NATIONAL COMPREHENSIVE CENTER FOR TEACHER QUALITY

Innovation Configurations:

Guidelines for Use in Institutions of Higher Education and Professional Development Evaluation

MAY 2011

Contents

Introduction

Addressing Teacher Quality in Teacher Preparation

Ensuring the adequate preparation of teachers is indisputably the most important factor influencing teacher quality and retention within our country's schools. Research confirms that effective teachers are essential for student achievement (Goldhaber & Brewer, 1997; Nye, Konstantopoulos, & Hedges, 2004; Rivkin, Hanushek, & Kain, 2005; Rowan, Correnti, & Miller, 2002). Despite the enormous investments in the preparation of education personnel, most new teacher education graduates and the principals who supervise them rate their preparation as inadequate, overly theoretical, and insufficient to meet the needs of diverse learners (Levine, 2006). In addition, nearly 50 percent of new teachers leave the profession within the first five years of teaching (Ingersoll & Smith, 2003). A lack of well-prepared teachers and high attrition rates have triggered national and state interest in teacher quality and added to the pressure for change in the way teachers are prepared.

Increasing teacher effectiveness and the equitable distribution of effective teachers is one of the core reform efforts identified in the American Recovery and Reinvestment Act (ARRA) of 2009. To be effective, today's teachers require an array of skills, including deep content knowledge, pedagogical content knowledge, knowledge about various forms of assessment, capacity to use assessment data to inform instruction, and skills for working with a diverse set of students and collaborating effectively (National Mathematics Advisory Panel, 2008). Though an agreed-upon definition of *highly effective* has yet to be established, there is general consensus that a comprehensive, strategic approach to recruiting, hiring, training, inducting, mentoring, evaluating, and compensating teachers is warranted. Although all of these phases of the educator career continuum are equally important, teacher preparation and professional development programs serve as the building blocks to increasing the quantity of teachers and the quality of the teaching force and are, therefore, uniquely positioned to positively influence teacher effectiveness, retention, and equitable distribution. ARRA funding is available to address teacher effectiveness and support programs that provide quality instruction, well-crafted learning experiences, and sustained implementation regarding evidence-based strategies in reading, mathematics, writing, and positive behavioral supports.

Improving Teacher Preparation and Professional Development

Traditionally, university teacher preparation has been perceived to be the sole responsibility of colleges and departments of education, often resulting in a disconnect between coursework and field experiences. This lack of coherence from preparation to the first years of teaching is improving in some areas because of an increase in partnerships between universities and public schools. Research has shown that a more systemic approach to changes within teacher preparation and professional development programs can help to bridge the gap between theory and practice and has identified several levers for change:

- **All major stakeholders participate in planning and evaluating the teacher preparation and professional development programs.** Administrators, teachers, community members, and teacher educator faculty collectively participate in the design of required coursework, field experiences, activities, and systems of support to adequately address the needs and interest of PK–12 students and classroom teachers (Birman, Desimone, Porter, & Garet, 2000; Garet, Porter, Desimone, Birman, & Yoon, 2001).
- **Strong subject matter preparation is essential.** Research confirms that teachers must possess a broad and deep conceptual knowledge of the subject matter they teach (Birman et al., 2000; Cohen & Hill, 1998; Garet et al., 2001; Kennedy, 1998).
- **National teaching and state student achievement standards provide the framework for restructuring.** Standards need to be grounded in what graduates should know and be able to do.
- **Coherence is evident within a program's mission and alignment among course work, field experiences, and state and district standards.** Coherence indicates the extent to which all teacher training activities are part of an integrated program, are in harmony with national and state standards, and are built upon earlier trainings and coursework (Birman et al., 2000; Garet et al., 2001).
- **Teacher preparation is field-based and collaboratively designed and managed.** Teacher preparation and professional development programs encourage a two-way association between universities and schools, providing teaching candidates with opportunities to practice in rich environments and faculty opportunities to observe the daily experiences of classroom teachers and incorporate this learning into teacher training programs (Birman et al., 2000).
- **Regular feedback on candidate and program performance is used to support and sustain changes in teacher preparation.** Programs incorporate assessments of future and current teachers that reveal how well they know and can teach their content. Evidence about graduates and professional development participants is used to improve programs.

- **Extensive clinical experiences include opportunities for active learning (e.g., supervised practice with feedback, reviewing student work).** Clinical experiences are offered early and frequently, provide opportunities to work in various settings with diverse learners, and incorporate explicit feedback and sustained support (Birman et al., 2000; Garet et al., 2001).

- **The integration of evidence-based teaching strategies receives high priority.** The Elementary and Secondary Education Act (ESEA), as reauthorized by the No Child Left Behind Act (NCLB), and the Individuals with Disabilities Education Act (IDEA) of 2004 encourage and, in some cases, require the use of instruction based on scientific research. The emphasis on scientifically based research supports the consistent use of instructional methods that have been proven effective and have stimulated changes in the manner in which teachers are prepared and supported (Joshi, Binks, Hougen, Dean et al., 2009; Reschly, Holdheide, Smartt, & Oliver, 2007).

Innovation Configurations

Purpose of This Document

Teacher effectiveness, equitable distribution, and teacher preparation are inextricably linked. Recognizing that evidence-based practices account for at least part of the effects of teachers on achievement and the critical role of teacher preparation, the TQ Center offers innovation configurations to promote the implementation of evidence-based instructional practices in teacher preparation activities, which is an allowable funding expenditure within ARRA. Innovation configurations are designed to evaluate current teacher preparation and professional development by determining the extent to which evidence-based practices are taught, observed, and applied within teacher preparation and professional development programs. Use of innovation configurations advances collaborative practices and encourages an examination of the similarities, differences, and gaps among programs by answering two questions:

- What types of instruction and experiences do teachers receive throughout their preparation and/or professional development that promote the use of evidence-based instructional practices?

- To what extent are teachers and teacher candidates provided an opportunity to apply these strategies with explicit feedback and sustained implementation and support to ensure fidelity?

Innovation configurations are designed to improve teacher education, which, in turn, can lead to improved student achievement. Use of innovation configurations to evaluate teacher education programs and professional development activities provides an overview of the competencies taught and practiced within general and special education teacher preparation programs. Innovation configuration results provide credible information about current practices and can be used as the basis or rationale for policy and program changes in teacher preparation and professional development programs at the district, state, and university levels.

This document describes the content and purpose of innovation configurations, outlines their intended use as syllabus evaluation tools, and provides scoring guidelines and examples for clarification.

Innovation Configuration Dimensions

Innovation configurations have been used for at least 30 years in the development and implementation of educational innovations and methodologies (Hall & Hord, 1987; Roy & Hord, 2004). They most often have been used as professional development tools to guide implementation of an innovation within a school and facilitate the change process. Innovation configurations also have provided a form of self-assessment and reflection. They can be used in program evaluation as a means to determine the extent to which educational policies are implemented within coursework and supervised field experiences.

Innovation configurations typically are established through tables that have two dimensions: one specifying the essential components and one specifying the degree of implementation (Hall & Hord, 1987; Roy & Hord, 2004). The *essential components* of the innovation or program are listed in the table's far left column, along with descriptors and examples to guide application of the criteria to program coursework, standards, and classroom practice. The essential components of evidence-based practices are drawn from several sources, including meta-analyses (e.g., Kavale, 2005; Vaughn, Gersten, & Chard, 2000), reports of national experts that apply rigorous criteria in the selection of research results (Joshi, Binks, Hougen, Dahlgren et al., 2009; National Reading Panel, 2000; Slavin, Lake, Chambers, Cheung, & Davis, 2008; Snow, Burns, & Griffin, 1998), and governmental agencies (e.g., What Works Clearinghouse; see http://ies.ed.gov/ncee/wwc/).

The second dimension is the *degree of implementation*. In the top row of the table, several implementation variations, or levels, are defined. For example, no mention of the essential component is the lowest level of implementation and should be assigned a score of zero. Increasing levels of implementation are assigned progressively higher scores.

Innovation Configuration Components

There are seven innovation configurations, each accompanied by a TQ Connection Issue Paper or Research & Policy Brief, which fully describes the innovation configuration, clarifies its purpose, and provides examples of what each component may look like in the classroom. The following innovation configurations and their accompanying issue papers and briefs can be accessed through the TQ Center website:

Innovation Configuration	Accompanying TQ Connection Issue Paper or Research & Policy Brief
Scientifically Based Reading Instruction Innovation Configuration	*Barriers to the Preparation of Highly Qualified Teachers in Reading*
http://www.tqsource.org/publications/IC_SBReading.pdf	http://www.tqsource.org/publications/June2007Brief.pdf
Classroom Organization and Behavior Management Innovation Configuration	*Effective Classroom Management: Teacher Preparation and Professional Development*
http://www.tqsource.org/publications/IC_ClassroomOrg.pdf	http://www.tqsource.org/topics/effectiveClassroomManagement.pdf
Inclusive Services Innovation Configuration	*Teacher Preparation to Deliver Inclusive Services to Students With Disabilities*
http://www.tqsource.org/publications/IC_InclusiveServices.pdf	http://www.tqsource.org/publications/TeacherPreparationtoDeliverInclusiveServices.pdf
Learning Strategy Instruction Innovation Configuration	*Teacher Preparation and Professional Development in Effective Learning Strategy Instruction*
http://www.tqsource.org/publications/IC_LearningStrategy.pdf	http://www.tqsource.org/publications/EffLearnStrtInstructionIssuePaper.pdf
Response to Intervention Innovation Configuration	*Teacher Preparation for Response to Intervention in Middle and High Schools*
http://www.tqsource.org/publications/IC_RTI.pdf	http://www.tqsource.org/publications/September2009Brief.pdf

Innovation Configuration	Accompanying TQ Connection Issue Paper or Research & Policy Brief
Linking Assessment and Instruction Innovation Configuration	*Linking Assessment and Instruction: Teacher Preparation and Professional Development*
http://www.tqsource.org/publications/IC_LinkingAssessment.pdf	http://www.tqsource.org/pdfs/TQ_IssuePaper_AssessInstruct.pdf
Evidence-Based Mathematics Instruction Innovation Configuration	*Preparation of Effective Teachers in Mathematics*
http://www.tqsource.org/publications/IC_Mathematics.pdf	http://www.tqsource.org/pdfs/TQ_IssuePaper_Math.pdf

Each innovation configuration has key components, which serve as a guide for users to clarify understanding and provide examples of what each component may look like in the classroom. Under each component, essential concepts are bulleted in the innovation configuration. Bulleted items are intended to be descriptors of the component with examples to assist with scoring. Although evaluators may not find the specific category explicitly listed in course syllabi, they may find similar terminology that could be considered synonymous.

Innovation Configuration Map Variations and Intended Use

The innovation configurations have five levels or variations associated with it, ranging from zero to four. The variations are structured so that with each increase in score, the criterion for the variation increases in complexity. This score is related to the evidence that the syllabus has demonstrated depth of instruction for a given component. In other words, merely mentioning that screening will be discussed is a lower variation of instruction than having required reading in addition to discussing the concept. Likewise, application with feedback, in addition to the lower variations, would be considered the highest level of evidence that a concept has been sufficiently covered. Under each category, an "X" represents one particular course within a program of study.

Scoring Syllabi With Innovation Configurations

Examples of each variation and scoring code are provided in Table 1.

Table 1. Innovation Configuration Variations and Scoring Codes

Code 0	**There is no evidence that the component is included in the class syllabus.**
	If no evidence of a component can be found in a course syllabus (e.g., the use of assessment to guide instruction) including course objectives, lectures, discussions, readings, or assignments, a score of zero would be appropriate, and an "X" should be marked under zero next to the component.
Code 1	**Syllabus mentions content related to the component.**
	Exact wording for each bulleted item is not necessary to score a 1 for mentioning the component. If a component is listed as a topic item for lecture and discussion (e.g., progress monitoring) or listed as an outcome or course objective (e.g., "students will use a progress monitoring measure—i.e., Dynamic Indicators of Basic Early Literacy Skills [DIBELS]"), then an "X" may be placed under this variation.
Code 2	**Syllabus mentions component and requires readings and tests or quizzes on the topic.**
	In order to score a 2, a course syllabus must mention a component as part of the lectures, discussions, or course objectives and require readings and test or quizzes about the topic. Evidence of readings includes textbooks (e.g., "Read Chapter 2—Vocabulary Instruction in Adams, *Beginning to Read: Thinking and Learning About Print.*"). Evidence of tests may include "Test 2 will cover Lectures 15–25." Note, however, that vocabulary instruction must be mentioned under Lectures 15–25.
Code 3	**Syllabus mentions the component and requires readings, tests or quizzes, and assignments or projects for application.**
	In order to score a 3, a course syllabus must mention the component and require readings, tests or quizzes, and an assignment (e.g., "Write a one-page reaction paper explaining why it is important to provide vocabulary instruction") or project (e.g., "Create a lesson addressing vocabulary instruction").
Code 4	**Syllabus mentions the component and requires readings, tests or quizzes, assignments or projects, and teaching with application and feedback.**
	A course syllabus might list application with feedback or student teaching as a general requirement. However, in order to earn a score under this variation, the syllabus must link the application with feedback experience with the particular concept (e.g., "Students will be required to practice skills related to developing and instructing vocabulary. Direct observations with feedback by instructor will be applied toward the total course grade.").

Instructions for Scoring

Refer to the following steps when scoring syllabi with innovation configurations. A sample of a completed innovation configuration is shown in Table 2.

Step 1	One innovation configuration can be used for scoring each institution of higher education (IHE) syllabi. After reviewing a course syllabus, an "X" should be placed under the appropriate variations of implementation code for each item for any course contained in IHE syllabi that meet the variation criteria. Bulleted items describe the broad category in greater detail and provide examples or descriptors of each component. Refer to the examples outlined in Table 1 for details and examples regarding the variation of implementation criteria.
Step 2	Each item should be given an overall rating based on the highest variation of implementation score that received an "X." Overall ratings are marked in the last column on the right under "Rating." For example, if under "Phonics," the highest variation that received an "X" was for mentioning the concept, then a rating of 1 is appropriate for that rated course syllabus under that concept.
Step 3	If more than one syllabus was rated on the innovation configuration, the number of "Xs" for each variation can be totaled in each column under Codes 0–4 (refer to Table 2).
Step 4	Transfer the highest item ratings from each variation for each component to the IHE Syllabi Evaluation Master Scoring Rubric that follows Table 2. If computing a comprehensive university score, record the highest variation of implementation score across submitted syllabi. The scores created to represent different levels of implementation are on an ordinal scale; a higher number indicates more thorough implementation of an innovation component. These scale points cannot, however, be interpreted as if the intervals between the scores are equal. The difference between 1 and 2 cannot be assumed to be the same amount as the difference between 3 and 4. Furthermore, a score of 4 indicates more thorough implementation than a score of 2, but it cannot be interpreted as twice as much of some quality as a score of 2. Users are urged to consider these limitations in the score scale.
Step 5	Use results to identify the similarities, differences, and gaps in content covered and skills acquired within teacher training programs. Results may promote changes in course content and assignments or identify a need to eliminate, restructure, or add classes or professional development.

Scientifically Based Reading Instruction Innovation Configuration

Table 2. Scientifically Based Reading Innovation Configuration

Essential Components	Variations					
	Code = 0	Code = 1	Code = 2	Code = 3	Code = 4	Rating
Instructions: Place an X under the appropriate variation implementation score for each course syllabus that meets the criteria specified, from 0 to 4. Score and rate each item separately. Descriptors and examples are bulleted below each of the components.	**There is no evidence** that the component is included in the class syllabus.	Syllabus mentions **content related to the component**.	Syllabus mentions the component and requires **readings and tests or quizzes**.	Syllabus mentions the component and requires **readings, tests or quizzes, and assignments or projects for application.** • Observations • Lesson plans • Classroom demonstration • Journal response	Syllabus mentions the component and requires **readings, tests or quizzes, assignments or projects, and teaching with application and feedback.** • Fieldwork (practicum) • Tutoring	Rate each item as the number of the highest variation receiving an X under it.
Scientifically Based Reading Research (ESEA/IDEA) • *Preventing Reading Difficulties in Young Children* (1998) • National Reading Panel Report (2000) • Reading success for **all** students • Scientifically based research – randomized studies, peer reviewed, replicated, minimize bias • ESEA mandates scientifically based reading research • Research-based strategies • Five essential elements of reading: Phonemic Awareness, Phonics, Fluency, Comprehension, Vocabulary	XXX		X	XX		3

Essential Components	Variations					
	Code = 0	Code = 1	Code = 2	Code = 3	Code = 4	Rating
Instructions: Place an X under the appropriate variation implementation score for each course syllabus that meets the criteria specified, from 0 to 4. Score and rate each item separately. Descriptors and examples are bulleted below each of the components.	**There is no evidence** that the component is included in the class syllabus.	Syllabus mentions **content related to the component**.	Syllabus mentions the component and requires **readings and tests or quizzes**.	Syllabus mentions the component and requires **readings, tests or quizzes, and assignments or projects for application.** • Observations • Lesson plans • Classroom demonstration • Journal response	Syllabus mentions the component and requires **readings, tests or quizzes, assignments or projects, and teaching with application and feedback.** • Fieldwork (practicum) • Tutoring	Rate each item as the number of the highest variation receiving an X under it.
Phonemic Awareness (This topic is ideally subsumed under the broader topic Phonological Awareness.) • Individual speech sounds, phonemes • Early indicator of risk • Precursor to phonics • Detect, segment, blend, manipulate phonemes (sounds) (e.g., /b/ /a/ /t/ = *bat*) • Rhyming, alliteration in preschool and kindergarten • Elkonin boxes (common activity)	X	X	X	X	X X	4
Phonics • Correspondence of sounds and letters • Phoneme–grapheme correspondences • Blending, decoding, encoding • Syllable types • Prefixes, suffixes, base words • Nonsense words (assessment) • Alphabetic Principle • Word analysis • Words composed of letters (graphemes) that map to phonemes • Letters and sounds working in systematic way	X X X	X	X	X		3

Essential Components	Variations					
	Code = 0	Code = 1	Code = 2	Code = 3	Code = 4	Rating
Instructions: Place an X under the appropriate variation implementation score for each course syllabus that meets the criteria specified, from 0 to 4. Score and rate each item separately. Descriptors and examples are bulleted below each of the components.	**There is no evidence** that the component is included in the class syllabus.	Syllabus mentions **content related to the component**.	Syllabus mentions the component and requires **readings and tests or quizzes**.	Syllabus mentions the component and requires **readings, tests or quizzes, and assignments or projects for application.** • Observations • Lesson plans • Classroom demonstration • Journal response	Syllabus mentions the component and requires **readings, tests or quizzes, assignments or projects, and teaching with application and feedback.** • Fieldwork (practicum) • Tutoring	Rate each item as the number of the highest variation receiving an X under it.
Fluency • Rate, accuracy, and prosody • Repeated readings • Fluency training • Partner reading • Measurable goals • Charting progress	X X X		X	X	X	4
Vocabulary • Taught directly and indirectly • Preteach • Oral language • Multiple contexts, meanings • Choosing and leveling words for explicit instruction • Word consciousness • Context • Morphemes	X X X		X	X	X	4

Essential Components	Variations					
	Code = 0	Code = 1	Code = 2	Code = 3	Code = 4	Rating
Instructions: Place an X under the appropriate variation implementation score for each course syllabus that meets the criteria specified, from 0 to 4. Score and rate each item separately. Descriptors and examples are bulleted below each of the components.	**There is no evidence** that the component is included in the class syllabus.	Syllabus mentions **content related to the component**.	Syllabus mentions the component and requires **readings and tests or quizzes**.	Syllabus mentions the component and requires **readings, tests or quizzes, and assignments or projects for application.** • Observations • Lesson plans • Classroom demonstration • Journal response	Syllabus mentions the component and requires **readings, tests or quizzes, assignments or projects, and teaching with application and feedback.** • Fieldwork (practicum) • Tutoring	Rate each item as the number of the highest variation receiving an X under it.
Comprehension • Questioning strategies (i.e., before, during, and after reading) • Summarize/predict/retell • Metacognitive strategies • Both narrative and expository text structure • Collaborative strategic reading	X X X		X	X	X	4
Integration • Planned connections of instruction for five essential elements of reading • Weaving of five essential components of reading (or any combination of components), first taught in isolation and always placed back in meaningful context • Integrated	X X X X X X					0
Systematic Instruction • Planned/purposeful/sequential • Step-by-step • Example: teach certain letters (*b, m, a*) before others (*y, x, tch*). • Teach from easy to more difficult • Directions for determining whether reading programs use skills sequence and provide adequate practice	X X	X X	X X			2

Essential Components	Variations					
	Code = 0	Code = 1	Code = 2	Code = 3	Code = 4	Rating
Instructions: Place an X under the appropriate variation implementation score for each course syllabus that meets the criteria specified, from 0 to 4. Score and rate each item separately. Descriptors and examples are bulleted below each of the components.	**There is no evidence** that the component is included in the class syllabus.	Syllabus mentions **content related to the component**.	Syllabus mentions the component and requires **readings and tests or quizzes**.	Syllabus mentions the component and requires **readings, tests or quizzes, and assignments or projects for application.** • Observations • Lesson plans • Classroom demonstration • Journal response	Syllabus mentions the component and requires **readings, tests or quizzes, assignments or projects, and teaching with application and feedback.** • Fieldwork (practicum) • Tutoring	Rate each item as the number of the highest variation receiving an X under it.
Explicit Instruction • Direct/straightforward • No room for guessing • Example: This is the letter *B*; it represents the /b/ sound. • I do it, we do it, you do it	X X	X X	X X			**2**
Screening Assessment • Early identification and prevention • Brief measures • **All** students • Identifying students who require additional support • Valid and reliable instruments	X X	X X	X X			**2**
Progress Monitoring • Ongoing and frequent assessment for those requiring additional support • Providing additional support, monitoring every 1–2 weeks, and so on • Instructional modifications made accordingly • Reflects appropriateness of the teacher's intervention	X X	X X	X X			**2**

IHE Syllabi Evaluation Master Scoring Rubric

Institution Name _____ Date _____

Course(s) _____ Reviewer _____

To what extent does the course syllabus or professional development plan provide evidence of the following components?	No Evidence	Mentions Component	Readings, Tests or Quizzes	Readings, Tests, Projects	Application and Feedback	
Scientifically Based Reading Instruction	**0**	**1**	**2**	**3**	**4**	**Total**
• Scientifically Based Reading Research						**Comments:**
• Phonemic Awareness						
• Phonics						
• Fluency						
• Vocabulary						
• Comprehension						
• Integration						
• Systematic Instruction						
• Explicit Instruction						
• Screening Assessment						
• Progress Monitoring						

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NATIONAL COMPREHENSIVE CENTER FOR TEACHER QUALITY

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The National Comprehensive Center for Teacher Quality is a collaborative effort of ETS, Learning Point Associates, and Vanderbilt University.

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About the National Comprehensive Center for Teacher Quality

The National Comprehensive Center for Teacher Quality (TQ Center) was created to serve as the national resource to which the regional comprehensive centers, states, and other education stakeholders turn for strengthening the quality of teaching—especially in high-poverty, low-performing, and hard-to-staff schools—and for finding guidance in addressing specific needs, thereby ensuring that highly qualified teachers are serving students with special needs.

The TQ Center is funded by the U.S. Department of Education and is a collaborative effort of ETS, Learning Point Associates, and Vanderbilt University. Integral to the TQ Center's charge is the provision of timely and relevant resources to build the capacity of regional comprehensive centers and states to effectively implement state policy and practice by ensuring that all teachers meet the federal teacher requirements of the current provisions of the Elementary and Secondary Education Act (ESEA), as reauthorized by the No Child Left Behind Act.

The TQ Center is part of the U.S. Department of Education's Comprehensive Centers program, which includes 16 regional comprehensive centers that provide technical assistance to states within a specified boundary and five content centers that provide expert assistance to benefit states and districts nationwide on key issues related to current provisions of ESEA.

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