

Introduction to the Literature Review of the Missouri Teacher Professional Practice Standards

This review of the literature that supports the Missouri Standards and Quality Indicators was conducted by RMC Research Corporation (<http://www.rmcresearchcorporation.com/>). The review provides a brief summary of high-quality evidence in support of each of the specific performance elements that comprise Missouri's Teacher Standards and Quality Indicators. The review includes summaries of pertinent research, references for those who would like to read more about the actual studies, additional resources, and related research. The review can serve as source of professional development to assist teachers in their focus and growth on particular indicators.

Included in this review are references for the following standards and quality indicators:

Standard 1: Content knowledge aligned with appropriate instruction

- Quality Indicator 1 – Content knowledge and academic language
- Quality Indicator 2 – Student engagement in subject matter
- Quality Indicator 3 – Disciplinary research and inquiry methodologies
- Quality Indicator 4 – Interdisciplinary instruction
- Quality Indicator 5 – Diverse social and cultural perspectives

Standard 2: Student Learning, Growth and Development

- Quality Indicator 1 – Cognitive, social, emotional and physical development
- Quality Indicator 2 – Student goals
- Quality Indicator 3 – Theory of learning
- Quality Indicator 4 – Differentiated lesson design
- Quality Indicator 5 – Prior experiences, multiple intelligences, strengths and needs
- Quality Indicator 6 – Language, culture, family and knowledge of community values

Standard 3: Curriculum Implementation

- Quality Indicator 1 – Implementation of curriculum standards
- Quality Indicator 2 – Lessons for diverse learners
- Quality Indicator 3 – Instructional goals and differentiated instructional strategies

Standard 4: Critical Thinking

- Quality Indicator 1 – Instructional strategies leading to student engagement in problem-solving and critical thinking
- Quality Indicator 2 – Appropriate use of instructional resources to enhance student learning
- Quality Indicator 3 – Cooperative, small group and independent learning

Standard 5: Positive Classroom Environment

- Quality Indicator 1 – Classroom management techniques
- Quality Indicator 2 – Management of time, space, transitions, and activities
- Quality Indicator 3 – Classroom, school and community culture

Standard 6: Effective Communication

- Quality Indicator 1 – Verbal and nonverbal communication
- Quality Indicator 2 – Sensitivity to culture, gender, intellectual and physical differences
- Quality Indicator 3 – Learner expression in speaking, writing and other media
- Quality Indicator 4 – Technology and media communication tools

Standard 7: Student Assessment and Data Analysis

- Quality Indicator 1 – Effective use of assessments
- Quality Indicator 2 – Assessment data to improve learning
- Quality Indicator 3 – Student-led assessment strategies
- Quality Indicator 4 – Effect of instruction on individual/class learning
- Quality Indicator 5 – Communication of student progress and maintaining records
- Quality Indicator 6 – Collaborative data analysis

Standard 8: Professionalism

- Quality Indicator 1 – Self- assessment and improving
- Quality Indicator 2 – Professional learning
- Quality Indicator 3 – Professional rights, responsibilities and ethical practices

Standard 9: Professional Collaboration

- Quality Indicator 1 – Induction and collegial activities
- Quality Indicator 2 – Collaborating to meet student needs
- Quality Indicator 3 – Cooperative partnerships in support of student learning

LITERATURE REVIEW

MISSOURI TEACHER STANDARDS

PREPARED FOR:
MR. PAUL KATNIK, ASSISTANT COMMISSIONER
OFFICE OF EDUCATOR QUALITY
MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
P.O. Box 480
JEFFERSON CITY, MO 65102-0480

PREPARED BY:
RMC RESEARCH CORPORATION
633 17TH STREET, SUITE 2100
DENVER, CO 80202

JUNE 2013



MISSOURI TEACHER STANDARDS

LITERATURE REVIEW

PREPARED FOR:

Mr. Paul Katnik, Assistant Commissioner

Office of Educator Quality

Missouri Department of Elementary and Secondary Education

P.O. Box 480

Jefferson City, MO 65102-0480

PREPARED BY:

Stephany Brown

Susie Bachler

RMC Research Corporation

633 17th Street, Suite 2100

Denver, CO 80202

JUNE 2013

ACKNOWLEDGMENTS

This report was prepared for the Missouri Department of Elementary and Secondary Education under Funding Source No. 0105-7813-A2T1.

For questions about this report, please contact Stephany Brown at 1-800-922-3636, or e-mail at brown@rmcdenver.com.

RMC Research Corporation is an Equal Employment Opportunity and Affirmative Action Employer and a Drug-Free Workplace.

MO Standard	Evaluative Criteria for Teacher Professional Practice
1.1	<p data-bbox="346 276 1270 308">Teacher delivers content knowledge and increases academic language</p> <p data-bbox="346 332 1890 446">Aligns with <i>InTASC Standard #4: Content Knowledge</i>. The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners.</p> <p data-bbox="346 462 1921 771">Several studies have found that deep content-area knowledge, specifically in math, appear to positively impact student achievement (Clotfelter, et al., March 2007, October 2007; Goldhaber & Brewer 1999; Harris & Sass, 2007; Hill, et al., 2005). The National Council for Accreditation of Teacher Education (NCATE, 1996) noted that “many studies confirm that the best teachers have mastered their subjects, understand the learning process, and are experts in a wide range of teaching methods.” Shulman (1987) asserts that effective teachers must understand purpose, subject matter structures, and ideas within and outside the discipline, and understand it in multiple ways. Stevenson and Stigler (1992) suggest that highly qualified teachers have a cognitive command of the subject matter, structure information logically for students, consistently monitor student performance, and provide students with immediate feedback.</p> <p data-bbox="346 812 1932 1039">Danielson (1996, 2006) states that good teachers have a thorough understanding of the curriculum and an understanding of what methods and materials can be used to complement essential concepts. Knowledge of content and pedagogy are appropriately different for teachers of different levels. The balance between content and pedagogy at different levels is critical; i.e. the content of reading does not change but the pedagogy does whereas in an area like science both the content and pedagogy change. Through deep knowledge of content the teacher knows how to transform the instructional design into a sequence of activities and exercises that make it accessible to students.</p> <p data-bbox="346 1079 504 1112"><i>References:</i></p> <p data-bbox="346 1128 1869 1242">Clotfelter, C. T., Ladd, H. F., Vigdor, J. L. (2007, March). <i>How and why do teacher credentials matter for student achievement?</i> Washington, DC: National Center for Analysis of Longitudinal Data in Education Research (CALDER). Available from http://www.caldercenter.org/PDF/1001058_Teacher_Credentials.pdf</p> <p data-bbox="346 1250 1911 1404">Clotfelter, C. T., Ladd, H. F., Vigdor, J. L. (2007, October). <i>Teacher credentials and student achievement in high school: A cross-subject analysis with student fixed effects.</i> Washington, DC: National Center for Analysis of Longitudinal Data in Education Research (CALDER). Available from http://www.caldercenter.org/PDF/1001104_Teacher_Credentials_HighSchool.pdf</p>

	<p>Danielson, C. (1996). <i>Enhancing professional practice: A framework for teaching</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>Danielson, C. (2006). <i>Teacher leadership that strengthens professional practice</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>Harris, D. N., & Sass, T. R. (2007, March). <i>Teacher training, teacher quality, and student achievement</i>. Washington, DC: National Center for Analysis of Longitudinal Data in Education Research (CALDER). Available from http://www.caldercenter.org/PDF/1001059_Teacher_Training.pdf</p> <p>Hill, H. C., Rowan, B., & Loewenberg Ball, D. (2005). Effects of teachers' mathematical knowledge for teaching on student achievement. <i>American Educational Research Journal</i>, 42(2), 371-406. Available from http://sitemaker.umich.edu/lmt/files/hillrowanball.pdf</p> <p>National Commission on Teaching and America's Future. (1996). <i>What matters most: Teaching for America's future</i>. New York: Author. Available from https://dst.sp.maricopa.edu/DWG/STPG/JuniorACE/Shared%20Documents/Teacher%20development/WhatMattersMost.pdf</p> <p>Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. <i>Harvard Educational Review</i>, 57(1), 1-22.</p> <p>Stevenson, H. W., & Stigler, J. W. (1992). <i>The learning gap</i>. New York: Summit Books.</p>
1.2	<p>Teacher engages students in subject matter</p> <p>Aligns with <i>InTASC Standard #4: Content Knowledge</i>. The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners.</p> <p>Danielson (1996, 2006) established that content includes not only factual information but all aspects of a subject, including concepts, principles, relationships, methods of inquiry, and outstanding issues. Teachers who know their subjects also know how to ask the right questions and how to handle conceptual development. A teacher's knowledge of content and pedagogy is reflected in an awareness of common student misconceptions and how these should be handled.</p> <p>Research shows that students perform better academically when teachers ask focused questions, provide immediate feedback, and engage students in discussion and review of content (Bielefeldt, 1990; Brophy & Good, 1986; Evertson & Harris, 1992; Gottfried & Gottfried, 1991; Levine & Lezotte, 1990; Martens & Kelly, 1993; McCarthy, Webb, & Hancock, 1995; Sammons, Hillman, & Mortimore, 1995; Wang, Haertel, & Walberg, 1993-94).</p>

References:

- Bielefeldt, T. (1990, February). Classroom discipline. *Research Roundup*, 5(2), (ERIC Document Reproduction Service No. ED 318 133).
- Brophy, J. E., and Good, T. L. "Teacher Behavior and Student Achievement." In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 328-377). New York: Macmillan.
- Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Danielson, C. (2006). *Teacher leadership that strengthens professional practice*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Evertson, C. M., and Harris, A. L. (1992, April). What we know about managing classrooms. *Educational Leadership*, 49(7), 74-78.
- Gottfried, A. E., & Gottfried, A. W. (1991, April). *Parents' reward strategies and children's academic intrinsic motivation and school performance*. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Seattle, WA, (ERIC Document Reproduction Service No. ED 335 144).
- Levine, D. U., & Lezotte, L. W. (1995). Effective schools research. In J. A. Banks & C. A. Banks, *Handbook of research on multicultural education*. New York: Macmillan.
- Martens, B. K., & Kelly, S. Q. (1993). A behavioral analysis of effective teaching. *School Psychology Quarterly*, 8, 10-6.
- McCarthy, M. T., Webb, J. M., & Hancock, T. E. (1995, April). Form of feedback effects on verb learning and near-transfer tasks by sixth graders. *Contemporary Educational Psychology*, 20(2), 140-150.
- Sammons, P., Hillman, J., & Mortimore, P. (1994, November). *Key characteristics of effective schools: A review of school effectiveness research*. London: International School Effectiveness & Improvement Centre, University of London.
- Wang, M. C., Haertel, G. D., & Walberg, H. J. (December 1993-January 1994). What helps students learn?" *Educational Leadership*, 51(4), 74-79.

1.3	<p>Teacher engages students in methods of inquiry and research</p> <p>Aligns with <i>InTASC Standard #8: Instructional Strategies</i>. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to access and appropriately apply information.</p> <p>Several studies have found that effective teaching emphasizes the importance of higher-order thinking skills such as inquiry and research (Brophy & Good, 1986; Ellis & Worthington, 1994; McLaughlin & Talbert 1993; Snapp & Glover, 1990; Wenglinsky, 2001). A meta-analysis by Redfield and Rousseau (1981) concluded that the predominant use of higher-level questions during instruction yielded positive gains on tests of both factual recall and application of thinking skills. Hyde and Bizar (1989) found that teachers who value student thinking structure their classrooms to give students time to think, problems that are worthy of thinking about, and other students with whom to think. Several studies cited in <i>Tennessee’s Framework for Evaluation and Professional Growth: Comprehensive Assessment</i> (2009) found that students perform better academically when they have teachers that ask focused questions, provide immediate feedback, and engage students in discussion and review of content.</p> <p><i>References:</i></p> <p>Brophy, J. E., & Good, T. L. (1986). Teacher behavior and student achievement. In M. C. Wittrock (Ed.), <i>Handbook of research on teaching</i> (3rd ed., pp. 328-377).</p> <p>Ellis, E. S., & Worthington, L. A. (1994). <i>Research synthesis on effective teaching principles and the design of quality tools for educators</i> (Technical Report No. 5). Eugene: University of Oregon, National Center to Improve the Tools of Educators.</p> <p>Hyde, A. A., & Bizar, M. (1989). <i>Thinking in context: Teaching cognitive processes across the elementary school curriculum</i>. New York: Longman.</p> <p>McLaughlin, M. W., & Talbert, J. E. (1993). <i>Contexts that matter for teaching and learning</i>. Stanford, CA: Stanford University.</p> <p>Redfield, D. L., & Rousseau, E. W. (1981). A meta-analysis of experimental research on teacher questioning behavior. <i>Review of Educational Research</i>, 51(2): 237-245.</p> <p>Snapp, J. C., & Glover, J. A. (1990). Advanced organizers and study questions. <i>Journal of Educational Research</i>, 83, 266–271.</p> <p>Tennessee State Board Education. (2009). <i>Framework for evaluation & professional growth: Comprehensive assessment</i>. Nashville, TN: Author. Available from http://www.tn.gov/education/frameval/doc/comprehensive_assessment.pdf</p> <p>Wenglinsky, H. (2001). <i>Teacher classroom practices and student performance: How schools can make a difference</i> (Report Number RR-01-19). Princeton, NJ: Educational Testing Service.</p>
------------	---

1.4	Teacher makes interdisciplinary content connections
	Aligns with InTASC Standard #5: Innovative Applications of Content. The teacher understands how to connect concepts and use differing perspectives to engage learners in critical/creative thinking and collaborative problem solving related to authentic local and global issues.
	<p>Several studies (Black, 1997; Gregson, 1992; Jacobs, 1989; Stemmer, Brown & Smith, 1992) have found that teachers who integrate workplace readiness skills into content area instruction and select workplace problems to illustrate how academic skills are applied in real world settings enable students to relate the learning material back to other courses or workplace applications and increase achievement. Rogers and Freiberg (1994) found that experiential learning that includes self-discovery and real life experiences enhance student achievement. Interdisciplinary/ cross-curricular teaching provides a meaningful way in which students can use knowledge learned in one context as a knowledge base in other contexts in and out of school (Collins, Brown, & Newman, 1990).</p> <p><i>References:</i></p> <p>Black, Susan. (1997, August). Branches of knowledge. <i>The American School Board Journal</i>, 35-37.</p> <p>Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.), <i>Knowing, learning, and instruction: Essays in honor of Robert Glaser</i> (pp. 453-494). Hillsdale, NJ: Lawrence Erlbaum Associates.</p> <p>Gregson, J. A. (1992). Effective pedagogical strategies for work attitudes instruction. <i>Journal of Industrial Teacher Education</i>, 29(3), 60-79.</p> <p>Jacobs, H. (1989). <i>Interdisciplinary curriculum: Design and implementation</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>Rogers, C. R., & Freiberg, H. J. (1994). <i>Freedom to learn</i> (3rd ed). Columbus, OH: Merrill/Macmillan.</p> <p>Stemmer, P., Brown, B., & Smith, C. (1992). The employability skills portfolio. <i>Educational Leadership</i>, 49(6): 32-35.</p>

1.5	Teacher incorporates global and real world learning activities
	Aligns with <i>InTASC Standard #5: Innovative Applications of Content</i>. The teacher understands how to connect concepts and use differing perspectives to engage learners in critical/creative thinking and collaborative problem solving related to authentic local and global issues.
	<p>Gay (2003, p. 4) states that culturally responsive teachers “validate, facilitate, liberate and empower ethnically diverse students by simultaneously cultivating their cultural integrity, individual abilities, and academic success.” Kemp and Hall (1992) state that such teachers are better prepared to provide a variety of opportunities for students to apply and use knowledge and skills in different learning situations.</p> <p><i>References:</i> Gay, G. (2003). Introduction: Planting seeds to harvest fruits. In G. Gay (Ed.), <i>Becoming multicultural educators: Personal journey toward professional agency</i> (pp. 1–16). San Francisco: Jossey-Bass. Kemp, L., & Hall, A. H. (1992). <i>Impact of effective teaching research on student achievement and teacher performance: Equity and access implications for quality education</i>. Jackson, MS: Jackson State University. (ERIC Document Reproduction Service No. ED 348 360).</p>
2.1	Teacher uses developmental factors and theories to guide instruction
	Aligns with <i>InTASC Standard #8: Instructional Strategies</i>. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to access and appropriately apply information.
	<p>Research points to the fact that aspects of development—neural, cognitive, social, psychological, physical, and ethical have far-reaching effects on children’s ability to learn (Bransford, Brown, & Cocking, 2002; Shonkoff & Phillips, 2000). It is essential that educators know the “typical” patterns of human development in order to understand what to expect of students at different ages (preschool/kindergarten, primary, intermediate, junior high school, and high school)and to plan age-appropriate instruction based on various teaching and instructional models that optimize students’ ability to engage with and learn from the curriculum (Rothstein, 1990).</p> <p><i>References:</i> Bransford, J. D., Brown, A. L., & Cocking, R. (2002). <i>How people learn: Brain, mind, experience, and school</i>. Washington, DC: National Academies Press.</p>

	<p>Rothstein, P. (1990). <i>Educational psychology</i>. New York: McGraw-Hill.</p> <p>Shonkoff, J. P., & Phillips, D. A. (Eds.). (2000). <i>From neurons to neighborhoods: The science of early childhood development</i>. Washington, DC: National Academy Press.</p>
2.2	Teacher encourages student responsibility for their own learning
	Aligns with <i>InTASC Standard #1: Learner Development</i>. The teacher understands how children learn and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.
	<p>The research and theoretical base for creating a classroom environment where students take greater responsibility for their learning shows that students achieve at higher levels when they are more self-reliant, self-directed in their learning, are more motivated to learn, and are more efficient in their learning (Hom & Murphy, 1983). Students that better understand their strengths and weaknesses as learners can leverage their strengths in learning situations (Blakey & Spence, 1990).</p> <p><i>References:</i></p> <p>Blakey, E., & Spence, S. (1990). <i>Developing metacognition</i>. Syracuse, NY: ERIC Clearinghouse on Information Resources. [ED327218]</p> <p>Hom, H. L., & Murphy, M. D. (1985). Low need achievers' performance: The positive impact of a self- determined goal. <i>Personality and Social Psychology Bulletin</i>, 11,275-285.</p>
2.3	Teacher applies theories of learning to differentiate instruction
	Aligns with <i>InTASC Standard #2: Learning Differences</i>. The teacher uses understanding of individual differences and diverse communities to ensure inclusive learning environments that allow each learner to reach his/her full potential.
	<p>Danielson (1996) asserts that understanding the developmental context of the subject matter being taught enables teachers to construct instructional goals appropriate to students with particular needs. It also allows them to observe important pattern of development of students within a content area, which is particularly important in the areas of science and math at all levels and literature and social sciences at the high school level. Research validates that the use various instructional methods that form the basis of differentiated instruction, including:</p> <ul style="list-style-type: none"> • Using effective classroom management procedures;

	<ul style="list-style-type: none"> • Promoting student engagement and motivation; • Assessing student readiness; • Responding to learning styles; • Grouping students for instruction; and • Teaching to the student's <i>zone of proximal development</i>. <p>(Allan & Tomlinson, 2000; Ellis & Worthington, 1994; Vygotsky, 1978)</p> <p>Kemp and Hall (1992) found that teachers who adjust the difficulty level of material to student ability have higher rates of achievement in their classes. In a more recent three-year study, scholars found the differentiated instruction consistently yielded positive results across a broad range of targeted groups (McQuarrie, McRae, & Stack-Cutler, 2008).</p> <p><i>References:</i> Allan, S. D., & Tomlinson, C. A. (2000). <i>Leadership for differentiating schools and classrooms</i>. Alexandria, VA: Association for Supervision and Curriculum Development. Danielson, C. (1996). <i>Enhancing professional practice: A framework for teaching</i>. Alexandria, VA: Association for Supervision and Curriculum Development. Ellis, E. S., & Worthington, L. A. (1994). <i>Research synthesis on effective teaching principles and the design of quality tools for educators</i> (Technical Report No. 5). Eugene: University of Oregon, National Center to Improve the Tools of Educators. Kemp, L., & Hall, A. H. (1992). <i>Impact of effective teaching research on student achievement and teacher performance: Equity and access implications for quality education</i>. Jackson, MS: Jackson State University. (ERIC Document Reproduction Service No. ED 348 360). McQuarrie, L., McRae, P., & Stack-Cutler, H. (2008). <i>Differentiated instruction provincial research review</i>. Edmonton: Alberta Initiative for School Improvement. Vygotsky, L. S., (1978). <i>Mind in society: The development of higher psychological processes</i>. Cambridge, MA: Harvard University Press.</p>
2.4	<p>Teacher respects and values each student’s learning needs</p> <hr/> <p>Aligns with <i>InTASC Standard #2: Learning Differences</i>. The teacher uses understanding of individual differences and diverse communities to ensure inclusive learning environments that allow each learner to reach his/her full potential.</p> <hr/> <p>The existing differentiated instruction model is rooted in cognitive psychology and is based on research linking student achievement with a teacher’s ability to consistently adjust content to meet the student’s individual learning needs (McTigh</p>

& Brown, 2005; Tieso, 2003; Tomlinson, 1999, 2001, 2003, 2004, 2005). Rock et al. (2008) provides an overview of various studies that document classroom and school-wide changes from traditional classroom instruction to differentiated instruction and the resulting increases in student motivation, engagement and achievement. A research summary by Dunn et. al (2010) describes how students learn and how effective teachers should and could apply the concepts of universal design, differentiated instruction, and embedded learning opportunities into their classrooms.

Several studies (Chatterton 2005; Dono 2004; Levy 2009) found that approximately 30 percent of students learn substantially more when text is accompanied by visual information. Other students learn best through the use of hands-on materials or activities (Fine, 2002) or through the completion of independent tasks (DeBello 1985; Giannitti 1988).

References:

- Chatterton, J. (2005). Effects of individuals' learning-style strengths on reading recall and attitudes with and without pictures. *Dissertation Abstracts International* 66(9): 3217A.
- DeBello, T. (1985). A critical analysis of the achievement and attitude effects of administrative assignments to social studies writing instruction based on identified, eighth grade students' learning style preferences for learning alone, with peers, or with teachers. *Dissertation Abstracts International* 47(1): 68A.
- Dono, M. (2004). Relative effectiveness of print-versus-picture/color/print-oriented testing on fourth grade, low-, average-, and highly achieving students. *Dissertation Abstracts International* 66(2): 495A.
- Dunn, R., Craig, M., Favre, L., Markus, D., Pedota, P., Sookdeo, G., & Terry, B. (2010). No light at the end of tunnel vision: Steps for improving lesson plans. *The Clearing House*, 83(5): 194-206.
- Fine, D. (2002). Comparison between the learning styles of special and regular education high school students and the effects of responsive teaching on the short- and long-term achievement, attitudes, and behaviors of a subset of SPED adolescents. *Dissertation Abstracts International*, 63(1): 67A.
- Giannitti, M. C. (1988). An experimental investigation of the relationships among the learning style sociological preferences of middle school students, their attitudes and achievement in social studies, and selected instructional strategies. *Dissertation Abstracts International*, 49(10): 2911A.
- McTighe, J., & Brown, J. (2005). Differentiated instruction and educational standards: Is détente possible? *Theory Into Practice*, 44: 234–244.
- Rock, M. L., Gregg, M., Ellis, E., & Gable, R. A. (2008). REACH: A framework for differentiating classroom instruction. *Preventing School Failure*, 52(2), 31-47.
- Tieso, C. (2003). Ability grouping is not just tracking anymore. *Roper Review*, 26, 29–36.

	<p>Tomlinson, C. A. (2001). Differentiated instruction in the regular classroom: What does it mean? How does it look? <i>Understanding Our Gifted</i>, 14(1): 3–6.</p> <p>Tomlinson, C. A. (2003). Teaching all students. <i>Educational Leadership</i>, 61, 6–87.</p> <p>Tomlinson, C. A. (2004). Sharing responsibility for differentiating instruction. <i>Roper Review</i>, 26: 188.</p> <p>Tomlinson, C. A. (2005). Differentiated Instruction. <i>Theory Into Practice</i>, 4, 185–273.</p>
2.5	<p>Teacher designs lessons based on prior experiences, learning styles, multiple intelligences, strengths and needs</p> <p>Aligns with InTASC Standard #2: Learning Differences. The teacher uses understanding of individual differences and diverse communities to ensure inclusive learning environments that allow each learner to reach his/her full potential.</p> <p>Danielson (1996, 2007) asserts that excellent teachers carefully monitor their students. Such monitoring provides plenty of information about individual student achievements and challenges, and also provides a great deal of information about the effectiveness, appropriateness, and appeal of the curriculum.</p> <p>An increasing number of teachers are adopting an approach incorporating Gardner’s (1993, 1999) “Multiple Intelligence (MI) theory” which suggests there are a number of types of intelligence rather than just what has been traditionally considered in the measurement of IQ. This often results in improved teaching performance and classrooms that meet the needs of more students. Kaplan and Saccuzzo (2001) further define intelligence as the general potential, independent of prior knowledge.</p> <p>A 2008 study (Burton, Douglas, & Reese-Durham) examined how Multiple Intelligences and Direct Instruction as teaching strategies affect the achievement scores of students enrolled in an eighth grade mathematics class. The results suggested that performance on a post-mathematics assessment for students exposed to MI scored was considerably higher (25.48 points) compared to those taught using Direct Instruction (17.25).</p> <p><i>References:</i></p> <p>Burton, K. S., Douglas, O., & Reese-Durham, N. (2008). The effects of the multiple intelligence teaching strategy on the academic achievement of eighth grade math students. <i>Journal of Instructional Psychology</i>, 35(2), 182+.</p> <p>Danielson, C. (1996). <i>Enhancing professional practice: A framework for teaching</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>Danielson, C. (2007). <i>Enhancing professional practice: A framework for teaching</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>Gardner, H. (1993). <i>Multiple intelligences: the theory in practice</i>. New York: Basic Books.</p>

	<p>Gardner, H. (1999). <i>Intelligence reframed: Multiple intelligences for the 21st century</i>. New York: Basic Books.</p> <p>Hoerr, T. (2002, January). <i>Applying mi in schools</i>. Columbia, MD: Johns Hopkins University School of Education. Available from http://education.jhu.edu/PD/newhorizons/strategies/topics/mi/hoerr2.htm</p> <p>Kagan, L. (2000). <i>Multiple intelligences: structure and activities</i>. San Clemente, CA: Kagan Publishings.</p> <p>Kaplan, R. M. & Saccuzzo, D. P. (2001). <i>Psychological testing: principles, applications, and issues</i> (5th ed.). Belmont, CA: Wadsworth/Thomas.</p>
2.6	<p>Teacher designs instruction with considerations for language, culture and family and community values</p> <p>Aligns with <i>InTASC Standard #2: Learning Differences</i>. The teacher uses understanding of individual differences and diverse communities to ensure inclusive learning environments that allow each learner to reach his/her full potential.</p> <p>Several studies have found evidence that instruction should ensure sensitivity to student culture and agree on the need for teachers to have a deep understanding of the subjects they teach so that they can create the multiple representations necessary to address the diversity of prior experiences and understandings present in their classrooms (Au, 1998; Ladson-Billings, 1994; McDiarmid, 1995; Moll, 1998; Ruddell, 1997; Schmidt, 2005).</p> <p>Gay's (2000) work on cultural responsive teaching showed that African, Asian, Latino, and Native American students will perform better on multiple measures of achievement when teaching is filtered through their own cultural experiences and frames of reference. She noted that key components of of culturally responsive teaching include teacher caring, teacher attitudes and expectations, formal and informal multicultural curriculum, culturally informed classroom discourse, and cultural congruity in teaching and learning strategies.</p> <p><i>References:</i></p> <p>Au, L. J. (1998). Social constructivism and the school literacy learning of students with diverse backgrounds. <i>Journal of Literacy Research</i>, 30, 297-319.</p> <p>Gay, G. (2000). <i>Culturally responsive teaching: Theory, research, and practice</i>. New York: Teacher's College Press.</p> <p>Ladson-Billings, G. (1994). <i>The dreamkeepers: Successful teachers of African American children</i>. San Francisco: Jossey-Bass.</p> <p>McDiarmid, G. W. (1995). <i>Realizing new learning for all students: A framework for the professional development of Kentucky teachers</i>. East Lansing, MI: National Center for Research on Teacher Learning.</p> <p>Moll, L. C. (1998). Turning to the world: Bilingual schooling, literacy, and the cultural mediation of thinking. In T. Shanahan & F. V. Rodriguez-Brown (Eds.), <i>Forty-seventh yearbook of the National Reading Conference</i> (pp. 59-75). Chicago, IL: National Reading Conference.</p>

	<p>Ruddell, M. R. (1997). <i>Teaching content reading and writing</i> (2nd ed.). New York: Wiley.</p> <p>Schmidt, P. R. (2005, December). <i>Culturally responsive instruction: Promoting literacy in secondary content areas</i>. Naperville, IL: Learning Point Associates. Available from http://www.learningpt.org/literacy/adolescent/cri.pdf</p>
3.1	<p>Teacher designs learning experiences that align to curriculum standards</p> <p>Aligns with <i>InTASC Standard #7: Planning for Instruction</i>. The teacher draws upon knowledge of content areas, cross disciplinary skills, learners, the community, and pedagogy to plan instruction that supports every student in meeting rigorous learning goals.</p> <p>Danielson (1996, 2007) describes good teachers as having a thorough understanding of the curriculum and knowledge of what methods and materials can be used to complement essential concepts. Knowledge of content and pedagogy are appropriately different for teachers of different levels. The balance between content and pedagogy at different levels are critical; i.e. the content of reading does not change but the pedagogy does whereas in an area like science both the content and pedagogy change. Through deep knowledge of content the teacher knows how to transform the instructional design into a sequence of activities and exercises that make it accessible to students.</p> <p><i>References:</i></p> <p>Danielson, C. (1996). <i>Enhancing professional practice: A framework for teaching</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>Danielson, C. (2007). <i>Enhancing professional practice: A framework for teaching</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p>
3.2	<p>Teacher uses lessons and activities to meet the diverse needs of learners</p> <p>Aligns with <i>InTASC Standard #2: Learning Differences</i>. The teacher uses understanding of individual differences and diverse communities to ensure inclusive learning environments that allow each learner to reach his/her full potential.</p> <p>Zeichner (1992) summarized the extensive literature describing successful teaching approaches for diverse populations and categorized the key elements for effective teaching for ethnic- and language-minority students. In addition, several studies (Au, 1998; Ball & McDiarmid, 1989; Fuchs et. al., 1997; Ladson-Billings, 1994; Moll, 1998; Ruddell, 1997) have found evidence that elementary instruction should ensure sensitivity to student culture and agree on the need for teachers to have a deep understanding of the subjects they teach so that they can create the multiple representations necessary to address the diversity of prior experiences and understandings present in their classrooms. Extensive research on the benefits of using diverse teaching strategies for diverse learners can also be found in Saravia-Shore (2008).</p>

Danielson (1996, 2007) asserts that teachers who understand the developmental context of the subject matter are better prepared to construct instructional goals appropriate to students with special needs and can observe important patterns of student development within a content area. These patterns of development are particularly important in science and mathematics at all levels, and literature and social sciences at the high school level.

References:

- Au, L. J. (1998). Social constructivism and the school literacy learning of students with diverse backgrounds. *Journal of Literacy Research, 30*, 297-319.
- Ball, D. L. & McDiarmid, G. W. (1989). *The subject matter preparation of teachers*. (Issue Paper 89-4). East Lansing: Michigan State University, The National Center for Research on Teacher Education.
- Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Danielson, C. (2007). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1997). Peer-assisted learning strategies: Making classrooms more responsive to diversity. *American Educational Research Journal, 34*(1), 174-206.
- Ladson-Billings, G. (1994). *The dreamkeepers: Successful teachers of African American children*. San Francisco: Jossey-Bass.
- McDiarmid, G. W. (1995). *Realizing new learning for all students: A framework for the professional development of Kentucky teachers*. East Lansing, MI: National Center for Research on Teacher Learning.
- Moll, L. C. (1998). Turning to the world: Bilingual schooling, literacy, and the cultural mediation of thinking. In T. Shanahan & F.V. Rodriguez-Brown (Eds.), *Forty-seventh yearbook of the National Reading Conference* (pp. 59-75). Chicago, IL: National Reading Conference.
- Ruddell, M. R. (1997). *Teaching content reading and writing* (2nd ed.). New York: Wiley.
- Saravia-Shore, M. (2008). Diverse teaching strategies for diverse learners. In Cole, R. W. (Ed.), *Educating everybody's children: Diverse teaching strategies for diverse learners*. Alexandria, VA: Association for Supervision and Curriculum Development. Available from <http://www.ascd.org/publications/books/107003/chapters/Diverse-Teaching-Strategies-for-Diverse-Learners.aspx>
- Zeichner, K. (1992, September). *NCRTL special report: Educating teachers for cultural diversity*. East Lansing, MI: Michigan State University, National Center for Research on Teacher Learning. Available from <http://ncrtl.msu.edu/http/sreports/sr293.pdf>

3.3	<p>Teacher evaluates lessons relative to long and short-term learning goals</p>
	<p>Aligns with <i>InTASC Standard #6: Assessment</i>. The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to document learner progress, and to inform the teacher’s ongoing planning and instruction.</p>
	<p>Several studies have found that student achievement improves when learning goals and objectives are clearly defined, displayed prominently, and have an articulated relationship to both instructional activities and student assessment (Behr & Bachelor, 1981; Deal & Peterson, 1993; Hallinger & Heck, 1996; Sammons, Hillman, & Mortimore, 1995). Haberman (1995) found that effective teachers incorporate the “big picture”, including long term goals, daily practice, engaging students, fostering teacher student rapport, expecting and understanding the range of differences among students.</p> <p><i>References:</i></p> <p>Behr, G., & Bachelor, B. (1981). <i>Identifying effective schools: A case study involving black racially isolated minority schools and instructional accomplishments/information systems</i>. Los Alamos, CA: SWRL Educational Research and Development.</p> <p>Deal, T. E., & Peterson, K. D. (1993). <i>The principal's role in change: Technical and symbolic aspects of school improvement</i>. Madison, WI: University of Wisconsin-Madison, Wisconsin Center for Education Research, National Center for Effective Schools.</p> <p>Haberman, M. (1995). <i>Star teachers of children in poverty</i>. Bloomington, IN: Kappa Delta Pi.</p> <p>Hallinger, P., & Heck, R. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995. <i>Educational Administration Quarterly</i>, 32(1), 5-44.</p> <p>Sammons, P., Hillman, J., & Mortimore, P. (1995, March). <i>Key characteristics of effective schools: a review of school effectiveness research</i>. Paper presented at an internal seminar for Ofsted, London: Institute of Education, pp. 1-71.</p>
4.1	<p>Teacher promotes critical thinking and problem-solving skills</p>
	<p>Aligns with <i>InTASC Standard #8: Instructional Strategies</i>. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.</p>
	<p>Research shows that there is a link between critical thinking skills and increased student achievement. In studies of NAEP score data, Wenglinsky (2002, 2003, 2004) found that teaching critical thinking is associated with higher test scores. Meta-analysis conducted by Hattie (2009) showed that a problem-solving teaching approach yielded a medium effect size ($d =$</p>

	<p>0.61) on student achievement. According to Hembree (1992), the teacher characteristic with the most positive effect on students' performance was specialist training in heuristic methods ($d = 0.71$). The methods include, for example, Pólya's (1945) four phases of: (1) understanding the problem, (2) obtaining a plan of the solution, (3) carrying out the problem, and (4) examining the solutions obtained. Problem-solving methods can also have a positive influence on student interpersonal outcomes. Almeida and Denham (1984) reported positive effects of interpersonal cognitive problem solving skills on behavioral adjustment and social behaviors (see also Denham & Almeida, 1987).</p> <p><i>References:</i></p> <p>Almeida, M. C., & Denham, S. A. (1984, April). <i>Interpersonal cognitive problem-solving: A meta analysis</i>. Paper presented at the Annual Meeting of the Eastern Psychological Association, Baltimore, MD.</p> <p>Denham, S. A., & Almeida, M. C. (1987). Children's social problem-solving skills, behavioral adjustment, and interventions: A meta-analysis involving theory and practice. <i>Journal of Applied Developmental Psychology, 8</i>(4), 391-409.</p> <p>Hattie, J. (2009). <i>Visible learning: A synthesis of over 800 meta-analyses relating to achievement</i>. New York: Routledge.</p> <p>Hembree, R. (1992). Experiments and relational studies in problem solving: A meta-analysis, <i>Journal for Research in Mathematics Education, 23</i>(3), 242-273.</p> <p>Pólya, G. (1945). <i>How to solve it: A new aspect of mathematical method</i>. Princeton, NJ: Princeton University Press.</p> <p>Wenglinsky, H. (2002, February). How schools matter: The link between classroom practices and student academic performance. <i>Education Policy Analysis Archives, 10</i>(12). Available from http://epaa.asu.edu/epaa/v10n12/</p> <p>Wenglinsky, H. (2003). Using large-scale research to gauge the impact of instructional practices on student reading comprehension. <i>Educational Policy Analysis Archives, 11</i>(9). Available from http://epaa.asu.edu/ojs/article/view/247/373</p> <p>Wenglinsky, H. (2004, September). Facts or critical thinking skills? What the NAEP results say. <i>Educational Leadership, 62</i>(1), 32-35. Available from http://www.ascd.org/publications/educational-leadership/sept04/vol62/num01/Facts-or-Critical-Thinking-Skills%C2%A2-%E2%80%94-What-NAEP-Results-Say.aspx</p>
4.2	<p>Teacher uses a variety of instructional resources to enhance student learning</p> <p>Aligns with <i>InTASC Standard #8: Instructional Strategies</i>. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.</p> <p>Research on the use of technology and other instructional resources to enhance student learning may be found in <i>WestEd's Research Base: Using Technology to Support Diverse Learners</i> (n.d.) and <i>Marzano's Classroom Instruction That</i></p>

	<p><i>Works</i> (2001). Hattie's meta-analysis (2009) found that use of interactive video methods, i.e. a combination of computer-assisted instruction and video technology, had a medium effect size of $d = 0.52$ on student achievement.</p> <p><i>References:</i> Hattie, J. (2009). <i>Visible learning: A synthesis of over 800 meta-analyses relating to achievement</i>. New York: Routledge. Marzano, R. J. (2001). <i>Classroom instruction that works: Research-based strategies for increasing student achievement</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p>
4.3	<p>Teacher employs individual and collaborative learning strategies</p>
	<p>Aligns with <i>InTASC Standard #8: Instructional Strategies</i>. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.</p>
	<p>Hattie (2009) notes that there seems to be universal agreement that cooperative learning is effective, especially when contrasted with competitive and individualistic learning. Meta-analyses that compared cooperative learned versus heterogeneous classes showed a medium effect size of $d = 0.41$. The effect size for cooperative learning versus individualistic learning was $d = 0.59$. Cooperative learning was found to have a prime effect on enhancing interest and problem solving provided it is set up with high levels of peer involvement. Marzano et al. (2001) also cite several studies on the benefits of cooperative learning, particularly when a variety of criteria are used for grouping students. Flexible grouping strategies have been found to yield positive results on student learning (Castle, Deniz, & Tortora, 2005). A review of literature on self-regulated learning (Zumbrunn, Tadlock, & Roberts, 2011) showed that learning strategies such as independent reading practice were a valuable predictor of students' reading comprehension scores.</p> <p><i>References:</i> Castle, S., Deniz, C., & Tortora, M. (2005, February). Flexible grouping and student learning in a high-needs school. <i>Education and Urban Society</i>, 37(2), 139-150. Available from http://eus.sagepub.com/content/37/2/139 Hattie, J. (2009). <i>Visible learning: A synthesis of over 800 meta-analyses relating to achievement</i>. New York: Routledge. Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). <i>Classroom instruction that works: Research-based strategies for increasing student achievement</i>. Alexandria, VA: Association for Supervision and Curriculum Development. Zumbrunn, S., Tadlock, J., & Roberts, E. (2011, October). <i>Encouraging self-regulated learning in the classroom: A review of the literature</i>. Richmond, VA: Metropolitan Educational Research Consortium, Virginia Commonwealth University. Available from http://www.merc.soe.vcu.edu/wp-content/uploads/sites/3387/2013/11/Self-Regulated-Learning-2.pdf</p>

5.1	<p>Teacher uses motivation and engagement strategies to positively impact the classroom environment</p> <p>Aligns with <i>InTASC Standard #3: Learning Environments</i>. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.</p> <p>A report from the Center on Education Policy discusses various research-based dimensions of student motivation (Usher & Kober, 2012). Studies have shown that higher student motivation to learn is linked not only to better academic performance, but to greater conceptual understanding, satisfaction with school, self-esteem, social adjustment, and to lower dropout rates (Gottfried, 1985; Gottfried, 2009; Ryan & Deci, 2000, 2009). Pintrich (2003) found that if a student believes, for whatever reason, that he or she has limited capacity for learning or feels unlikely to succeed, that student will not be as academically motivated.</p> <p>Reviews of the literature on student engagement show that higher levels of engagement in school are linked to improved student performance. Research studies cited by Klem and Connell (2004) found student engagement a “robust predictor of student achievement and behavior in school, regardless of socioeconomic status.” (p. 262). Students engaged in school are more likely to earn higher grades and test scores and have lower drop-out rates. Wang and Holcombe (2010) note that a growing body of research “also suggests that the social, instructional, and organizational climate of schools influences both students’ engagement and their academic achievement” and cite various studies that illuminate this point. Additional research supporting the use of engagement strategies can be found in Akey (2006); Marzano (2007); and the National Center for School Engagement (2006).</p> <p><i>References:</i> Akey, T. M., (2006, January). <i>School context, student attitudes, and behavior, and academic achievement: An exploratory analysis</i>. New York: MDRC. Available from http://www.mdrc.org/publications/419/full.pdf Gottfried, A. E. (1985). Academic intrinsic motivation in elementary and junior high students. <i>Journal of Educational Psychology</i>, 77(6), 631-645. Gottfried, A. E. (2009). The role of environment in contextual and social influences on motivation: Generalities, specificities and causality. In K. R. Wentzel & A. Wigfield (Eds.), <i>Handbook of motivation at school</i> (pp. 462-475). New York: Routledge. Klem, A., & Connell, J. P. (2004, September). Relationships matter: Linking teacher support to student engagement and achievement. <i>Journal of School Health</i>, 74(7), 262-273. Available from</p>
-----	---

	<p>http://onlinelibrary.wiley.com/doi/10.1111/josh.2004.74.issue-7/issuetoc</p> <p>Marzano, R. J. (2007). <i>The art and science of teaching: A comprehensive framework for effective instruction</i>. Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>National Center for School Engagement. (2006, December). <i>Quantifying school engagement: Research report</i>. Denver, CO: Author. Available from http://www.schoolengagement.org/TruancyPreventionRegistry/Admin/Resources/Resources/QuantifyingSchoolEngagementResearchReport.pdf</p> <p>Pintrich, P. R. (2003). A motivation science perspective on the role of student motivation in learning and teaching contexts. <i>Journal of Educational Psychology, 95</i>(4), 667-696.</p> <p>Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. <i>American Psychologist, 55</i>(1), 68-78.</p> <p>Ryan, R. M., & Deci, E. L. (2009). Promoting self-determined school engagement: Motivation, learning, and well-being. In K. R. Wentzel & A. Wigfield (Eds.), <i>Handbook of motivation at school</i> (pp. 462-475). New York: Routledge.</p> <p>Usher, A., & Kober, N. (2012). <i>Student motivation: An overlook piece of school reform</i>. Washington, DC: Center on Education Policy. Available from http://www.cep-dc.org/displayDocument.cfm?DocumentID=405</p> <p>Wang, M., & Holcombe, R. (2010, September). Adolescent's perceptions of school environment, engagement, and academic achievement in middle school. <i>American Educational Research Journal, 47</i>(3), 633-662. Available from http://aer.sagepub.com/content/47/3/633.full.pdf+html</p>
5.2	<p>Teacher effectively manages time, space, transitions, and activities</p> <p>Aligns with <i>InTASC Standard #3: Learning Environments</i>. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.</p> <p>In <i>Classroom Management That Works: Research-Based Strategies for Every Teacher</i>, Marzano et. al (2003) note that research over the past 30 years shows classroom management to be one of the critical ingredients of effective teaching. Based on their meta-analysis, Marzano and colleagues found that classes in which effective classroom management techniques are used have student engagement rates that are .617 standard deviations higher than engagement rates in classes where effective management techniques are not employed. This translates into a 23-percentile point increase in engagement. Classes with effective classroom management techniques reach achievement levels that are .521 standard deviations higher than the achievement in classes without effective management techniques. This translates into a 20-percentile point increase in achievement. Marzano concluded that “effective classroom management has a powerful</p>

	<p>impact on students.” (p. 10).</p> <p><i>Reference:</i> Marzano, R. J., Marzano, J. S., & Pickering, D. J. (2003). <i>Classroom management that works: Research-based strategies for every teacher</i>. Alexandria, VA: Association for Supervision and Curriculum Development. Available from http://www.ascd.org/publications/books/103027.aspx</p>
5.3	<p>Teacher promotes a positive classroom environment and classroom and school culture</p> <p>Aligns with <i>InTASC Standard #3: Learning Environments</i>. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.</p> <p>Pickett and Fraser (2010) cite several studies that point to the impacts of positive classroom learning environments on student learning. They note that analyses of large databases, collected as part of the National Assessment of Educational Progress (NAEP), found that the classroom and school environment was a strong predictor of both student achievement and attitudes.</p> <p><i>Reference:</i> Pickett, L., & Frader, B. (2010, January). Creating and assessing positive classroom learning environments. <i>Childhood Education</i>, January 1, 2010. Available from http://www.thefreelibrary.com/Creating+and+assessing+positive+classroom+learning+environments.-a0229717502</p>
6.1	<p>Teacher is dedicated to the consistent use of correct, effective verbal and non-verbal communication</p> <p>Aligns with <i>InTASC Standard #3: Learning Environments</i>. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.</p> <p>Haskins (2000) studied the concept of pedagogical communication as a means by which teachers could enhance credibility in the classroom. Pedagogical communication was defined as “a process of communication used by teachers to advance educational subject matter.” (Haskins, 2000). Research suggests that behaviors such as effective use of vocal variation (e.g., changes in rate, inflection, volume, movement) or visual variation (e.g., change in facial expressions, eye contact, gestures) may increase students’ cognitive and affective learning (Gorham, 1988; Richmond, Gohan, & McCrosky, 1987). Additionally, the ways in which a teacher communicates information, including delivering a message as free as possible of</p>

errors (e.g., grammar, pronunciation, enunciation) bears heavily on students' perceptions of teacher competence (Kearney & Plax, 1999). Other studies have shown that students taught by teachers with greater verbal ability learn more and show more academic success than those taught by teachers with lower verbal skills (Stronge, 2002; Rowan, Chang, & Miller, 1997; Wenglinsky, 2000).

Research on improving instruction for English language learners (ELLs) demonstrates the importance teachers using clear and effective communication. Students learn best when teachers enunciate clearly, add gestures, draw pictures when appropriate, write clearly and legibly, rephrase or paraphrase in shorter sentences and simpler syntax, avoid idioms and slang words, provide frequent summations of the salient points of a lesson, and emphasize key vocabulary words (Reed and Railsback, 2003). According to Samson and Collins (2012), teachers of ELLs should have an understanding of the linguistic demands of tasks and skills to address the role of academic language in their instruction.

References:

- Haskins, W. (2000). Ethos and classroom communication: Suggestions for enhancing classroom credibility in the classroom. *Current Issues in Education* [Online], 3(4). Available from <http://cie.asu.edu/volume3/number4/>
- Gorham, J. (1988). The relationship between verbal teacher immediacy and student learning. *Communication Education*, 37, 40-53.
- Kearny, P., & Plax, T. G. (1999). *Public speaking in a diverse society* (2nd ed.). Mountain View, CA: Mayfield Publishing Company.
- Reed, B., & Railsback, J. (2003, May). *Strategies and resources for mainstream teachers of English language learners*. Portland, OR: Northwest Regional Educational Laboratory. Available from www.ode.state.or.us/opportunities/grants/saelp/ellnwrel.pdf
- Richmond, V. P., Gorham, J. S., & McCrosky, J. (1987). The relationship between selected immediacy behaviors and cognitive learning. In M. Laughlin (Ed.), *Communication Yearbook 10* (pp. 574-590). Beverly Hills: Sage.
- Rowan, B., Chiang, F. S., & Miller, R. J. (1997). Using research on employee's performance to study the effects of teachers on student achievement. *Sociology of Education*, 70(4), 256-284.
- Samson, J. F., & Collins, B. A. (2012, April). *Preparing all teachers to meet the needs of English language learners: Applying research to policy and practice for teacher effectiveness*. Washington, DC: Center for American Progress. Available from <http://www.americanprogress.org/issues/education/report/2012/04/30/11372/preparing-all-teachers-to-meet-the-needs-of-english-language-learners/>
- Stronge, J. H. (2002). *Qualities of effective teachers*. Alexandria, VA: Association for Supervision and Curriculum

	<p>Development. Wenglinsky, H. (2000). <i>How teaching matters: Bringing the classroom back into discussion of teacher quality</i>. Princeton, NJ: Milken Family Foundation and Educational Testing Service.</p>
6.2	<p>Teacher is sensitive to differences in culture, gender, intellectual and physical abilities</p> <p>Aligns with <i>InTASC Standard #2: Learning Differences</i>. The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.</p> <p>Many effective instructional approaches build on students' backgrounds to further the development of their abilities. Zittleman (2004) found, for example, that when teachers became aware of gender-biased behaviors in their teaching and altered these behaviors to reflect equitable instructional practices, gender gaps in student interaction and learning diminished.</p> <p>Research has also shown that students learn more when their classrooms are compatible with their own cultural and linguistic experience (Au, 1980; Jordan, 1984, 1985, 1995; National Coalition of Advocates for Students, 1988; Trueba & Delgado-Gaitan, 1985). Students may experience confusion and anxiety, become inattentive or unable to seek the teacher's attention or participate in discussions when the norms of interaction and communication in a classroom are very different from those to which students have been accustomed. By acknowledging students' cultural norms and expectations concerning communication and social interaction, teachers can appropriately guide student participation in instructional activities.</p> <p>Villegas and Lucas (2002) found that an affirming attitude toward students from culturally different backgrounds significantly impacts students' learning, belief in self, and overall academic performance. They cited the works of several researchers who concluded that teachers' attitudes towards students shape the expectations they have of the degree to which students can learn (Irvine, 1990; Pang & Sablan, 1998). Affirming attitudes have been shown to support student achievement (Ladson-Billings, 1994; Lucas, Henze, & Donato, 1990; Nieto, 1996). According to Delpit (1995), teachers who respect cultural differences are more apt to believe that students from nondominant groups are capable learners, even when these children enter school with ways of thinking, talking, and behaving that differ from the dominant cultural norms.</p> <p><i>References:</i></p>

	<p>Au, K. H. (1980, Summer). Participation structures in a reading lesson with Hawaiian children: Analysis of a culturally appropriate instructional event. <i>Anthropology and Education Quarterly</i>, 11(2), 91–115.</p> <p>Delpit, L. D. (1995). <i>Other people’s children: Cultural conflict in the classroom</i>. New York, New Press.</p> <p>Irvine, J. J. (1990). <i>Black students and school failure</i>. New York: Greenwood.</p> <p>Jordan, C. (1984). Cultural compatibility and the education of Hawaiian children: Implications for mainland educators. <i>Educational Research Quarterly</i>, 8(4), 59–71.</p> <p>Jordan, C. (1985, Summer). Translating culture: From ethnographic information to educational program. <i>Anthropology and Education Quarterly</i>, 16(2), 104–123.</p> <p>Jordan, C. (1995). Creating cultures of schooling: Historical and conceptual background of the KEEP/Rough Rock collaboration. <i>Bilingual Research Journal</i>, 19(1), 83–100.</p> <p>Ladson-Billings, G. (1994). <i>The dreamkeepers: Successful teachers of African American children</i>. San Francisco: Jossey-Bass.</p> <p>Lucas, T., Henze, R., & Donato, R. (1990). Promoting the success of Latino language minority students: An exploratory study of six high schools. <i>Harvard Educational Review</i>, 60(3), 315-340.</p> <p>National Coalition of Advocates for Students. (1988). <i>New voices: Immigrant Students in U. S. public schools</i>. Boston: Author.</p> <p>Nieto, S. (1996). <i>Affirming diversity: The sociopolitical context of education</i>. White Plains, NY: Longman.</p> <p>Pang, V. O., & Sablan, V. A. (1998). Teacher efficacy: How do teachers feel about their abilities to teach African American students? In M. E. Dilworth (Ed.), <i>Being responsive to cultural differences</i> (pp. 39-58). Thousand Oaks, CA: Corwin Press.</p> <p>Trueba, H., & Delgado-Gaitan, C. (1985). Socialization of Mexican children for cooperation and competition: Sharing and copying. <i>Journal of Educational Equity and Leadership</i>, 5(3), 189–204.</p> <p>Villegas, A. M., & Lucas, T. (2002, January/February). Preparing culturally responsive teachers: Rethinking the curriculum. <i>Journal of Teacher Education</i>, 53(1), 20-32.</p> <p>Zittleman, K. R. (2004). <i>Making public schools great for every girl and boy – gender equity in the mathematics and science classroom: Confronting the barriers that remain</i>. Washington, DC: National Educational Association.</p>
6.3	<p>Teacher supports and expands safe, free and respectful learning expression</p> <p>Aligns with <i>InTASC Standard #3: Learning Environments</i>. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.</p> <p>Educational research supports creating an atmosphere of mutual respect and support in the classroom, where students feels safe in expressing concerns or asking questions, and where tolerance and a sense of common identity and community</p>

	<p>are supported (Shepard, 2000; Stronge 2002; Wilen et al., 2004). Impacts of a positive classroom emotional climate on student engagement and academic achievement are documented in Reyes, et al. (2102) where the authors note that “teachers in classrooms high in classroom emotional climate are aware of their students’ emotional and academic needs and respond to their students by choosing age-appropriate activities that both encourage self-expression and cater to their interests and points of view.”</p> <p><i>References:</i> Reyes, M. R., Brackett, M. A., Rivers, S. E., White, M., & Salovey, P. (2012, March 5). Classroom emotional climate, student engagement, and academic achievement. <i>Journal of Educational Psychology Online First Publication</i>, March 5, 2012, doi: 10.1037/a0027268. Available from http://ei.yale.edu/publication/classroom-emotional-climate-student-engagement-and-academic-achievement/ Shepard, L. A. (2000). The role of assessment in a learning culture. <i>Educational Researcher</i>, 29 (7), 4-14. Stronge, J. H. (2002). <i>Qualities of effective teachers</i>. Alexandria, VA: Association for Supervision and Curriculum Development. Wilen, W., Bosse, M. I., Hutchinson, J., & Kindsvatter, R. (2004). Planning for teaching. In <i>Dynamics of Effective Secondary Teaching</i> (5th ed.) (pp. 134-165). Boston: Pearson.</p>
6.4	<p>Teacher promotes the effective use of technology and media communication tools</p> <p>Aligns with <i>InTASC Standard #8: Instructional Strategies</i>. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.</p> <p>Hattie (2009) notes that meta-analyses of computer-assisted instruction shows an average effect size of $d = 0.37$. The use of computers has been found to assist in engagement and positive attitudes to learning and school. Studies have shown that effective use of computers involves (a) diversity of teaching strategies; (b) pretraining in the use of computers as teaching and learning tools; (c) multiple opportunities for learning (e.g., deliberative practice, increasing time on task); (d) the student, not teacher, is in “control” of learning; (e) peer learning is optimized; and (f) feedback is optimized.</p> <p>Program evaluation findings for the Enhancing Missouri’s Instructional Networked Teaching Strategies (eMINTS) program from 1999-2009 showed that students in eMINTS classrooms significantly outperformed students enrolled in non-eMINTS classrooms on the Missouri Assessment Program (MAP) (Learning Points Associates, 2010). Another study of program</p>

	<p>showed that participating teachers transitioned from teacher-centered models to hybrid or student-centered models of instruction (OSED, 2003). Several other studies have demonstrated a positive association between the use of computer-assisted instruction and student learning (Erdner, Guy, & Bush, 1998; Mathes, Torgeson, & Allor, 2001).</p> <p><i>References:</i> Erdner, R. A., Guy, R. F.; & Bush, A. (1998). The impact of a year of computer assisted instruction on the development of first grade. <i>Journal of Computing Research</i>, 18(4), 369-386. Hattie, J. (2009). <i>Visible learning: A synthesis of over 800 meta-analyses relating to achievement</i>. New York: Routledge. Learning Points Associates. (2010). <i>A summary of external program evaluation findings for the eMINTS (enhancing Missouri's Instructional Networked Teaching Strategies) program from 1999-2009</i>. Naperville, IL: Author. Available from http://www.emints.org/wp-content/uploads/2011/07/summary_emints_research.pdf Mathes, P. G., Torgeson, J. K., & Allor, J. H. (2001). The effects of peer-assisted literacy strategies for first-grade readers with and without computer assisted instruction in phonological awareness. <i>American Educational Research Journal</i>, 38(2), 371-410. Office of Social and Economic Data Analysis. (2003). <i>Assessing instructional practices in eMINTS classrooms</i>. Columbia, MO: Author. Available from http://www.emints.org/wp-content/uploads/2011/07/expansion3.pdf</p>
7.1	<p>Teacher effectively uses multiple assessment modes and approaches to assess student learning</p> <p>Aligns with <i>INTASC Standard #6: Assessment</i>. The teacher understands and uses multiple methods of assessments to engage learners in their own growth, to monitor learner progress, and guide the teacher's and learner's decision making.</p> <p>Several literature reviews on the use of multiple forms of assessment have been conducted. In their review of over 250 articles, Black and William (1998) placed the effect size for learning gains in interventions involving aspects of formative assessment between 0.4 and 0.7 in studies with pre and post measures of student learning. While gains were seen across student achievement levels, gains were highest for lower achieving students. Studies on the benefits of formative assessment are also documented in Furtak (n.d.); Fuchs, Fuchs, Hamlett, & Stecker (1991); Fuchs, Fuchs, Karns, Hamlett, & Kataroff (1999); Marzano (2009); Schunk & Rice (1991); and Svedkauskaite (2005).</p> <p><i>References:</i> Black, P., & William, D. (1988). Assessment and Classroom Learning. <i>Assessment in Education</i>, 5(1), 7-74.</p>

	<p>Fuchs, L. S., Fuchs, D., Hamlett, C. L., & Stecker, P. M. (1991). Effects of curriculum-based measurement and consultation on teacher planning and student achievement in mathematics operations. <i>American Educational Research Journal</i>, 28(3), 617-641.</p> <p>Fuchs, L. S., Fuchs, D., Karns, K., Hamlett, C. L., & Katzaroff, M. (1999). Mathematics performance assessments in the classroom: Effects on teacher planning and student problem solving. <i>American Educational Research Journal</i>, 36(3), 609-646.</p> <p>Furtak, E. M. (n.d.). <i>Formative assessment in K-8 science education: A conceptual review</i>. Washington, DC: National Research Council for Science Learning. Available from http://archive.informalscience.org/research/show/3679</p> <p>Marzano, R. J. (2009). <i>Formative assessment and standards-based grading: Classroom strategies that work</i>. Bloomington, IN: Marzano Research Laboratory. Available from http://www.marzanoresearch.com/products/catalog.aspx?product=55</p> <p>Schunk, D. H., & Rice, J. M. (1991). Learning goals and progress feedback during reading comprehension instruction. <i>Journal of Reading Behavior</i>, 23(3), 351-364.</p> <p>Svedkauskaite, A. (2005). <i>Critical issue: Multiple dimensions of assessment that support student progress in science and mathematics</i>. Naperville, IL: North Central Regional Educational Laboratory. Available from http://www.ncrel.org/sdrs/areas/issues/content/contareas/science/sc700.htm</p>
7.2	<p>Teacher uses assessment data to improve student learning</p> <p>Aligns with InTASC Standard #6: Assessment. The teacher understands and uses multiple methods of assessments to engage learners in their own growth, to monitor learner progress, and guide the teacher’s and learner’s decision making.</p> <p>The Institute of Education Sciences (IES) Practice Guide, <i>Using Student Achievement Data to Support Instructional Decision Making</i> (2009), cites several studies on the importance of making data part of an ongoing cycle of instructional improvement and offers recommendations on how teachers can use assessment data to improve student learning. According to Safer and Fleishman (2005), research has demonstrated that when teachers use student progress monitoring, students learn more, teacher decision making improves, and students become aware of their own performance. A significant body of research conducted over the past 30 years has shown that student progress monitoring is a reliable and valid predictor of subsequent performance on a variety of outcome measures.</p> <p><i>References:</i></p> <p>Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). <i>Using student achievement data to support instructional decision making</i> (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation</p>

	<p>and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Available from http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=12</p> <p>Safer, N., & Fleischman, S. (2005, February). Research Matters: How student progress monitoring improves instruction. <i>Educational Leadership</i>, 62(5), pp. 81-83. Available from http://www.studentprogress.org/library/ArticlesResearch/Edleadershiparticle.pdf</p>
7.3	<p>Teacher involves students in self-assessment strategies</p>
	<p>Aligns with <i>InTASC Standard #6: Assessment</i>. The teacher understands and uses multiple methods of assessments to engage learners in their own growth, to monitor learner progress, and guide the teacher’s and learner’s decision making.</p>
	<p>Lavery (2008) found that that use of student self-evaluation had a medium effect ($d = 0.62$) on student learning. Self-evaluation was defined as “setting standards and using them for self-judgment,” such as checking work before handing it in to the teacher. The Institute of Education Sciences (IES) Practice Guide, <i>Using Student Achievement Data to Support Instructional Decision Making</i> (2009), cites several studies on the importance of involving students in self-assessment. According to Black et al. (2003), students are best prepared to learn from their own achievement data when they understand the learning objectives and when they receive data in a user friendly format. Additional studies showing an association between involving students in self-assessment and student achievement include Declos & Harrington (1991) and Schunk (1996).</p> <p><i>References:</i></p> <p>Black, P., Harrison, C., Lee, C., Marshall, B., & William, D. (2003). <i>Assessment for learning: Putting it into practice</i>. Maidenhead, UK: Open University Press.</p> <p>Declos, V. R., & Harrington, C. (1991). Effects of strategy monitoring and proactive instruction on children’s problem-solving performance. <i>Journal of Educational Psychology</i>, 83(1), 45-42.</p> <p>Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). <i>Using student achievement data to support instructional decision making</i> (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Available from http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=12</p> <p>Lavery, L. (2008). <i>Self-regulated learning for academic success: An evaluation of instructional techniques</i>. Unpublished Ph.D., The University of Auckland, Auckland.</p> <p>Schunk, D. H. (1996). Goal and self-evaluative influences during children’s cognitive skills learning. <i>American Educational</i></p>

	<i>Research Journal, 33(2), 359-382.</i>
7.4	<p>Teacher uses data on student learning to plan future instruction</p> <p>Aligns with <i>InTASC Standard #6: Assessment</i>. The teacher understands and uses multiple methods of assessments to engage learners in their own growth, to monitor learner progress, and guide the teacher’s and learner’s decision making.</p> <p>The Institute of Education Sciences (IES) Practice Guide, <i>Using Student Achievement Data to Support Instructional Decision Making</i> (2009), cites several studies on the importance of making data part of an ongoing cycle of instructional improvement.</p> <p><i>Reference:</i> Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). <i>Using student achievement data to support instructional decision making</i> (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Available from http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=12</p>
7.5	<p>Teacher maintains confidentiality in regards to records of student performance</p> <p>Aligns with <i>InTASC Standard #6: Assessment</i>. The teacher understands and uses multiple methods of assessments to engage learners in their own growth, to monitor learner progress, and guide the teacher’s and learner’s decision making.</p> <p>According to the the MDESE <i>Data Access and Management Policy</i> (2007), the Missouri Student Information System (MOSIS) provides data needed for supporting data-driven decision making and facilitating state and federal reporting, including data required for the federal <i>No Child Left Behind Act</i>. Missouri adheres to the confidentiality requirements of both federal and state laws including, but not limited to the federal Family Educational Rights and Privacy Act (FERPA) and the Individuals with Disabilities Education Act (IDEA, 34 CFR §§ 300.127 and 300.560-300.576), and Missouri statutes and regulations (e.g., Sections 160.522, 167.020 and 452.376). All of these laws and policies are essential to maintaining the confidentiality of student records as they are collected and as they are maintained within MOSIS. As such, teachers are required to adhere to these policies and the respective procedures for maintaining confidentiality in regards to records of student performance.</p> <p><i>References:</i></p>

	Missouri Department of Elementary and Secondary Education (2007, June). <i>Data access and management policy</i> . Available from http://dese.mo.gov/data-system-management/core-datamosis
7.6	<p>Teacher commits to collaborative work sharing and analyzing data on student performance</p> <p>Aligns with <i>InTASC Standard #6: Assessment</i>. The teacher understands and uses multiple methods of assessments to engage learners in their own growth, to monitor learner progress, and guide the teacher’s and learner’s decision making.</p> <p>The Institute of Education Sciences (IES) Practice Guide, <i>Using Student Achievement Data to Support Instructional Decision Making</i> (2009), cites several studies on the importance of teachers working collaboratively to share and analyze data on student performance. When teachers interpret data collaboratively in grade-level or department-specific teams, they can begin to adopt some common instructional and assessment practices as well as common expectations for student performance (Fiarman, 2007; Halverson, Prichett, & Watson, 2007; Halverson et al., 2007). According to IES, collaboration also allows teachers to “develop a collective understanding of the needs of individual students in their school, so that they can work as an organization to provide support for all students” (Hamilton et al., 2009, p. 14). Teacher participation in professional learning communities (PLCs) had a positive effect on student learning, according to a literature review conducted by Vescio, Ross, and Adams (2005). Several studies reviewed showed that student learning was enhanced when teachers participated in data-directed dialogue and adjusted instruction to meet the needs of their students (Strahan, 2003; Phillips, 2003).</p> <p>Good and Jackson (2007) examined the impact of the Data Collaborative Model (DMC) on student achievement through the Texas Assessment of Knowledge and Skills (TAKS). The DCM includes assessing students, reflecting on data, professional dialogue and professional development for teachers, interventions for students based on data results, and re-assessing to measure the impact of the changes made in both teacher practice and student interventions. Results showed a statistically significant difference in the state assessment mathematics passing rate for campuses which understood and used the DCM process and tools at a “high” level for a consecutive 3-year period compared to those having a lower level of understanding and usage of the DCM process and tools during the same time period.</p> <p><i>References:</i> Fiarman, S. E. (2007). Planning to assess progress: Mason Elementary School refines an instructional strategy. In K. P. Boudett & J. Steele (Eds.), <i>Data wise in action: Stories of schools using data to improve teaching and learning</i> (pp. 125-148). Cambridge, MA: Harvard Education Press.</p>

	<p>Good, R. B., & Jackson, S. H. (2007). Improving instruction using a data analysis collaborative model. <i>AASA Journal of Scholarship and Practice</i>, 4(3), 34-41. Available from http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?ERICExtSearch_SearchValue_0=EJ831307&ERICExtSearch_SearchType_0=no&accno=EJ831307</p> <p>Halverson, R., Grigg, J., Pritchett, R., & Thomas, C. (2007). The new instructional leadership: Creating data-driven instructional systems in schools. <i>Journal of School Leadership</i>, 17(2), 158-193.</p> <p>Halverson, R., Prichett, R. B., & Watson, J. G. (2007). <i>Formative feedback systems and the new instructional leadership</i>. Madison, WI: University of Wisconsin.</p> <p>Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). <i>Using student achievement data to support instructional decision making</i> (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Available from http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=12</p>
<p>8.1</p>	<p>Teacher engages in self-assessment and reflection to improve professional practice</p> <p>Aligns with <i>INTASC Standard #9: Professional Learning and Ethical Practice</i>. The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.</p> <p>Several studies assert that reflection fosters continuous improvement of teaching and learning that ultimately results in increased student achievement (DuFour & Eaker, 1998; Hawley & Valli, 1999; Ingvarson, Meiers, & Beavis, 2005; Osterman & Kottkamp, 2004). Larrivee (2000) states that “when teachers become reflective practitioners, they move beyond a knowledge base of discrete skills to a stage where they integrate and modify skills to fit special contexts, the ability to create personal solutions to problems, and to invent new strategies.” Two studies (Cohen & Hill, 1998; U.S. Department of Education, 2000) found that the most effective professional development sessions provide teachers time to collaborate with one another and to discuss their professional development experience. Garet, et al. (2001) point to self-reflection as essential component of effective professional development.</p> <p>Meta-analysis conducted by Hattie (2009) found that microteaching followed by analysis and discussion, typically used in on-campus clinical experiences for teacher preparation students, resulted in a high effect size ($d = 0.88$) on student achievement. Laboratory experiences and microteaching are effective for in-service teachers as well, but are not typically utilized.</p>

	<p><i>References:</i></p> <p>Cohen, D. K., & Hill, H. C. (1998). <i>Instructional policy and classroom performance: The mathematics reform in California</i>. Philadelphia, PA: Consortium for Policy Research in Education.</p> <p>DuFour, R., & Eaker, R. (1998). <i>Professional learning communities at work: Best practices for enhancing student achievement</i>. Bloomington, IN: National Education Service.</p> <p>Garet, M. S., Porter, A. C., Desimone, L., Birman, B., & Yoon, K. (2001). What makes professional development effective? <i>American Education Research Journal</i>, 38(4), 915-945.</p> <p>Hattie, J. (2009). <i>Visible learning: A synthesis of over 800 meta-analyses relating to achievement</i>. New York: Routledge.</p> <p>Hawley, W., & Valli, L. (1999). The essentials of effective professional development. In L. Darling-Hammond & G. Sykes (Eds.), <i>Teaching as the learning profession: Handbook of policy and practice</i>. San Francisco, CA: Jossey-Bass Publishers.</p> <p>Ingvarson, L., Meiers, M., & Beavis, A. (2005, January 29). Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes & efficacy. <i>Education Policy Analysis Archives</i>, 13(10).</p> <p>Larriee, B. (2000). Transforming teaching practice: Becoming the critically reflective teacher. <i>Reflective Practice</i>, 1(3), 293-307.</p> <p>Osterman, K. F., & Kottkamp, R. B. (2004). <i>Reflective practice for educators: Professional development to improve student learning</i>. Thousand Oaks, CA: Corwin.</p> <p>U.S. Department of Education, Planning and Evaluation Service. (2000). <i>Does professional development change teaching practice? Results from a three-year study</i>. Washington, DC: Office of the Under Secretary.</p>
8.2	<p>Teacher uses available resources to support professional learning</p> <p>Aligns with InTASC Standard #9: Professional Learning and Ethical Practice. The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.</p> <p>A recent literature review (Yoon, Duncan, Lee, & Shapley, 2008) on the effects of teachers' professional development on student achievement found an medium effect size ($d=0.54$). Teachers who receive substantial professional development, an average of 49 hours, were able to boost their students' achievement by about 21 percentile points. Timperley, et al. (2007) reviewed 72 studies that assessed the effects of professional development on student outcomes and found an overall effect size of $d = 0.66$, considered a moderate effect.</p>

	<p><i>References:</i> Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). <i>Teacher professional learning and development: Best evidence synthesis iteration</i>. Auckland, New Zealand: Ministry of Education. Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2008, March). <i>The effects of teachers' professional development on student achievement: Findings from a systematic review of evidence</i>. Paper presented at the annual meeting of the American Educational Research Association, New York. Available from http://www.pdal.net/inc/docs/AERA%202008%20Paper_final_PD%20research%20review.pdf</p>
<p>8.3</p>	<p>Teacher aligns practice to district policies and school structures</p> <p>Aligns with <i>InTASC Standard #9: Professional Learning and Ethical Practice</i>. The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on other (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.</p> <p>Fullan (1991), Howley & Brown (2001), and Newmann, King, & Youngs (2001) have established the importance of school structures and policies to successful school improvement and reform. Cotton (1995, 2000) cites the importance of teachers' use of building and district curriculum resources for instructional planning and conducting periodic curriculum alignment and review efforts to ensure alignment with school and district goals and policies. Cotton also stressed the importance collaborative curriculum planning and decision making to ensure schoolwide continuity across grade levels and courses so that teachers understand where they fit in with the curriculum.</p> <p>A study of Chicago elementary schools showed that those with stronger instructional program coherence had higher gains in student achievement (Newman, Smith, Allenswork, & Bryk, 2001). Kedro (2004) also found that student achievement is positively affected by a "combination of a shared districtwide vision to improve teaching and learning; extensive professional development; data-driven decision making; and consistent instruction across the district that, is, <i>instructional program coherence</i>" (p. 30).</p> <p><i>References</i> Cotton, K. (1995). <i>Effective schooling practices: A research synthesis 1995 update</i>. Portland, OR: Northwest Regional Educational Laboratory. Retrieved June 6, 2013 from http://home.comcast.net/~reasoned/4410/PDFonCRM/Effective%20School%20Prac.pdf. Cotton, K. (2000). <i>The schooling practices that matter most</i>. Portland, OR: Northwest Regional Educational Laboratory.</p>

	<p>Alexandria, VA: Association for Supervision and Curriculum Development.</p> <p>Fullan, M., with S. Stiegelbauer. (1991). <i>The new meaning of educational change</i> (2nd ed.). New York: Teachers College Press.</p> <p>Howley, C., & Brown, P. (2001, April). <i>To continue, press on: Sustaining school improvement</i>. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.</p> <p>Kedro, M. J. (2004). Coherence: When the puzzle is complete. <i>Principal Leadership (High Schools Edition)</i>, 4(8), 28-32.</p> <p>Newmann, F. M., King, M. B., & Youngs, P. (2000). Professional development that addresses school capacity: Lessons from urban elementary schools. <i>American Journal of Education</i>, 259-299.</p> <p>Newman, F. M., Smith, B., Allensworth, E., & Bryk, A. S. (2001). Instructional program coherence: What it is and why it should guide school improvement. <i>Educational Evaluation and Policy Analysis</i>, 23(4), 297-321.</p>
<p>9.1</p>	<p>Teacher participates in building the vision, mission, values and goals through work with their mentor</p> <p>Aligns with <i>InTASC Standard #10: Leadership and Collaboration</i>. The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.</p> <p>Strong, Fletcher, and Villar (2004) suggest that comprehensive induction (i.e., regular meetings in addition to other structured learning opportunities) supports new teachers’ development of skills and abilities more rapidly, thus minimizing the time it takes to reach the level of more experienced peers. Several small-scale studies (Huling-Austin, 1990; Odell & Ferraro, 1992) reported that induction and mentoring programs improved new teacher quality. Similarly, a handful of studies (Schaffer, Stringfield, & Wolffe, 1992; Weiss & Weiss, 1999) found that such programs improve new teacher effectiveness.</p> <p>More recently, the US Department of Education funded Mathematic Policy Research of Princeton, New Jersey to investigate the impacts of induction and mentoring programs on retention, classroom practices, and student achievement. This randomized controlled study collected data from 1,009 beginning teachers in 418 schools in 17 large, urban, low-income public school districts and followed the teachers for three years. The study (Glazerman et al., 2010) found no significant differences between the student achievements of the teachers in either treatment or control groups after their first two years. However, student achievement of treatment teachers was significantly higher after three years for a small sub-set of teachers whose students had both pretest and posttest scores. Ingersoll and Strong (2011) summarized the student achievement as “equivalent to moving the average student from the 50th percentile to the 54th percentile in reading and to the 58th percentile in math” due to the significant improvement of teachers’ effectiveness.</p>

Instructional coaching has also emerged as a promising strategy for increasing student achievement (Kohler, Crilly, Shearer, & Goode, 2001; Alliance for Excellent Education, 2006). Results of one study (Garcia, Jones, Holland, & Mundy, n.d.) found increased student achievement for students whose teachers received site-based coaching, particularly in 6th grade mathematics and reading, 7th grade writing, and 8th grade science and social studies. Research also indicates that teachers who are supported by instructional coaches are more likely to implement newly-learned instructional strategies (Barr, Simmons, & Zarrow, 2003; Coggins, Stoddard, & Cutler, 2003; WestEd, 2000).

Leithwood, Louis, Anderson, and Wahlstrom (2004) suggest that an interconnected system of leadership has the potential to positively affect student learning. Marks and Printy (2003) found student achievement to be substantial in schools implementing integrated and shared leadership models.

References:

- Barr, K., Simmons, B., & Zarrow, J. (2003). *School coaching in context: A case study in capacity building*. Paper presented at the American Educational Research Association annual meeting, Chicago.
- Coggins, C., Stoddard, P., & Cutler, E. (2003). *Improving instructional capacity through field-based reform coaches*. Paper presented at the American Educational Research Association annual meeting, Chicago.
- Garcia, S. G., Jones, D., Holland, G., & Mundy, M. A. Instructional coaching at selected middle schools in south Texas and effects on student achievement. *Journal of Instructional Pedagogies*, 1-16.
- Glazerman, S., Isenberg, E., Dolfin, S., Bleeker, M., Johnson, A., Grider, M., & Jacobus, M. (2010). *Impacts of comprehensive teacher induction: Final results from a randomized controlled study* (NCEE 2010-4027). Washington, DC: US Department of Education.
- Huling-Austin, L. (1990). Teacher induction programs and internships. In W. R. Houston, M. Haberman, & J. Sikula (Eds.), *Handbook of research in teacher education*. New York, NY: MacMillan Publishing Co.
- Ingersoll, R., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Education Research*, 81(2), 201-233.
- Kohler, F., Crilley, K., Shearer, D., & Good, G. (2001). Effects of peer coaching on teacher and student outcomes. *Journal of Educational Research*, 90, 240-250.
- Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning: Review of research*. New York, NY: The Wallace Foundation.
- Marks, H. M., & Printy, S. M. (2003). Principal leadership and school performance: An integration of transformational and

	<p>instructional leadership. <i>Educational Administration Quarterly</i>, 39(3), 370-397.</p> <p>Odell, S. J., & Ferraro, D. P. (1992). Teacher mentoring and teacher retention. <i>Journal of Teacher Education</i>, 43(3), 200-204.</p> <p>Schaffer, E. C., Stringfield, S., & Wolffe, D. M. (1992). An innovative beginning teacher induction program: A two-year analysis of classroom interactions. <i>Journal of Teacher Education</i>, 43(3), 181-192.</p> <p>Strong, M., Fletcher, S., & Villar, A. (2004). <i>An investigation of the effects of teacher experience and teacher preparedness on the performance of Latino student in California</i>. Santa Cruz, CA: New Teacher Center.</p> <p>Weiss, E. M., & Weiss, S. G. (1999). <i>Beginning teacher induction</i> [ERIC digest]. Washington, DC: ERIC Clearinghouse on Teaching and Teacher Education.</p> <p>WestEd. (2000). <i>Teachers who learn, kids who achieve – A look at schools with model professional development</i>. San Francisco, CA: Author.</p>
<p>9.2</p>	<p>Teacher knows how to work with others across the system to identify and provide needed support services</p> <p>Aligns with <i>InTASC Standard #10: Leadership and Collaboration</i>. The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, and other school professionals, and community members to ensure learner growth, and to advance the professions.</p> <p>Aligns with <i>InTASC Standard #2: Learning Differences</i>. The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards. 2(f) The teacher accesses resources, supports and specialized assistance and services to meet particular learning differences or needs.</p> <p>Research on effective schools and effective teachers has identified the types of monitoring efforts shown to be effective, including reviewing student performance data to ensure early identification and support for students with learning difficulties and making summaries of student performance available to all staff for use in planning and intervention (Betts, Zau, & Rice, 2003; Block & Burns, 1976; Blum & Butler, 1985; Brophy & Good, 1986; Charles A. Dana Center, 1999; Cotton, 2000; Designs for Change, 1998; Foegen et al., 2007; Lein, Johnson, & Ragland, 1997; Levine & Lezotte, 1995; McTighe, 2008; Porter & Brophy, 1988; Stronge, Ward, Tucker, & Hindman, 2007; Yesseldyke & Bolt, 2007).</p> <p>Fuchs and Fuchs' (2002) analysis of research on student progress monitoring found that when teachers use systematic progress monitoring to track student progress in reading, mathematics, or spelling, they are better able to identify students in need of additional or different types of classroom instruction. They are also better equipped to design enhanced instructional programs that result in increased student achievement. Fuchs, Deno, and Mirkin (1984) conducted</p>

a study in the New York City Public Schools where two groups of teachers were tracked for 18 weeks, with only one group systematically monitoring student performance. Students whose teachers employed a curriculum-based measurement (CBM) process had statistically significant better achievement results than students of teachers who did not employ a CBM process.

References:

- Betts, J. R., Zau, A. C., & Rice, L. A. (2003). *Determinants of student achievement: New evidence from San Diego*. San Francisco, CA: Public Policy Institute of California.
- Block, J. H., & Burns, R. B. (1976). Mastery learning. In L. S. Schulman (Ed.), *Review of research in education: Vol. 4* (pp. 3-49). Itasca, IL: F.E. Peacock.
- Blum, R. E., & Butler, J. A. (1985). Managing improvement by profiling. *Educational Leadership*, 42(6), 54-58.
- Brophy, J. E., & Good, T. L. (1986). Teacher behavior and student achievement. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 328-375). New York, NY: Macmillan.
- Charles A. Dana Center, University of Texas at Austin. (1999). *Hope for urban education: A study of nine high-performing, high-poverty, urban elementary schools*. Washington, DC: U.S. Department of Education, Planning, and Education Service.
- Cotton, K. (2000). *The schooling practices that matter most*. Portland, OR: Northwest Regional Educational Laboratory.
- Designs for Change. (1998). *Practices of schools with substantially improved reading achievement*. Chicago, IL: Chicago Public Schools.
- Foegen, A., Jiban, C., & Deno, S. (2007). Progress monitoring measures in mathematics: A review of the literature. *Journal of Special Education*, 41(2), 121-139.
- Fuchs, L. S., Deno, S. L., & Mirkin, P. K. (1984). The effects of frequent curriculum-based measurement and evaluation on student achievement, pedagogy, and student awareness of learning. *American Educational Research Journal*, 21, 449-460.
- Fuchs, L. S., & Fuchs, D. (2002). *What is scientifically-based research on progress monitoring?* (Technical report). Nashville, TN: Vanderbilt University.
- Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Lein, L., Johnson, J. F., & Ragland, M. (1997). *Successful Texas schoolwide programs: Research study results*. Austin, TX: Charles A. Dana Center, University of Texas at Austin.

	<p>Levine, D. U., & Lezotte, L. W. (1990). <i>Unusually effective schools: A review and analysis of research and practice</i>. Madison, WI: The National Center for Effective Schools Research and Development.</p> <p>McTighe, J. (2008, May). Making the most of professional learning communities. <i>The Learning Principal</i>, 3(8), 1-7.</p> <p>Porter, A. C., & Brophy, J. (1988). Synthesis of research on good teaching: Insights from the work of the Institute for Research on Teaching. <i>Educational Leadership</i>, 45(8), 74-85.</p> <p>Stronge, J. H., Ward, T. J., Tucker, P. D., & Hindman, J. L. (2007). What is the relationship between teacher quality and student achievement? An exploratory study. <i>Journal of Personnel Evaluation in Education</i>, 20(3-4), 165-184.</p> <p>Yesseldyke, J., & Bolt, D. M. (2007). Effect of technology-enhanced continuous progress monitoring on math achievement. <i>School Psychology Review</i>, 36(3), 453–467.</p>
<p>9.3</p>	<p>Teacher develops relationships and cooperative partnerships with students, families and the community</p> <p>Aligns with InTASC Standard #10: Leadership and Collaboration. The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.</p> <p>Several studies have found that when teachers develop supportive relationships with students, students become more engaged in that they work harder in the classroom, persevere in the face of difficulties, accept teacher direction and criticism, cope better with stress, and are more attentive in the classroom (Little & Kobak, 2003; Midgley, Feldlaufer, & Eccles, 1989; Ridley, McWilliams, & Oates, 2000; Skinner & Belmont, 1993; Wentzel, 1999). A meta-analysis conducted by Cornelius-White (2007) showed a high effect size ($d = 0.72$) for teacher-student relationships and increased student achievement. A series of studies conducted by the National Network of Partnership Schools (Epstein, 2005) showed increased student achievement in mathematics at schools where teachers implemented math homework that required parent-child interactions and offered math materials for families to take home (Sheldon & Epstein, 2005a). A review of literature on family involvement with students on reading indicated that, across grade levels, interventions to involve families in reading and language arts positively affected students’ reading skills and scores (Sheldon & Epstein, 2005b).</p> <p>Research has shown that when parents experience relationships with teachers characterized by mutuality, warmth, and respect, students achieve more, demonstrate increased motivation to achieve, and exhibit higher levels of emotional, social, and behavioral adjustment (Fan & Chen, 2001; Henderson & Mapp, 2002; Marcon, 1999; Reynolds, 1991). Hughes and Kwok (2007) conducted a study of the influence of student-teacher and parent-teacher relationships on lower achieving readers’ engagement in the primary grades. They found that early elementary students gained more in reading achievement when they and their parents experienced supportive relationships with teachers. Findings suggested that an</p>

increased focus on helping teachers connect with students and their parents is one means of helping children at risk of academic failure get off to a good start. Caspe, et al., (2011) found that to be effective, teachers must be prepared to collaborate with families to support student success. Students benefit in many ways when teachers understand families and communicate and build relationships with them.

References:

- Caspe, M., Lopez, M. E., Chu, A., & Weiss, H. B. (2011, May). *Teaching the teachers: Preparing educators to engage families for student achievement* (Issue Brief). Cambridge, MA: Harvard Family Research Project. Available from <http://www.hfrp.org/publications-resources/browse-our-publications/teaching-the-teachers-preparing-educators-to-engage-families-for-student-achievement>
- Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research*, 77(1), 113-143.
- Epstein, J. L. (2005, September). *Developing and sustaining research-based programs of school, family, and community partnerships: Summary of five years of NNPS research*. Washington, DC: National Network of Partnership Schools, Johns Hopkins University. Available from <http://www.csos.jhu.edu/p2000/type2/issue19/researchbased.htm>
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review*, 13, 1-22.
- Henderson, A. T., & Mapp, K. L. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: Southeast Educational Development Laboratory, National Center for Family and Community Connections with Schools. Available from <http://www.sedl.org/connections/resources/evidence.pdf>
- Hughes, J., & Kwok, O. (2007, February). Influence of student-teacher and parent-teacher relationships of lower achieving readers' engagement and achievement in the primary grades. *Journal of Educational Psychology*, 99(1), 39-51. Available from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2140005/pdf/nihms35313.pdf>
- Little, M., & Kobak, R. (2003). Emotional security with teachers and children's stress reactivity: A comparison of special-education and regular-education classrooms. *Journal of Clinical Child and Adolescent Psychology*, 32, 127-138.
- Marcon, R. A. (1999). Positive relationships between parent school involvement and public inner-city preschoolers' development and academic performance. *School Psychology Review*, 28, 395-412.
- Midgley, C., Feldlaufer, H., & Eccles, J. (1989). Student/teacher relations and attitudes towards mathematics before and after the transition to junior high school. *Child Development*, 60, 981-992.
- Reynolds, A. J. (1991). Early schooling of children at risk. *American Educational Research Journal*, 28, 392-422.
- Ridley, S. M., McWilliams, R. A., & Oates, C. S. (2000). Observed engagement as an indicator of child care program quality.

Early Education and Development, 11, 133-146.

Sheldon, S. B., & Epstein, J. L. (2005a). Involvement counts: Family and community partnerships and math achievement.

Journal of Educational Research, 98, 196-206.

Sheldon, S. B., & Epstein, J. L. (2005b). School programs of family and community involvement to support children's reading and literacy development across the grades. In J. Flood and P. Anders (Eds.), *Literacy Development of Students in Urban Schools: Research and Policy* (pp. 107-138). Newark, DE: International Reading Association.

Skinner, E., & Belmont, M. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85, 571-581.*

Wentzel, K. R. (1999). Social-motivational processes and interpersonal relationships: Implications for understanding motivation at school. *Journal of Educational Psychology, 91, 76-97.*