Student and Program Assessment: Effective Preparation of Teacher Candidates

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This paper reviews Standard 9, Student and Program Assessment in the National Standards for Teachers of Family and Consumer Sciences (National Association of Teacher Educators for Family and Consumer Sciences [NATEFACS], 2004), provides a rationale for why beginning teachers need to be confident in creating assessment tools that can be used to measure student achievement, and suggests a conceptual framework for learner and program evaluation. Pre-service and beginning family and consumer sciences (FCS) teachers need to have basic assessment competency, understand assessment uses and their own role as beginning teachers to impact FCS programming, and support school and district efforts to meet No Child Left Behind reporting and accountability indicators. We provide specific examples of strategies for implementing this Standard including (a) assessing learning in FCS content using multiple methods, (b) using assessment data to improve practice, and (c) facilitating beginning teacher’s self assessment using portfolios (paper based or electronic).

Introduction and Rationale

Standard 9, Student and Program Assessment, of the National Standards for Teachers of Family and Consumer Sciences, states that beginning family and consumer sciences (FCS) teachers are able to “assess, evaluate, and improve student learning and programs in family and consumer sciences using appropriate criteria, standards, and processes” (National Association of Teacher Educators for Family and Consumer Sciences [NATEFACS], 2004). This Standard represents comprehensive assessment skills that beginning teachers are expected to have. They need to be able to measure a student’s learning, interpret measurement data to describe what students know in relation to expectations, and suggest actions to improve the teaching-learning process for FCS programs.

This paper considers assessment within three contexts: (a) measuring student/learner achievement, (b) determining program effectiveness, and (c) recognizing the teacher candidate’s role in the process. The predominant perspective for assessment has been in measuring student progress, as the simplest unit of interest. Nevertheless, it is important to acknowledge that decisions being made from the data collected will call for actions that yield a global programming effect. Therefore, the predominant focus in this paper will be on learner progress, with the understanding that program evaluation and teacher roles are also essential elements.

Wiggins and McTighe (2007) pointed out that the purpose of assessment in education is to advance learning, not merely to audit the absorption of facts. The 2002 No Child Left Behind (NCLB) Act’s philosophy is grounded in assessment of student learning, with greater emphasis on high stakes testing, which is not directly applicable to career and technical education (CTE) programs (those emphasizing practical oriented, hands on, life skills perspectives) that tend to utilize performance and authentic based assessments to monitor student learning (No Child Left Behind [NCLB], 2002). Even with the continuing focus on high stakes testing, CTE educators
still need to be fully conversant with accountability expectations of the NCLB Act and be able to integrate CTE concepts in the core areas to promote student achievement.

This pro-active approach is being promoted to minimize the continuing loss of programs observed as the public focus for education has been on academic programs that utilize standardized testing (unlike CTE programs that focus more on performance based, authentic assessments). Increasingly, CTE teachers need to demonstrate how their programs fit into the larger picture that supports the school’s efforts to meet the student achievement expectations of the NCLB Act.

In addition to NATEFACS Standard 9, achieving the assessment Standard is strongly recommended by other national and local accrediting bodies, professional organizations affiliated with teacher preparation, state departments of education, and teacher preparation programs. Each of these stakeholders identifies some criteria for meeting this Standard. The criteria can be achieved through successful completion of related courses in pre-service preparation and through opportunities to apply skills in student teaching. As an area of critical response, the stakeholders also identify the need for continuing education in assessment because experienced teachers must advance their understanding of assessment to meet demands for educational accountability. To that end, teacher education programs may offer specifically focused assessment courses targeting student learning that measures skill development in family and consumer sciences content.

Standard 9, Student and Program Assessment, is crucial for establishing a framework to improve student learning within family and consumer sciences programs. This framework provides an opportunity for beginning teachers to assess their achievement of national, state, local, institutional, and professional standards that inform pre-service preparation of teachers. In addition, a good foundation and understanding of this assessment Standard is critical for continuing education, as beginning teachers are expected to frequently evaluate their own professional growth as a tool for promotion and mobility from probationary to permanent teacher licensure status (Iowa Department of Education, 2008).

Statements and criteria for meeting Standard 9 in teacher preparation vary. A review of literature on the major accrediting institutions and professionals organizations involved in teacher preparation reveals that both Interstate New Teacher Assessment and Support Consortium (INTASC) and National Board for Professional Teacher Standards (NBPTS) provide a detailed approach to the concept of assessment in teacher preparation (Table 1). It is also recognized that a number of state and local institutions are informed by INTASC in determining that pre-service teachers are prepared to meet this Standard.

<table>
<thead>
<tr>
<th>Organization*</th>
<th>Expectation Statements</th>
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<tr>
<td>INTASC</td>
<td>The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner. Identifies three criteria that beginning teachers can use to demonstrate achievement of this Standard: Knowledge, Disposition, and Performance. KNOWLEDGE</td>
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- The teacher understands the characteristics, uses, advantages, and limitations of different types of assessments (e.g., criterion-referenced...
and norm-referenced instruments, traditional standardized and performance-based tests, observation systems, and assessments of student work) for evaluating how students learn, what they know and are able to do, and what kinds of experiences will support their further growth and development.

- The teacher knows how to select, construct, and use assessment strategies and instruments appropriate to the learning outcomes being evaluated and to other diagnostic purposes.
- The teacher understands measurement theory and assessment related issues, such as validity, reliability, bias, and scoring concerns.

**DISPOSITIONS**

- The teacher values ongoing assessment as essential to the instructional process and recognizes that many different assessment strategies, accurately and systematically used, are necessary for monitoring and promoting student learning. The teacher is committed to using assessment to identify student strengths and promote student growth rather than to deny students access to learning opportunities.

**PERFORMANCES**

- The teacher appropriately uses a variety of formal and informal assessment techniques (e.g., observation, portfolios of student work, teacher-made tests, performance tasks, projects, student self-assessments, peer assessment, and standardized tests) to enhance her or his knowledge of learners, evaluate students' progress and performances, and modify teaching and learning strategies.

**NBCPS**

*Teachers are responsible for managing and monitoring student learning.*

- They deliver effective instruction. They move fluently through a range of instructional techniques, keeping students motivated, engaged, and focused.
- They know how to engage students to ensure a disciplined learning environment, and how to organize instruction to meet instructional goals.
- They know how to assess the progress of individual students as well as the class as a whole.
- They use multiple methods for measuring student growth and understanding, and they can clearly explain student performance to parents.

**NCATE**

*Candidate knowledge, skills, and professional dispositions.*

Candidates preparing to work in schools as teachers or other school professionals know and demonstrate the content knowledge, pedagogical content knowledge and skills, pedagogical and professional knowledge and skills, and professional dispositions necessary to help all students learn. Assessments indicate that candidates meet professional, state, and institutional standards.
The primary obligation of the teacher is representing the subject matter in ways that his or her students can readily learn and understand. TEAC requires evidence that the candidates for the program’s degree learn how to convert their knowledge of a subject matter into compelling lessons that meet the needs of a wide range of students.

Assess, evaluate, and improve student learning and programs in family and consumer sciences using appropriate criteria, standards, and processes.

The primary focus of the 28 identified Standards is to promote sound, credible, and accurate evaluations that foster student learning and development at the classroom level. These Standards are intended for teachers and others who evaluate students as well as those who use and are affected by student evaluations.

In addition, a committee of representatives of the American Federation of Teachers, the National Council on Measurement in Education, and the National Education Association identified seven standards for teacher competence in student assessment (Standards for Teacher Competence in Educational Assessment of Students, 1990). They recommend that teachers should be skilled in:

1. Choosing assessment methods appropriate for instructional decisions;
2. Developing assessment methods appropriate for instructional decisions;
3. Administering, scoring, and interpreting the results of both externally-produced and teacher-produced assessment methods;
4. Using assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement;
5. Developing valid pupil grading procedures which use pupil assessments;
6. Communicating assessment results to students, parents, other lay audiences, and other educators; and
7. Recognizing unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information (Standards for Teacher Competence in Educational Assessment of Students)

Beginning family and consumer sciences teachers should be at the initial developing levels and working towards the accomplished level as they settle into their own classrooms and as they practice with developing and administering assessments to a variety of target audiences. Although learner achievement is the ultimate goal, educational programs supported by public funds are accountable to many stakeholders for providing access to effective programs. Beginning teachers play a role in providing data that is required to meet the mandates for accountability in educational programs.

Expectation Statements

Expectation statements are broad general statements that describe in more detail the knowledge, skills, attitudes, and/or behaviors of beginning teachers related to specific standards (Klein & Moore, 2008; McMillan, 2007). McMillan further differentiates expectations from standards and learning targets when explaining to teachers that an “expectation is what you
communicate to your students about the level of performance that you think they will be able to demonstrate … and is based on student’s previous achievement, aptitude, motivation, and other factors” (pp. 37-38). To achieve this expectation, pre-service teachers complete courses or course units in assessment, and practice the measurement of student learning during their practicum and student teaching. In Iowa for example, the Board of Educational Examiners (BoEE) identifies an assessment course within the content area of family and consumer sciences as a requirement for licensure in family and consumer sciences. This three-credit course, entitled Student Assessment for Vocational Family and Consumer Sciences covers the philosophy of student assessment; development and critique of tests and authentic assessment tools to measure cognitive, affective, and psychomotor learning; and procedures for grading, interpreting, and reporting assessment data. As a part of this course requirement, pre-service teachers gain real experience in establishing inter-rater reliability by interacting with other community judges at Family Career and Community Leaders of America (FCCLA) State STAR Events. In addition, the Iowa Department of Education also requires all pre-service teachers to meet Iowa’s assessment Standard by using a variety of methods to monitor student learning. To meet this Standard, the teacher is expected to:

1. Align classroom assessment with instruction;
2. Communicate assessment criteria and standards to all students and parents;
3. Understand and use the results of multiple assessments to guide planning and instruction;
4. Guide students in goal setting and assessing their own learning;
5. Provide substantive, timely, and constructive feedback to students and parents; and
6. Work with other staff, building, and district leadership in analysis of student progress (Iowa Department of Education, 2002).

Similar requirements can be found for other states. An example from the Wisconsin Department of Public Instruction is for all teachers to know how to test for student progress, that “…the teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the pupil” (Wisconsin Department of Public Instruction, 2008, n.p.).

State and teacher preparation institutions vary in the way they approach the teaching of assessment in pre-service teacher preparation. Whereas some states will offer a stand-alone assessment course (as in the case of Iowa) clearly identified by the licensing authority, others bundle an assessment unit within the pedagogy courses in curriculum development, special methods, and psychology among others. Each state and the institutions within it also vary in the ways the pre-service teachers demonstrate their achievement of Standard 9. Increasingly, states are requiring pre-service teachers to develop a portfolio with evidence of how they have met this Standard alongside other INTASC, local, and institutional standards in the profession of teaching (Delandshere & Arens, 2003).

In working with pre-service teachers to develop competence in Standard 9, it is imperative to have current and relevant learning resources. A review of literature reveals limited resources for teaching assessment in the content area of family and consumer sciences, either as a stand-alone course or as part of a unit in another course. Three major sources devoted to assessment in the family and consumer sciences content area were identified and include: (a) a 1994 Family and Consumer Sciences Education Association monograph titled How Do We Know They Know? by Lowe and Howell; (b) The Assessment Toolkit by Allenspach, Laurenson, and White (1996); and (c) Assessment Strategies Focusing on Food and Nutrition by Texas Tech

Whichever strategy is adapted by teacher preparation institutions, instructional units for assessment are designed to prepare pre-service teachers to better understand the philosophy of student assessment and to be able to communicate student achievement results to the various stakeholders including students, parents, school districts, and other interested parties. Increasingly, it is expected that pre-service teachers also participate in self-assessment and demonstrate achievement of content and pedagogy standards necessary for licensing in their state (Zeichner & Wray, 2001).

Four expectations of pre-service/beginning teachers regarding Standard 9 emerged from the National Association of Teacher Educators for Family and Consumer Sciences (2005) work group reports. These statements presume that teachers will have the ability to:

1. Interpret criteria, standards, and processes used to evaluate student learning and programs in family and consumer sciences;
2. Integrate a variety of evaluation techniques (e.g., authentic and performance assessments) to gather evidence regarding student learning and program performance;
3. Justify decisions about teaching practices and program design based on data-driven evidence; and
4. Modify one’s teaching practices based on personal reflection and evidence from a variety of other sources.

Opportunities to develop these attributes by beginning family and consumer sciences teachers are provided through a combination of courses, practicum and student teaching experiences, and professional development initiatives through their local education agencies (LEAs) and professional organizations such as American Association of Family and Consumer Sciences (AAFCS), Association for Career and Technical Education (ACTE), Family and Consumer Sciences Education Association (FCSEA), and NATEFACS.

**Implementation Strategies**

Pre-service teachers complete units in assessment and practice with assessment tools during their practicum and student teaching. Practicum experiences vary from state to state, with some programs requiring up to 100 hours of classroom experiences prior to student teaching (Levine, 2006). In Iowa for example, all pre-service teachers receiving an Iowa license must complete 80 hours of practicum before student teaching (Iowa Department of Education, Chapter 79). These practicum hours in authentic settings provide opportunities for pre-service teachers to practice developing and implementing assessment protocols within the family and consumer sciences content area. In addition, practicum experiences allow pre-service teachers to observe the entire teaching and learning context and participate in an aspect of assessment as they reflect and make judgments about the learning context. A discussion of the four expectation statements follows.
1: Interpret Assessment Criteria, Standards, and Processes

Interpret criteria, standards, and processes used to evaluate student learning and programs in family and consumer sciences.

Preparing pre-service teachers to fulfill this expectation requires them to understand student assessment and the role of assessment in informing policy at school, district, state, and national levels. Huba and Freed (2000) defined assessment as the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences. Teachers will communicate expectations to students in three ways: (a) by providing substantive, timely, and constructive feedback on student progress; (b) by suggesting ways to improve their development in the future (Gronlund & Waugh, 2009; Linn & Miller, 2005; Stiggins, 2007); and (c) by encouraging students to be learner-directed by actively assessing and planning for their own learning (Delandshere & Arens, 2003; Kato, 2008; Miller & Leskes, 2005; Stiggins). Finally, the process culminates when assessment results are used to improve subsequent learning.

Stiggins (2007) provided a graphical representation of the concepts surrounding assessment of learning including targets, techniques, and uses, while assuring psychometric attributes of validity, reliability, and absence of bias when collecting the data driven-evidence used to make educational decisions for reporting and program planning. The modified visual below (Figure 1) provides a picture of the relationship between the various concepts that inform the assessment process.

Linn and Miller (2005) defined standards as statements that specify what should be taught and what students should learn. They pointed out that standards do not mandate a particular curriculum, textbook, or instructional approach. However, standards are commonly used to guide program development and verify content inclusion. Stiggins (2007) further clarified the various and often confusing labels used in educational settings such as targets, goals, objectives, aims, scope and sequence, proficiencies, or competencies, and preferred to use standards and benchmarks, arguing that these terms refer to the same basic principle of what stakeholders want the students to know and be able to do. In family and consumer sciences, national program Standards have been developed to elucidate 16 areas of study. These Standards for FCS programs at the secondary school level, titled National Standards for Family and Consumer Sciences Education, were developed by the National Association of State Administrators of Family and Consumer Sciences and VTECS (1998). Many states have aligned their Standards for FCS programs similarly. The program Standards are now in the 2nd edition (National Association of State Administrators of Family and Consumer Sciences [NASAFACS], 2008) and pre-service teachers are expected to align these with their curriculum units and lesson plans for each of the units and to regularly monitor for changes.
Figure 1: Quality Assessment

Quality Assessment involves

**Targets**
- Knowledge
- Reasoning
- Performance
- Products
- Dispositions

*Based on National, State and Content Standards

**Techniques**
- Selected Response
- Essays
- Performance/Authentic
- Communication

*Assuring psychometric attributes: validity, reliability and bias-free

**Uses**

***Initial Decisions***
- Diagnostic
- Placement

***Formative Decisions***
- Instructional and curriculum changes
- Ongoing student feedback
- Monitoring progress

***Summative Decisions***
- Reporting and assigning grades
- Policy decisions at district, state, national levels
- Program level changes

Adapted from Stiggins (2007)
II: Selecting Appropriate Assessment Techniques to Achieve Success

Integrate a variety of evaluation techniques (e.g., authentic and performance assessments) to gather evidence regarding student learning and program performance.

As identified by various accrediting organizations, successful assessment of achievement depends to a great extent on the ability of the teacher to match assessment methods with achievement targets – what we want the student to know and be able to do (INTASC, NATEFACS, 2005; NCATE; Stiggins, 2007). Targets are the attributes that define success. In providing evidence of this achievement, students must demonstrate the acquisition of knowledge reaching higher levels of cognition (Anderson & Krathwohl, 2001). They should explain their reasoning, perform and develop products, and exhibit positive character-building dispositions toward learning, the classroom, families, careers, and the community.

From the variety of assessment forms available, teachers need to identify and use appropriate assessment techniques to match the learning being measured. For example, selected response test items (e.g., multiple choice, short answer, false/true, matching) and supplied response items (e.g., essays and interpretive tests) assess for knowledge and reasoning; checklists and rubrics measure performance; scenarios and authentic assessments are used to judge process and skill development resulting in product creation; and teachers can assess for positive dispositions using a variety of communication procedures such as interviews, open ended questions, journals, and blogs, among others.

Assessment tools do not need to be constructed by teachers when valid, reliable tools already exist. However, the tools should present unique applications so that students are not merely asked to recognize the correct answer, but rather, so they can apply what they have learned in a similar, but not exactly the same, situation. Teachers are encouraged to maintain test banks and other assessment resources from a variety of reliable sources such as existing test banks, checklists, and rubrics and then they are expected to modify test items and to adapt problem-based scenarios to more closely align to their own classes and students, and to assure currency regarding the professional knowledge base and emerging societal changes. Stiggins (2007) offered a chart as a guide for helping teachers to select appropriate techniques to match the targets.

Table 2
Matching Techniques with Targets

<table>
<thead>
<tr>
<th>Techniques</th>
<th>Selected Response</th>
<th>Essays</th>
<th>Performance/Authentic</th>
<th>Personal Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targets</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>Knowledge</td>
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<tr>
<td>Reasoning</td>
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<td>Performance</td>
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<td>Dispositions</td>
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As teachers plan for assessment of learning using the various techniques identified above, they need to recognize that not all techniques are useful for assessing specific targets. Miller and Leskes (2005) asserted that the best evidence of learning comes from direct observation or summary of self reports. Furthermore, when summative judgments are made, they should be based on multiple measures of learning.

**Reasoning for Action**

Prior to the development of the *National Standards for Teachers of Family and Consumer Sciences*, program Standards for family and consumer sciences programs at the secondary school level, titled *National Standards for Family and Consumer Sciences*, were developed by the NASAFACS & VTECS (1998). Recently, these FCS program Standards underwent a second edition, in which a comprehensive “new” program Standard, *Reasoning for Action*, was established. This Reasoning for Action standard established a foundation for instruction and student learning about reasoning and for using reasoning in applied contexts (Fox & Laster, 2000; Knorr & Manning, 1997). This Standard is grounded in beliefs that concepts and processes used for reasoning can be learned; that reasoning for action is a vehicle for the active use and functionality of all other FCS areas of study; and that the content and skills delineated in the areas of study provide a context in which Reasoning for Action can be developed and applied (NASAFACS, 2008).

In addition to this reasoning target, family and consumer sciences instruction often targets other processes. These processes include: thinking, communication, leadership, and management processes highlighted in the first family and consumer sciences program Standards (National Standards for FCS, 1998), and critical thinking, creative thinking, and problem solving (Brookfield, 2005).

**III: Justify Decisions about Teaching Practices and Programs**

*Justify decisions about teaching practices and program design based on data-driven evidence.*

Assessment provides teachers the opportunity to validate learning and document progress. In doing so, family and consumer sciences teachers are able to clearly communicate to stakeholders the reasoning behind decisions made regarding their teaching practices and program elements. Often FCS teachers can cite anecdotal evidence that richly describes the impact programs have on individual students. Teachers are encouraged to present these stories to stakeholders. The importance of having such a compilation of descriptive stories remains; however, FCS teachers should no longer depend on these emotionally-packed narratives to establish the effectiveness of their programs for all learners. Especially with the current accountability climate, having data-based evidence provides a stronger defense so that comparisons can be made among alternative programs. Stakeholders are interested in many educational practices and policies that teachers might be asked to justify. Examples are the selection of students for a specific program, the grading policies used for evaluating group-produced products, and the selection and use of commercially-sponsored educational materials.

Implicit in the expectation for data-driven decision making is the necessity for planning to systematically collect and analyze various types of program data, including input, process, outcome, and satisfaction data (Frechtling, 2007). Because assessment strategies should be used before, during, and after instruction to follow initial, formative, and summative stages of quality assessment, a well developed assessment plan should be created early in the program.
development. Data available at these various times, then, will guide the range of decisions that will help improve the success of students and programs. Although program evaluation is often the responsibility of educational administrators, the teacher plays a pivotal role in data collection and findings interpretation. Marsh, Pane, and Hamilton (2006) have described Data Driven Decision Making (DDDM).

So that interpretations and conclusions from data can be fairly derived, the assessment plan should consider several factors such as diversity, equity, rigor, and relevance; controlling for bias; ensuring validity and reliability; and maintaining a proper sampling from the realm of content. Often plans for a comprehensive examination of student achievement will employ a test blueprint, test grid, or table of specifications to guide appropriate content sampling.

To address accountability, education stakeholders (e.g., parents, school boards, community leaders, guidance counselors) are interested in program impact on an aggregate level. Family and consumer sciences teachers need to be able to compile reports and summarize data in a readily available format. Such reports would be presented to decision makers and funding agencies to promote family and consumer sciences programs and seek new funding sources for implementing program activities (Swierk, 2009). Hence, FCS teachers need to be well-versed with assessment language and be able to explain how their work contributes to meeting current educational policies such as provided in the NCLB Act. The relationship of learner achievement to program effectiveness was illustrated by the Joint Committee on Standards for Educational Evaluation when they specified that teacher candidates must be able to “foster student learning at the classroom and program level.” This requirement clearly reveals the connection between individual student learning and the aggregate results that occur within a classroom and program. Additionally, the tangential relationship of FCS program Standards to other subject standards such as science and mathematics also provides opportunities for FCS programs to contribute evidence of problem-based and higher-level learning for NCLB accountability reports.

**IV: Modify Teaching Based on Reflection and Evidence**

Modify one’s teaching practices based on personal reflection and evidence from a variety of other sources.

By virtue of collecting both formative and summative data on student achievement, teachers are better able to make modifications to their instructional strategies and curriculum in order to improve student learning. Formative data provides information that can be used to improve practice and make immediate changes while still in the process of instruction and course development. Summative data on the other hand becomes more meaningful at the end of a unit, course, or program, and feedback is normally used for accountability purposes such as in reporting NCLB (2002). In content areas where standardized tests are not common practice, such as in career and technical education (CTE) programs, feedback from summative data guides changes to be implemented in the next unit or course offering. In addition, results can be used in reporting program impact and program improvement. Classroom teachers make independent decisions about if and when to implement changes as suggested from formative and summative feedback.

Although current data on education research is available to guide school improvement, Anderson (2002) pointed out that due to the abstract nature of these research findings, many practitioners do not find the data useful in their own classrooms because of the lack of consideration for contextual factors when generalizing findings. To overcome this deficiency, Stringer (2008) recommended the use of action research to address a context specific focused
problem with the aim of improving practice. Family and consumer sciences teacher educators Peterat and Smith (2001) supported the use of action research noting that “by inquiring into our own practice we can keep ourselves alive and growing as professionals and be responsible to those we serve” (p. 2). For family and consumer sciences and other CTE programs that are not strictly guided by standardized tests, the responsibility for improving learning rests on the teachers’ ability to be reflective practitioners, systematically collecting formative and summative data in their own classrooms and critically analyzing and using these data in making professional judgments. According to Mertler (2009), these decisions provide insights to finding better and more effective means of achieving desired educational outcomes. In embracing reflective practice, teachers become transformative practitioners, using accurate data collected in their own classrooms to improve practice.

Increasingly, in-service and pre-service teachers are being expected to become reflective by assembling teaching portfolios for initial teaching license, teacher recertification, and National Board Certification (Keino, 2006; Zeichner & Wray, 2001). These portfolios, although primarily used for annual evaluations, allow teachers to reflect deeply about their practice. Teachers are able to utilize student evaluations and use both quantitative and qualitative comments to critically evaluate their own teaching. Implementation at the classroom level is dependent on the teacher’s willingness and commitment to make changes. For pre-service teachers, reflection is usually limited to the short period of time spent during their practicum in school settings (Nagle, 2009). Skills gained in assembling a learning portfolio transfer seamlessly into the teaching and learning context once pre-service teachers assume full time teaching responsibilities and are expected to develop a teaching portfolio (Keino).

**Conclusion and Recommendations**

Imperative to successful achievement of Standard 9, Student and Program Assessment, amongst beginning teachers is the ability to clearly demonstrate evidence of achievement of all the other standards that inform teacher preparation. This paper has provided an overview of this Standard, its central role in teacher education as identified by professional and accrediting organizations, strategies for implementing the teaching of this Standard, and ways teachers can continually modify their instructional strategies to achieve desired learning outcomes. In reviewing the literature, it was noted that gaps continue to exist. For example, dissemination of emerging changes in expectations, particularly the National Standards for Family and Consumer Sciences Education, ought to be more accessible. The revised version of the National Program Standards is only available as a link on the AAFCS Web site (http://www.aafcs.org/FCSstandards). Assessment work needs to continue to address the following:

1. Creating assessments that support instructional strategies using the critical science perspective;
2. Developing multiple measures to assess targets beyond knowledge such as reasoning, performance, products, and dispositions;
3. Critiquing assessment activities as related to learning goals and student diversity (i.e., ensure that assessments are free of bias and contain rigor and relevance); and
4. Finally, no single textbook exists that is solely devoted to assessment of student learning and evaluation of programs in family and consumer sciences. Therefore, family and consumer sciences professionals are called to develop such resources given the central role of assessment in pre-service teacher preparation. By taking the
courses, participating in practicum experiences, and reflecting on these experiences, including
developing learning or teaching portfolios, pre-service teachers learn to develop assessment
protocols, implement, and evaluate them for effectiveness in measuring student learning and
program impact. Mertler (2009) cautioned us that:

While human reasoning has gotten our global culture far throughout history, it is most
reliant on dependable information. If information that we collect in order to help us make
common sense decisions is of sub-standard quality or accuracy, our common sense
decisions will reflect those various deficiencies. (p 5)

Additional Resources

Action Research
- Web Link: http://www.madison.k12.wi.us/sod/car/carhomepage.html

Action Research Journal
  An international, interdisciplinary, peer-reviewed journal which provides as a forum for
  the development of the theory and practice of action research. Published quarterly by
  SAGE.

Action Research Online Resources
- Web Link: http://cadres.pepperdine.edu/ccar/resources.html
  A compilation of resources by the Center for Collaborative Action Research which links
  educators, researchers, and community members with the goal of creating deep
  understanding of educational problems in the school context and encourages evidence-
  based reasoning to solve problems.

Developing Educational Standards: Family and Consumer Sciences
- Web Link: http://edstandards.org/StSu/FACS.html
  These are a compilation of program standards for K-12 education with specific
  statements regarding family and consumer sciences.

Highly Qualified Teacher Resources

Measuring Skills for the 21st Century

United States Department of Education, Assessment Resources

University of Maine Assessment Web Sites
- Web Link:
  http://neasc.umf.maine.edu/data/tutorial/assessment_websites.htm#GENERAL
Accrediting Organizations

INTASC: The Interstate New Teacher Assessment and Support Consortium (INTASC) is a consortium of state education agencies and national educational organizations dedicated to the reform of the preparation, licensing, and on-going professional development of teachers. Created in 1987, INTASC’s primary constituency is state education agencies responsible for teacher licensing, program approval, and professional development. Its work is guided by one basic premise: An effective teacher must be able to integrate content knowledge with the specific strengths and needs of students to assure that all students learn and perform at high levels.
Web Link: http://www.ccsso.org/projects/interstate_new_teacher_assessment_and_support_consortium/

JCSEE: The Joint Committee on Standards for Educational Evaluation (JCSEE) advances theory, practice, and utilization of evaluation. Standards have been established for both student evaluation and program evaluation. See Western University Evaluation Center for current activities. Web Link: http://www.wmich.edu/evalctr/

NATEFACS: National Association of Teacher Educators for Family and Consumer Sciences (NATEFACS) is an affiliate of the Family and Consumer Sciences (FACS) Division, Association for Career and Technical Education (ACTE). Web Link: http://www.natefacs.org/

NBPTS: The National Board for Professional Teaching Standards (NBPTS) improves teaching and student learning. National Board Certified Teachers are highly accomplished educators who meet high and rigorous standards. This professional certification is used increasingly by states as an option for advanced licensing status. Web Link: http://www.nbpts.org/the_standards/the_five_core_propositio

NCATE: The National Council for Accreditation of Teacher Education (NCATE) is the teaching profession’s organization to help establish high quality teacher, specialist, and administrator preparation. Through the process of professional accreditation of schools, colleges, and departments of education, NCATE works to make a difference in the quality of teaching, teachers, school specialists, and administrators. NCATE believes every student deserves a caring, competent, and highly qualified teacher. Web Links: http://www.ncate.org/documents/standards/NCATE%20Standards%202008.pdf  
http://www.ncate.org/public/aboutNCATE.asp

TEAC: The Teacher Education Accreditation Council (TEAC), founded in 1997, is a nonprofit organization dedicated to improving academic degree programs for professional educators, those who will teach and lead in schools, pre-K through grade 12. TEAC’s goal is to support the preparation of competent, caring, and qualified professional educators. TEAC’s primary work is accrediting undergraduate and graduate professional education programs in order to assure the public about the quality of college and university programs.  
Web Link: http://www.teac.org/index.php/accreditation/goals-principles/
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Citation