition programs is directly affected by amendments to the Individuals with Disabilities Education Act (IDEA) of 1990 (P.L. 101-476). Several studies have identified what practitioners believe are critical areas of knowledge and skills for teachers who are supporting the transition of students with disabilities from school to community life. While researchers and teacher educators have acknowledged that beginning teachers require unique knowledge and skills in the area of transition, there is a paucity of research examining how they can be prepared to use these practices, relative effectiveness of the strategies, or various preparation models. One of the few models for determining teacher competence in transition is the CEC performance-based standards model. The CEC common core performance standards are cross-age (K-12), and the only specific reference to transition knowledge and skills is found in Standards 3 and 4. CEC views competence in effective transition practices as a specialty area that goes beyond the knowledge and skills of the beginning teacher. CEC performance standards for the transition specialist, which are consistent with the research literature, focus heavily on transition law and policy, development and implementation of transition plans, collaboration among school and adult service agencies, and employment preparation. INTASC requires that beginning general and special education teachers have a base of knowledge and skills in the area of transition. Future research on teacher quality as it relates to transition could include measures based on CEC and INTASC standards, which meet the criteria for credibility (stakeholders' validation) and practicality (costs and training requirements). However, they fail to meet criteria related to utility (used by other researchers); generality (full range of contexts related to role assignments); comprehensiveness (richness and breadth); or soundness (reliability and validity).

BEGINNING TEACHERS SERVING CULTURALLY DIVERSE AND ENGLISH LANGUAGE LEARNERS: KNOWLEDGE BASE, RESEARCH, AND APPLICATIONS

There is a significant literature on preparing preservice teachers for educating culturally and linguistically diverse (CLD) students, the design and implementation of multicultural teacher education for elementary and secondary teachers, and preparing teachers to work with English Language Learners (ELLs). Interestingly, more states are requiring that teacher preparation programs prepare all teachers to serve diverse students. Effective special education teachers must possess all the skills for general education and be especially skilled in distinguishing an actual disability from the influences of complex social, cultural, and/or language variables. Furthermore, special educators must be able to use a variety of instructional strategies and should demonstrate skills in and a disposition for collaboration with diverse families and other professionals. Some researchers believe that real progress toward preparing special educators to work with culturally, racially, ethnically, linguistically, and economically diverse learners has been slow. Although there is substantial literature on effective educational practices for CDLs and ELLs and on the essential multicultural competencies needed by teachers, little empirical research has examined the impact of multicultural teacher education on beginning teachers and the CDLs and ELLs they teach. The criteria for defining effective educational practices is based on contemporary writing and scholarship that is rarely linked to student outcomes. The paper details how the following resources relate to preparing quality teachers for diverse students: CEC, INTASC, PRAXIS III, English-Language Learner Classroom Observation Instrument, and SPeNSE. The SASS instrument and the process-product models do not provide support for assessing beginning teacher quality in working with CDLs and ELLs.

SUMMARY AND RECOMMENDATIONS

Teacher quality means different things to different groups. Moreover, these groups use models and measures of teacher quality differently based on the purposes each may have for understanding and using the concepts. Even within the community of researchers who study teacher quality, there is no single definition or measure of the concept for beginning or experienced teachers, either in general education or special education.

This paper identified classes of models and measures, presented examples of each, considered research genres for which each class would be appropriate, and discussed their merits using evaluation criteria. This analysis of teacher quality research led the authors to a single, irrefutable conclusion: The superiority of one model over another depends on the purpose and context of its use. For most purposes, the best approach would be to pick and choose from several models. In special education, there is a great need to accelerate research on beginning teacher quality by drawing on these models and measures.

As a guide to this work, this paper concludes with the following recommendations:

- Use multiple research traditions in conducting beginning teacher quality research.
- Conduct beginning teacher quality research in all areas of special education.
- Get the attention of policy makers by producing compelling research findings and by linking measures of teacher quality with student outcomes.
- Use caution in developing and using measures based on teaching standards.
- Seek to publish special education research findings in journals outside of special education.

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