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Connecticut Blueprint for a NCLB "HOUSSE" in Educational Technology

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Abstract: According to the United States Department of Education, teacher quality is one of the most critical aspects of the teaching and learning process. The No Child Left Behind Act of 2001 (NCLB) has required that state agencies assume the responsibility for increasing student achievement and ensuring teacher quality by the end of the 2005-2006 school year. The NCLB outlines minimum qualifications that are needed by teachers who work on any facet of classroom instruction and authorizes state administrators to establish the criteria through which an experienced teacher will meet the subject matter competencies in a specific content area. This paper will offer recommendations for improving teacher quality through the availability of a High Objective Uniform State System of Evaluation (HOUSSE) in the area of computer technology. A model HOUSSE will be proposed that can be used to assess the technological experience and knowledge of teachers and school support personnel.

No Child Left Behind Act

On January 8, 2002, President George W. Bush signed the No Child Left Behind Act of 2001 (NCLB) into law and reauthorized the Elementary and Secondary Education Act of 1965 (ESEA) (USDOE, 2002a). ESEA was first passed in 1965 for the purpose of improving achievement among poor and disadvantaged students. Although funding is allocated on a continual basis, Congress is required to reauthorize ESEA approximately every five years. The current reauthorization is recognized as the No Child Left Behind Act. The purpose of the NCLB is to ensure that all children will be provided with a fair, equal, and significant opportunity to obtain a high-quality education and reach proficiency on challenging State academic assessments. The NCLB represents a national educational reform plan that modifies the federal government's role in K-12 education (USDOE, 2002a). School success that is measured through increased student achievement is emphasized through: stronger accountability for results; increased flexibility and local control; expanded options for parents; and an emphasis on research-based teaching methods.

The NCLB legislation has mandated that state and local agencies assume the responsibility for increasing student achievement and have supported the development of provisions for ensuring teacher quality by the end of the 2005-2006 school year (USDOE, 2002b). In addition, states have also been required to offer public school choice, provide supplemental services, integrate scientifically-based research into instructional practice, and set, monitor and report their annual yearly progress on NCLB goals.

Title I and Title II

Under the Elementary and Secondary Education Act (ESEA), Title I, Part A has been restructured to serve as a guide for helping all students to achieve challenging academic standards. In order to accomplish this objective the Act promotes the formation of home-school partnerships, to help address the full range of student needs that impact student achievement. In addition, Title I requires states to set high standards for student achievement and to assess children's progress through standards-based testing (USDOE, 2003). Annual report cards will be issued by state education departments and local school districts that will inform parents and the public about school and district performance (USDOE, 2003a). Schools that fail to demonstrate adequate yearly progress (AYP) in their students' levels of academic achievement will face increasing state sanctions.

The Title II, Teacher Quality of the Elementary and Secondary Education Act (ESEA) is a new component of the No Child Left Behind legislation. Title II is divided into four basic parts that include: Part A. Teacher and

Principal Training and Recruitment; Part B. Mathematics and Science Partnerships; Part C. Innovation for Teacher Quality; and Part D. Enhancing Education through Technology. The Enhancing Education through Technology (Ed Tech) Program consolidates the Technology Literacy Challenge Fund and the Technology Innovative Challenge Grant Program into a single state grant program (USDOE, 2001). Under the Ed-Tech Act, the United States Department of Education provides grants to State educational agencies on the basis of their proportionate share of funding under the provisions of Title I.

The Ed-Tech Act calls attention to the importance of technology in all areas of K-12 education. School districts applying for Title II, Part D, funds are required to have a process in place through which technology can be used for promoting parental involvement and increasing home-school communication. The process must include efforts to regularly inform parents about the technology that is used in the educational program. According to the Northeast and Islands Regional Technology Consortium (NEIRTEC), this objective can be achieved through training and support that enhances an educator's ability for making data driven decisions that relate to the use of technology for locating content-based resources, delivering instruction, and supporting the curriculum (Education Development Center, Inc., 2002).

Defining Teacher Quality

According to the United States Department of Education (2002), teacher quality is one of the most critical aspects of the teaching and learning process. The highly qualified teacher provisions in the NCLB address the need for granting all children access to high-quality teachers and promote state efforts for ensuring that an equitable distribution of high-quality teachers is maintained (USDOE, 2003). States that have addressed their severe teacher shortage problems through emergency certification, long-term substitutes, waivers or provisional licensure have access to funding that has been allocated under Title II. Through Title II funds, professional development opportunities can be created that will help new, provisional and experienced teachers become highly qualified.

Title II funding is also available for the purpose of encouraging revisions to the teacher certification process that will enable each state system to become NCLB compliant. NCLB provides states with the opportunity for reassessing their state systems by requiring them to focus on the definition of a highly qualified teacher (USDOE, 2003). Determining what a teacher should know and be able to do at a particular phase of professional development is not an easy task. The NCLB outlines several minimum qualifications that are mandated for teachers who work on any facet of classroom instruction (USDOE, 2003). However, each State Department of Education must develop its own definition of teaching quality including; how it should be assessed, how to prepare new teacher candidates and how to support existing teachers as they reach and sustain standards of excellence.

Interest in the congruence between a teacher's qualifications and teaching assignments has intensified among many educational policymakers and researchers (NCES, 2002). Through multiple, objective measures of teacher competency, school districts can identify where and how to improve the curriculum (USDOE, 2003a). Systematic evaluations not only provide timely feedback on the quality of teaching but can also lead to improved faculty performance through the identification of appropriate professional development activities (NCATE, 2002).

The NCLB general requirements specify that all public school teachers must possess a bachelor's degree, be certified in the core subjects that they teach and demonstrate subject matter competency (USDOE, 2003; 2003a). Core academic subjects that are recognized by the NCLB include; English; reading; language arts; mathematics; science; history; geography; economics; civics and government; foreign languages; and the arts, including art, dance, music, theater and drama.

Beginning elementary teachers must demonstrate their subject area competency by passing a state test on subject knowledge and teaching skills in areas that relate to the basic elementary school curriculum. At the middle and high school levels, beginning teachers can demonstrate their competency through a number of ways that include; passing a state test in each subject that they teach, holding an academic major or course work equivalent to an academic major, possessing an advanced degree or through advanced certification or credentials (USDOE, 2003).

Under the provisions of set forth by the NCLB, state administrators may establish the criteria through which an experienced teacher will meet the subject matter competencies in a specific content area (USDOE, 2003). Experienced teachers who are instructing at any level can either meet the requirements that have been suggested for new teachers or complete an alternate form of assessment that is known as a High Objective Uniform State System of Evaluation (HOUSSE) (USDOE, 2003). HOUSSE instruments are developed at the state level and may involve use of rubrics for assessing a teacher's knowledge of a specific curricular content area. Teachers can complete the

HOUSSE for each subject that they teach through a process of self-reflection and documentation. The United States Department of Education (2003) suggests the following criteria for guiding the development of a HOUSSE;

- Developmentally appropriate, academic subject matter knowledge and teaching skills have been established by the state;
- Academic content and student achievement standards have been aligned with the state curricular goals;
- Core content specialists, teachers, principals and school administrators have participated in the development of academic content and student achievement standards;
- Information is made available about the teacher's attainment of core content knowledge in the academic subjects in which a teacher teaches;
- The HOUSSE system is applied uniformly to all teachers in the same academic subject area and at the same grade level throughout the state;
- The time that a teacher has been teaching the academic subject area is taken into consideration;
- The public may request information concerning a teacher's quality and the school's performance in relation to the established annual targets.

Educational Technology and Professional Development

Educational technology can be defined as the study of human learning with regards to its relationship to the integrated processes involving people, procedures, ideas, devices and strategies for analyzing problems and devising solutions to those problems. The best way to ensure the continued success of the American economy is to train educators and students in the effective use of technology. This understanding is based upon the premise that in order to succeed in a changing economy, employees must enter the workforce with technological proficiency and be able to adapt to new technologies. In order to meet these challenges, it is vitally important for legislators to address the issue of educational technology in their state educational reform initiatives.

The NCLB has challenged educators to develop innovative teaching practices for assisting every student in crossing the digital divide and to ensure that students are technologically literate by the end of the eighth grade (USDOE, 2002b). In order to achieve the objective of improving teacher quality, professional development training must be designed that includes long term projects for supporting educators as they analyze and contribute to new developments within the teaching profession. Hunter (2001) observes that there are particular characteristics that constitute high quality professional development training. These characteristics include a focus on content and how it is assimilated, the availability of active learning opportunities, links to high standards, and the extended duration of training sessions that are a component of professional development plans. Short term training sessions that focus primarily upon the acquisition of technical skills are among the traditional approaches to professional development that are often criticized for being relatively ineffective (Hunter, 2001). Although teacher education programs provide technological training, the development of positive computer attitudes and self-efficacy requires time.

Technology Benchmarks, Standards and Competencies

In order to design effective instruction, it is important to incorporate the use of benchmarks, standards and competencies as a framework for evaluating the quality and effectiveness of instructional methodologies. Benchmarks are measurable goals that represent major milestones within an educational program. The use of benchmarks, standards and competencies can guide the sequencing of coursework and the scaffolding of curricular content. The data gathered through benchmarking studies can enable organizations to compare their performance on specific variables for the purpose of identifying, understanding, and adopting outstanding best-practices.

The *National Educational Technology Standards and Performance Indicators for Teachers* serve as a foundation for the development of content and performance standards in the area of K-12 technology integration (ISTE, 2002). Content standards establish guidelines that suggest what individuals should know at the end of a lesson, course or instructional program (CSDE, 2001; ISTE, 2002). Performance standards incorporate the use of indicators that signal an individual's level of academic achievement and competency in course content knowledge, essential skills and understandings (CSDE, 2001; ISTE, 2002).

According to ISTE (2002) technology foundations are essential for all teachers. Teachers who promote innovative uses of technology can achieve outcomes of excellence and equity that result in successful students.

Core courses that introduce educators to the best practices in the field of educational technology can support a teacher's use of technology for classroom instruction. Through courses that focus on the application of technology, educators can develop curriculum plans and apply their skills in a real world setting (CSDE, 2001; ISTE 2002). The Connecticut Teacher Technology Competencies (CTTC) offer an additional set of technology standards that have enhanced the prior work of the ISTE (2002). The CTTC were developed in 2001, in response to the need to define the technological skills and competencies that would enable Connecticut educators to integrate technology into their daily classroom instruction (CSDE, 2001). The CTTC are based upon the following 4 standards areas;

- Educational Technology Concepts and Operations;
- Creating Learning Environments and Experiences;
- Productivity and Professional Practice; and
- Social, Legal, Ethical and Human Issues.

Model Educational Technology HOUSSE

School administrators have been charged with the task of informing parents about the annual performance of their schools (USDOE, 2002a). Annual reports must include staff qualifications in relation to the definition of a highly qualified teacher. In the State of Connecticut, testing has not been available that can evaluate teachers in the area of educational technology (ETS, 2003). Under the provisions of the NCLB, a HOUSSE can be used as an alternate instrument for verifying what an experienced teacher knows and is able to do in a content area. An experienced teacher is defined as a public school teacher who has completed three or more years in the profession. Administrators who are able to establish the levels of technological competency of their teaching staff can not only report these findings to the public but can also draw on this information for continuous school improvement.

A model HOUSSE (Fig. 1) is proposed that can be used to assess an individual's competency in the use of technology for teaching and learning. Although the subject of educational technology is not considered to be a core content area by the NCLB, teachers are required to receive technological training in order to maintain their teaching credentials (CSDE, 2002). In addition, the use of technology has been infused into the core curriculum across all grade levels.

In fulfilling their HOUSSE requirements, teachers or school support personnel will be requested to provide personal information in each of the following areas; years of teaching experience, college coursework, professional development, school and community service and awards, presentations and publications. Each category has been based on a numerical point system and includes the criteria for meeting the competency. A total of 100 points must be documented in order for the teacher or staff member to be considered highly qualified.

Header

The header section of the rubric requests that a teacher or staff member enter his/her name and area of certification. Information is also required for the purpose of establishing the individual's current teaching assignment. In order to verify existing teaching credentials, a copy of an individual's teaching license, transcripts, and other relevant documentation should be submitted along with the HOUSSE rubric. Individuals are requested to indicate whether or not they are new to the profession. Those with less than three full years of teaching experience would be considered as being new.

Teaching Experience

All teaching experience must be related to the area of teaching and learning with technology in a K-12 or college environment. There are three categories for teaching that include classroom, technology, and classroom support personnel. NCLB regulations define classroom support personnel as special education teachers, paraprofessionals and teachers of English language learners who teach core academic subjects to their students (USDOE, 2003). Teachers can indicate their current levels of certification by placing a check in the box to the left of the elementary, middle, high school or higher education categories. Classroom teachers, special education teachers, English language learning teachers and paraprofessionals include those who integrate technology into the

grade K-6 elementary curriculum or a grade 7-12 core content area. Technology teachers include those who are considered to be technology specialists by administrators and staff. These individuals would only be teaching technology concepts and applications to students in grades K-6 or 7-12.

College Level Coursework

According to the National Center for Educational Statistics (2002), policymakers and researchers disagree on the amount of coursework that a teacher should complete in the fields that they teach. Few would argue that teachers who have neither certification nor training in a content area are sufficiently equipped to teach that subject. ISTE (2002) recommends that teachers gain proficiency in computer operations and learn methods for using technology to facilitate academic learning. College level coursework in the area of educational technology is one way that individuals can be equipped with the necessary skills for incorporating a variety of technologies into the curriculum.

When completing the HOUSSE rubric, individuals are requested for a list of the courses that they have completed in the area of educational technology. In order to demonstrate competency in the use of computers for instruction, Connecticut teachers should select courses that are aligned with the Connecticut Teacher Technology Competencies (CDSE, 2001). Teachers in other states or countries can refer to their own state standards or to those that have been developed by ISTE (2002). For the purposes of this rubric, college coursework can be completed at the graduate or undergraduate level but instruction must focus upon the methods for integrating educational technology into the curriculum. Courses that provide a basic introduction to the operation of personal computers would not be appropriate in this instance since the methods for integrating technology into the K-12 curriculum are typically not included in these introductory levels of coursework.

Each course that an individual has completed may be awarded 10 points. The completion of an academic major or degree in the area of educational technology is equivalent to 50 points. However, no more than 50 points can be awarded in this category. Documentation in the form of course syllabi and transcripts must be included to verify that each course or degree has been successfully completed.

Professional Development

Professional development in the area of technology integration is most effective when it remains in the context of curricular content, effective pedagogy, and student learning that is not focused on the use of technology itself. Effective professional development that is grounded in scientific research is preferred since it involves the application of procedures that can be used to evaluate educational programs and activities (USDOE, 2003).

Content specific activities in the category of educational technology include an individual's participation in committees, workshops, training sessions or conferences that support state or national standards. Appropriate areas for professional development can be focused on the development of curriculum, standards, academic assessments or the completion of all assessments for National Board Certification. The mission of the National Board for Professional Teaching Standards (NBPTS) is to advance the quality of teaching and learning through the development of educational policies and practices. The NBPTS provide a support system that certifies teachers who meet rigorous educational standards. Candidates are required to submit performance-based assessments that include the teaching portfolios, student work samples and videotapes (NBPTS, 2003). National Board Certification can be achieved following a thorough analysis of the candidates' classroom teaching methods and academic achievements.

Continuing education units CEUs may also be included in the category of professional development. In the State of Connecticut, educators are required to apply for a continuation of their professional teaching certificates through the completion of 90 contact hours of professional development training during each successive 5-year period (CSDE, 2002). When meeting the requirements for this HOUSSE rubric, Connecticut educators should select professional development opportunities that align with the four CTTC standards. Individuals in other locations can align with the ISTE (2002) national standards or their own district and state requirements.

Each professional development activity may be awarded 5 points. There is no limit to the amount of points that can be awarded in this category during each 5 year period. Documentation in the form of workshop announcements, certificates of participation or conference programs must be included to verify that each activity has been completed.

School and Community Service

The category of school or community service includes activities that; require an individual to assume a leadership role, provide professional development training to others or disseminate information through a public forum at the school, district, state, or national level. The specific activities in this category must be related to the use of educational technology for teaching and learning and may include service as a; department chair, team leader, mentor teacher, cooperating teacher, workshop facilitator or instructor, and community liaison.

In the State of Connecticut, a five year cycle has been mandated as the time period through which an experienced educator can accumulate CEUs. In keeping with this arrangement, each documented event that is completed during a five year time period will receive a total of 5 points. A 30 point maximum has been assigned to this category. Individuals in other locations can adjust the five year time period in order to align with their own state or district requirements. Documentation in the form of handouts, workshop announcements, state of federal forms, newspaper accounts or other materials can provide sufficient proof that an individual has participated in the event. It is suggested that administrators require that the description of the event includes the role that the individual had assumed.

Presentations, Publications and Awards

An individual's scholarship in the area of educational technology can be demonstrated through a variety of ways. Presentations can be given by individuals at state or national professional organization meetings, articles can be published in regional, state or national journals, or textbooks and chapters of textbooks can be authored. Teachers or school support staff can also receive state of national awards or acquire National Board Certification.

Any activities that can be related to scholarship or professional achievement can be included in this category. A total of 5 points are awarded for each article while each presentation and textbook chapter receives 15 points. Textbooks, state and national teaching awards and National Board Certification represent the highest level of scholarship and personal achievement. Each of these events is awarded 30 points.

Validation and Submission

Once all of the information has been completed on the HOUSSE, it will be necessary for the teacher to submit the rubric and supporting documentation to the school administrator. A meeting can be arranged between the administrator and the teacher or staff member for the purpose of verifying that the information on the documentation is accurate. Areas that may be in need of improvement can also be identified at this time. An action plan can be completed by both parties that will outline the steps that the teacher or staff member will take in addressing these deficiencies during the following academic year. Individuals what are completing the HOUSSE can sign a statement of assurance in order to attest to the accuracy of their information. The rubric and its supporting documents can remain in the school or be submitted to the school superintendent.

Conclusion

Educational organizations are charged with the task of supporting the integration of technologically mediated learning activities into their curriculum as a means of encouraging students to become lifelong learners, critical thinkers, and knowledgeable consumers of information. Under the guidelines of NCLB, highly qualified, teachers must meet certain criteria. These guidelines are currently in effect for teachers in Title I schools or who are paid from Title I funds. All other teachers have until the end of the 2005-2006 school year to meet the guidelines of the NCLB. Through a multiyear commitment, the professional development of school personnel can support the use of technology for increasing student achievement. As a result of this model HOUSSE in educational technology, progress can be made toward meeting the national challenge of providing a highly-qualified teacher in every classroom and ensuring that no child in America will be left behind.

Educational Technology Rubric
No Child Left Behind Act of 2001: Title II Part A
High Objective Uniform State Standard of Evaluation (HOUSSE)

Prepared by: Certification Area: Status: (Check one) Date:

- ❑ New
- ❑ Experienced

This HOUSSE evaluation will be used to demonstrate that the individual named above is "highly qualified" in the area of teaching and learning with technology. *All selected activities must be specific to content area of educational technology*. A score of 100 = highly qualified. Please attach any supporting documentation.

NCLB Category	Description / Supporting Documentation	Category Points
Years of Teaching Experience	Classroom Teacher ❑ Elementary ❑ Middle ❑ High School Technology Teacher ❑ Elementary ❑ Middle ❑ High School ❑ Higher Education Special Education / ELL / Paraprofessional ❑ Elementary ❑ Middle ❑ High School	10 pts. per year / 50 point max.
College Coursework	List course number, title and date completed. Attach college transcript and syllabus.	10 pts. per course / 50 pts. per major or degree
Professional Development	Check all that apply. Attach workshop or conference documentation. Competency Category ❑ Educational Technology Concepts and Operations ❑ Creating Learning Environments and Experiences ❑ Productivity and Professional Practice ❑ Social, Legal, Ethical and Human Issues	5 pts. per activity / previous 5 years
School and Community Service	Check all that apply. Attach supporting documentation. ❑ Committee work ❑ Department Chair / Team leader ❑ Mentor teacher ❑ Cooperating teacher (student teaching) ❑ Leadership position / Professional organization ❑ Instructor school / District workshops	5 points per year per documented event / 30 point max
Presentations, Publications, Awards	List the organization and award, presentation title, location and date and/or title of article or book and source of publication. Attach detailed documentation.	Points 5 / 15 / 30 per event No point max.

School Administrator _____ Date _____ Total _____

Figure 1: A Model HOUSSE in Educational Technology

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