

Optimum Learning for All Students
Implementation of Alberta's 2018 Professional Practice Standards
A Literature Synthesis

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Chapter Six

WHAT IS QUALITY TEACHING?

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What is Quality Teaching?

The current conception of teaching conveyed in the 2018 revision of the Alberta *Teaching Quality Standard* (TQS) is the product of ongoing research, professional dialogue, and stakeholder engagement about teaching that began in the mid-1980s and has continued through ongoing stakeholder involvement and related document development into the present (Alberta Education, 1984, 1994, 1995, 1996, 1997a, 1997b, 1998, 2006). Over this time, notions of good teaching evolved from a technical-rational list of 44 discreet characteristics of effective teaching into the more coherent context-based, informed professional judgement construct of quality teaching with one *Standard* and two sets of *Descriptors of Knowledge, Skills and Attributes* (Brandon, 2005) and into its present single standard with six competencies form.

Our review of historical and contemporary research on teaching and learning focuses on two guiding questions: What quality teaching practices contribute to optimum student learning? How do those identified in the research compare and contrast with those outlined in the 2018 revision of the Alberta TQS? We start with short clarification of terminology, then progress through the evolution of the study of teaching over the past 50 years. The third subsection moves into more contemporary studies the construct teaching as the design of learning environments. This draft of the review concludes with an exploration of the linkages between the research literature the 2018 TQS.

Teaching Quality, Quality Teaching, and Effective Teaching

As the competency framework that details the expectations for all teachers in Alberta, the revised TQS (Alberta Education, 2018c) is similar to other professional practice standard documents widely used in the English-speaking world. The distinction between *effective teaching* and *effective teachers* is important to keep in mind. *Teacher quality* involves “the bundle of personal traits, skills, and understandings an individual brings to teaching,

including dispositions to behave in certain ways,” whereas, *teaching quality* (effective teaching) focuses on providing instruction that “meets the demands of the discipline, the goals of instruction, and the needs of students in a particular context” (Darling-Hammond, 2010, p. 3). Teaching quality is a might be thought of as a subset of teacher quality. All Alberta teachers are expected to meet the expectations of TQS, the provincial standard of *teaching quality*, throughout their careers. The Teaching Quality Standard is stated as follows

Quality teaching occurs when the teacher’s ongoing analysis of context, and the teacher’s decisions about which pedagogical knowledge and abilities to apply, result in optimum learning for all students. (Alberta Education, 2018c, p. 3)

Studies of Teaching – Historical Notes

Process and Product Research

The final three decades of the twentieth century witnessed a dramatic increase in the number of academic inquiries into the nature of quality teaching (Darling-Hammond, 2001, 1999, 1990; Porter, Youngs, and Odden, 2001; Darling-Hammond, Wise and Pease, 1983; Medley, 1982; Knapp, 1982; Centra and Porter, 1980). During this period of extensive research many studies were structured within a conceptual framework first advanced by Mitzel (1960). Mitzel categorized effective teaching variables into four groupings: (1) presage variables, (2) process variables, (3) context variables and (4) product variables. Much of the educational literature on quality teaching written before the 1970s emphasized *presage* variables –teacher traits such as voice, appearance, warmth and enthusiasm.

Through the 1970s and 1980s an increased focus on the "science" of teaching was evident through a series of studies known collectively as "teacher effectiveness" research. These studies concentrated on the relationships between *process* and *product* variables and later came to be known as "research on teacher effects" (Danielson and McGreal, 2000, p.

13). Several of these “process-product” studies sought to establish “context-free generalizations about what leads to or constitutes effective teaching” (Darling-Hammond, Wise and Pease, 1983, p. 293). While much was learned about many aspects of teaching through these studies, their conversion into teacher evaluation checklists in many North American jurisdictions contributed to an overly simplistic, mechanistic, and technical view of the nature of good teaching (Stronge, 2002; Danielson and McGreal, 2000; Darling-Hammond, 1999, 1994, 1993; Danielson, 1996).

Another vein of inquiry into the nature of quality teaching moved in a slightly different direction. “Exploratory research using ethnographic, ethnomethodological, phenomenological and cognitive information processing methods” sought to describe “classroom phenomena with a view to increasing understanding rather than producing generalizable statements about process-product correlations (Grimmett, 1982, p. 66). More complex and nuanced views of the nature of good teaching began to dominate the research literature of the 1990s. Danielson and McGreal (2000) attribute this shift to “richer views of good teaching” to changes in the way we understand student learning from “the behaviorist perspective” to a view derived from cognitive learning theory (p. 14).

Professional Conceptions of Teaching

During the period in which the 1997 Teaching Quality Standard was developed, a trend toward the establishment of professional teaching standards was emerging. Darling-Hammond (1999) emphasised the need for “performance based” standards to define teaching as a “collegial, professional activity” and to be developed by professionals themselves such that they

reflect knowledge about teaching and learning that supports a view of teaching as complex, contingent on students’ needs and instructional goals, and reciprocal—that is, continually shaped and reshaped by students’ responses to learning events (p. 14).

Darling-Hammond (1994) underlined the importance of teaching standards to provide a research-informed basis for the profession to develop “a clear conception of what teachers must know and be able to do” (p. 9). The point of such standards was

not just to get them somehow written down but to use them as a lens for assessing teaching in schools and schools of education—for examining practices and programs, for reflecting on goals and strategies, for questioning what we are doing and how it is working, and, ultimately for growing and changing and revising standards themselves. They are dynamic and living. (p. 17)

Stigler and Hiebert (1999) contended true professionalism in teaching must recognize the complex, contextualized and individual nature of current North American teaching practice. To go forward the profession must focus on achieving improvements in student learning over time and “disseminate into standard practice the improvements in teaching that are responsible” (p. 178). To improve the “the practice of the profession, it is the standard, common practice that must improve steady, continuing effort to gradually improve the standard ways in which we teach” (p. 175).

Like several other professional frameworks of quality teaching, the National Board standards are grouped into a small number of larger conceptual categories. The standards are organized around the following five major propositions:

1. Teachers are committed to students and their learning.
2. Teachers know the subjects they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and monitoring student learning.
4. Teachers think systematically about their practice and learn from experience.
5. Teachers are members of learning communities. (Darling-Hammond, 1999, pp. 7-8)

Related to each of these propositions are more specific statements. For example, in this case subsumed within proposition number 2, is the expectation that “Their instructional repertoire allows them to create multiple paths to knowledge, and they are adept at teaching students how to pose and solve their own problems” (p. 7).

Danielson (1996) argued that the idea of organizing key components of professional practice into a framework is useful to both members of the public and to members of the profession. Other professions – medicine, accounting and architecture, for instance – “have well-established definitions of expertise and procedures to certify novice and advanced practitioners” (p. 2). From a professional perspective Danielson contends that:

A framework for professional practice can be used for a wide range of purposes, from meeting novices’ needs to enhancing veterans’ skills. Because teaching is complex, it is helpful to have a roadmap through the territory, structured around a shared understanding of teaching. (p. 2)

A number of commonalities were evident in these teaching conceptions. Five categories were noted in the NBPTS framework. Danielson’s framework was organized into four similar domains: (1) planning and preparation, (2) classroom environment, (3) instruction and (4) professional responsibilities. Within the four domains were twenty-two components in comparison to the twenty-three NBPTS descriptors. Porter, Youngs and Odden (2000) found that professional conceptions such as these emphasized “advanced content, deep understanding, reasoning and applications over a strong focus on basic facts” (p. 293).

Complexity, Context and Continuing Improvement

As professionally oriented studies and frameworks evolved through the 1990s and into the first decades of this century, conceptions of teaching is a complex, contingent and professional undertaking became more prevalent (Brandon, 2005). The need for teachers to have “a deep understanding of complexity” and to “have sufficient knowledge of content, of

pedagogy, of context, and of students to appreciate the intricacies that are bound up in the teaching and learning process” was emphasized in Stronge’s (2002) synthesis of research on teacher effectiveness.

Darling-Hammond (1994) indicated that the National Board Standards reflected a radically different image of teaching taking into account “aspects of the complexity of teaching, the balancing of goals, and the simultaneity of ongoing tasks” and that “teaching is intense activity, that it requires juggling of subject matter, cognitive goals, social goals; management of time, materials and equipment; and the needs and responses of individual students” (p. 18). To Darling-Hammond, the promise of professional standards was their ability to “reflect the complex, reciprocal nature of teaching work. Their potential value lies partly in their authenticity—their ability to capture the important interactions between teachers, students, content and contexts that influence learning” (1999, p. 39).

Stronge (2002) called for “collegial, challenging and socially oriented” learning activities “tailored to the individual teachers within a particular school to support both the individual and the organizational needs as they exist within a particular context” so that “teacher effectiveness is not an end product; rather, it is an ongoing, deliberate process” (p. 64).

Bennett and Rolheiser (2001) emphasized the need for quality teaching to be understood as constantly improving. They call for dialogue and extended professional learning founded on the need for teachers to

consciously understand the language (the concepts, skills, tactics, strategies, organizers etc.) of their profession. They must do it in order to respond to the feedback about how students learn. Their decisions must be made by choice not by default; by intuition informed by experience combined with the experience and

research of others. We encourage a collectively conscious instructional intelligence.

(p. 46)

Fullan (2003) advocated a system of teaching characterized by “collective deliberations focusing on continuous improvement” (p. 6). What is required in his view is movement from *uninformed professional judgment* or *permissive individualism* toward “ongoing informedness” through collective *informed professional judgment* “driven by best knowledge, which must be pursued continually through cultures of interaction inside and outside the school” (p. 7).

Quality Teaching Contributions to Optimum Student Learning

Teachers as Designers of Learning Environments

Recent studies of learning (Bransford, Brown & Cocking, 2000; OECD, 2001, 2007, 2008; Sawyer, 2006, 2008) seek to better understand the cognitive, emotional and social processes that result in the most effective learning and to use this knowledge within the design of curriculum, teaching and assessment so that people learn more deeply and effectively. These approaches to learning are not only different in degrees, but also significantly different in kind. It is important for teachers to keep abreast of new advances in learning, as the task of teaching is to sponsor learning. Research from the learning sciences, an interdisciplinary field which includes cognitive science, educational psychology, computer science, anthropology, sociology, information sciences, neurosciences, education, design studies, and instructional design, is yielding new insights into learning as well as the implications for designing more effective learning environments, including school classrooms.

Learning environments emerging from contemporary research recognize learners as core participants, requiring active engagement and developing in them an understanding of their own activity as learners. These learning environments recognize that learning is not

merely a solo activity, rather a distributed activity, social in nature, through the processes of interaction, negotiation, cooperation, collaboration and participation. They are highly attuned to the inextricably entwined nature of the emotional and cognitive dimensions of learning. Learning within these environments is organized to sponsor deep conceptual understanding rooted in disciplinary ways of knowing, doing and being connected both vertically within the discipline and horizontally across disciplines. Such learning environments are learner-focused and acutely sensitive to the fact that students differ in many ways, including their prior knowledge. Learning within these environments is maximized when each learner is sufficiently challenged and supported to reach just above their existing level and capacity. Assessment and instruction work together in these environments to ensure that learning goals are transparent and learners receive substantial, regular, timely, specific, meaningful feedback to improve learning.

Design for a knowledge creating system. Contemporary learning environments are often referred to as knowledge creating systems (Chen & Hong, 2016; Guerriero, 2017; Scardamalia & Bereiter, 2006). This places design at the center of the system with the assumption that everyone in the system is working towards knowledge creation. In other words, in a school all students and adults are working together towards advancing knowledge instead of simply transmitting or receiving knowledge and disciplinary understanding. When design is at the center of the work in schools, the teacher is the designer of learning. The student is an important member of the knowledge building community (Scardamalia & Bereiter, 2006). Learning designs require engaging students in a design-mode as this is a critical mindset to undertake creative work with ideas (Ritchhart & Perkins, 2008). Contemporary or quality learning environments shift the role of teacher from teaching what is already known to designing learning for the unknown or what is not yet understood; the role of student shifts from a recipient of learning to a contributing member of the learning

community. Teachers are designing knowledge creating systems with opportunities for everyone to be contributing members in the learning community.

Design for deep learning. Researchers argue for models of teaching and learning that develop deep learning or dispositions that young people need to create new knowledge (Fullan & Langworthy, 2014). Deep learning is considered a process and not an achievement at the end of a learning experience (Mayer, 2010; Pellegrino, 2017). Flow theory is often used to describe the deep absorption or learning that can occur during intellectually demanding experiences that are also enjoyable (Csikszentmihalyi, 1990). “Through deeper learning, individuals not only develop expertise in a particular discipline, they also understand when, how and why to apply that they know. They recognize when new problems or situations are related to what they have previously learned, and they can apply their knowledge and skills to solve them” (Pellegrino, 2017, p. 229). Through flow experiences, students are engaged in learning and can develop competencies commonly referred to as 21st century skills, standards, or essential learning outcomes. Studies show both academic intensity (not too easy) and a positive emotional response are needed to experience deep learning (Jacobsen, Friesen & Brown, 2017; Shernoff, Csikszentmihalyi, Schneider, & Shernoff, 2003). For example, in a study with high school students in the U.S., Shernoff et al. (2003) found learners were more engaged when provided with an appropriate level of challenge for their skill level in both individual and group work activities. Teachers are designing engaging learning experiences with opportunities for deep learning to occur.

Teachers as Engaged Professionals

Friesen (2009) indicated that “for too long, teachers have worked in isolated classrooms with only brief interludes in the staffroom to discuss professional learning. Research is clear, however, that teachers improve their practice and hence, their effectiveness, in the company of their peers” (p. 6).

Professional learning in the company of peers. As engaged professionals, teachers shift their thinking from professional development to professional learning (Timperley, 2011). In a culture of professional learning, teachers work together and interact with their colleagues in meaningful ways. This supports teachers learning not only when they attend one-off workshops but embeds professional learning in the workplace (DuFour, DuFour, Eaker & Many, 2010). Such a culture also promotes the work of continuous improvement into teaching practice (Earl, 2008; Wiliam, 2011). Moving from classrooms with isolated practices, teachers form collaborative professional relationships where they develop interdependence (Johnson, 2012) which fosters a shared responsibility and collective ownership (Hargreaves & Shirley, 2012) for student learning. Furthermore, this can help limit the barrier of within-school variability (Hattie & Yates, 2014) that can impact student learning and maximize high quality teaching. Ronfeldt, Farmer, McQueen, and Grissom (2015) found that when teachers engaged in quality collaboration in teams this had positive impacts on both teacher performance and improvements in student learning. Likewise, critical reflective practice can be leveraged in professional learning communities where research is embedded and time is provided for teachers to engage in an iterative design process to inform their practice (Benade, 2015). Teachers are engaging in critical reflective practice in networked professional learning communities and utilizing technology to access educator expertise beyond the local community (Fullan & Langworthy, 2014). *Teachers are engaging in professional learning in the company of peers in physical and digital learning spaces.*

Professional learning centered on student learning through cycles of inquiry. The nature of these collaborative professional relationships should reflect both focus and depth with a critical examination of teaching practices (Yuang & Zhang, 2016). Keeping students as their central focus, teachers work with colleagues and leaders to engage in ongoing cycles

of teacher inquiry and in evidence-informed conversations (Earl, 2008; Timperley, 2011). These cycles of teacher inquiry involve identifying student needs, designing strategies/activities to meet needs, and then evaluating the impact on student learning (Timperley, 2011).

In their role as teacher as designer of learning (Friesen, 2009), these cycles of inquiry provide teachers with evidence to support their instructional decision making, allow for intentional design to engage learners, and alignment to balanced assessment practices (Stiggins, 2017). Research findings show that teachers who were engaged more readily in critical reflective practice, individually and collaboratively, were more likely to intentionally maintain approaches that worked well and change other approaches that could be improved (Benade, 2015). The engaged professional puts students at the center of their collaborative professional relationships in order to sharpen their professional practice and ensure that all students are successful. *Teachers are engaging in professional learning involving cycles of inquiry.*

Teachers as Expert in Pedagogical Knowledge

Learning designs require deep disciplinary understanding so teachers can make connections between the complexities of the real-world to existing bodies of disciplinary understanding (Scardamalia & Bereiter, 2006; Chen & Hong, 2016). Learning designs also require expertise in pedagogical knowledge. Shulman (1986, 1987) proposed the concept of pedagogical content knowledge as an integration of disciplinary or content knowledge with pedagogical knowledge of the discipline. Research demonstrates there is a positive relationship between pedagogical knowledge and improved student learning outcomes (Guerriero, 2017). For purposes of this review, we will use the OECD definition of pedagogical knowledge as the “body of knowledge of teachers for creating effective teaching

and learning environments for their students” (Guerriero, 2017, p. 13) with the understanding that pedagogical knowledge includes deep disciplinary understanding.

Intentional curricular planning. Marzano, Pickering, and Pollock (2001) argue that student success does not just happen organically; teachers’ knowledge of the disciplines in which they instruct is critical to knowing how to craft authentic and meaningful learning opportunities for students. Pedagogically, having an awareness of how students learn, their interests, and potential areas for growth can help teachers craft and employ targeted approaches to teaching and learning (Robinson, 2011; Marzano, 2009). Thomas and Brown (2011) assert effective planning for teachers includes not only knowing the curricular outcomes and having a level of mastery within their own disciplines to which they instruct, but also organizing the curriculum into meaningful themes or manageable learning opportunities. The latter can support teachers as they design learning and attempt to implement different instructional methodologies such as problem based learning, discipline based inquiry, cooperative learning, deeper learning, and other similar approaches (Thomas & Brown, 2011). *Teachers design learning intentionally integrating content knowledge and pedagogical knowledge of the discipline.*

Purposeful assessment. The competencies embedded in the Ministerial Order (Alberta Education, 2013a) as well as the Framework for Student Learning (Alberta Education, 2011) all reinforce the importance for teachers to design assessment-for-learning as part of day-to-day practice. Teachers may also utilize other types of assessments, such as benchmarks, to provide a baseline to approach instruction and assessment in a strength based way as well as support students more intentionally in working with new knowledge (Stiggins, 2006; Marzano, 2009; Timperley, 2008; Wiliam, 2011). It is important to know how, when, and why to embed assessment strategies to help move the learning forward for students and to help inform the next steps for the teacher (Davies, 2007; Stiggins, 2006; Wiliam, 2011).

Designing assessments should rely on evidence collected from multiple sources working together to inform decisions that both support and verify student learning (Davies, 2007; Wiliam, 2011). Discerning a student's prior knowledge or using baseline diagnostics to ascertain grade level functioning can aid in supporting instruction planning as well as more targeted assessment practices (Hattie & Timperley, 2007; Stiggins, 2006). Embedded assessment that involves ensuring students know the learning goals by making outcomes visible in the classroom can help support learning; the development and usage of a common language around assessment can help students become stewards of their learning (Hattie & Timperley, 2007; Wiliam, 2011).

The following five research-informed strategies are key to designing formative assessment as part of day-to-day practice:

1. Clarifying, sharing, and understanding learning intentions and criteria for success
2. Engineering effective classroom discussions, activities, and learning tasks that elicit evidence of learning
3. Providing feedback that move learning forward
4. Activating learners as instructional resources for one another
5. Activating learners as owners of their own learning. (Wiliam, 2011)

Teachers as Cultivator of Quality Learning Environments

Culturally responsive instruction. Today's classrooms are increasingly diverse and it is important for teachers to consider student diversity by providing culturally responsive instruction. Culturally responsive instruction is defined as "a pedagogy that empowers students intellectually, socially, emotionally, and politically by using cultural referents to impart knowledge, skills, and attitudes" (Ladson-Billings, 2009, p. 20). Authors recognize culturally responsive instruction is not about using different teaching methods for students with different backgrounds (Routman, 2014). Culturally responsive instruction calls on

teachers to pay attention to the classroom culture and attend to student differences by making instructional decisions that are responsive to the learners (Ritchhart, Church & Morrison, 2011; Tomlinson, 2014). This view aligns with Dewey's earlier arguments of basing work on students' interests and connecting instruction to students' lives. In other words, teachers need to include student perspectives for culturally responsive instruction and need to anticipate and be responsive to student learning needs (Tomlinson, 2014). *Teachers design learning with attention to providing culturally responsive instruction.*

Positive classroom culture. As a designer of learning, the physical, socio-emotional, and structures within the classroom are all a part of cultivating a positive classroom culture (Marzano & Pickering, 2011). Classrooms are learning spaces; their essence needs to reflect the purpose(s) as well as the consideration of how students learn in relation to the space they need (Barrett, Zhang, Davies & Barrett, 2015; Robinson, 2011). A classroom should reflect active learning, areas for collaboration, multiple furnishing mediums for sitting and standing, quiet spaces as well as elements of the external environment (Barrett et al., 2015; Robinson, 2011). Learning designs that promote exploration and collaboration can occur in this type of learning space (Anderson, Hamilton & Hattie, 2004; Robinson, 2011).

In accordance with the physical classroom, teachers can mindfully construct a positive culture by co-creating classroom norms with students which reflect positive citizenship, respect, a positive communication, and collaborative environment as well as constructs that help students see the classroom as a true learning community (Borba, 2001; Marzano & Pickering, 2011). Hansen and Ringdal (2018) identified principles that should help shape a positive classroom culture and instruction which included considerations of student engagement in the learning process, supporting emotional connections when learning (i.e. empathy), and the importance of building in opportunities for students to understand other perspectives in accordance with academic processes. Furthermore, social learning is an

important construct for teachers to consider as they create learning environments in their classrooms and throughout the school (Borba, 2001; Anderson et al., 2004). Social learning can also correspond to student resilience: the ability for students to weather setbacks, failure, and personal challenges (Masten, 2011; Shanker, 2013) and building moral capabilities, such as empathy, conscience, self-control, respect, kindness, tolerance, and fairness (Borba, 2001). Classroom cultures which focus on relationship development, confidence building, trust, safety, and positivity can provide the needed supports for students that would otherwise feel marginalized (Shanker, 2013). This type of environment can also provide a culture where students can learn from mistakes and see failure as an opportunity to develop as a learner (Dweck, 2008; Lee et al. 2013; Long, 2012; Masten, 2011). This also connects to the district's continued focus on supporting Indigenous populations (NGPS, 2017). *Teachers design learning to promote a positive classroom culture and safety in taking risks for learning.*

Research on Quality Teaching that Undergirds the TQS.

Section Summary: The Literature on Quality Teaching

This section of our systematic literature review addressed two questions: What quality teaching practices contribute to optimum student learning? How do those identified in the research compare and contrast with those outlined in the 2018 revision of the Alberta TQS? We traced the evolution of studies of teaching over the past five decades, identified key aspects of quality teaching practice through an emerging conception of “Teachers as Designers of Learning Environments”. Our appraisal and synthesis of the research evidence identified the following four dimensions of teaching practice