



**TEACHING EFFECTIVENESS:
A FRAMEWORK AND RUBRIC**

TEACHING EFFECTIVENESS FRAMEWORK MAY 2009

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Canadian Education Association



What did you do in school today? is a multiyear research and development initiative of the Canadian Education Association (CEA), funded through collaboration with the Canadian Council on Learning (CCL) and a number of Canadian school districts. Launched in 2007, the initiative was designed to capture, assess and inspire new ideas about enhancing the learning experiences of adolescents in classrooms and schools. Research and development work is being carried out through CEA's partnership with the Galileo Educational Network and The Learning Bar Inc.

What did you do in school today?
Teaching Effectiveness: A Framework and Rubric

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As the world changes and the expectations of education shift to meet these changes, the nature of teaching and of its effectiveness must follow suit. These shifts are not a problem, but rather an indication of how education, as a living practice, is alert to issues of what is called for by this enterprise at important periods of social, economic and technological change.

In the moments when a shift is called for from education, it is common for ideas to retain traces of earlier times. Effective teaching is one such idea. What it means to be an effective teacher still is strongly connected to educational movements and cultural ideas that emerged in the early 20th century. Without an examination of these origins, efforts to create new images risk being fixed in outdated models of effectiveness.

A BRIEF HISTORY OF IDEAS ABOUT TEACHING

At the turn of the 20th century Edward Lee Thorndike created the field of educational psychology. His research and theories which emphasized “frequency, recency, and intensity” as key conditions for learning had a significant and lasting impact on instructional practices and materials. These three conditions were translated into classroom practice through Thorndike’s “laws” of,

1. **Exercise** (frequency) - stimulus-response associations are strengthened through repetition;
2. **Recency** - the most recent response is likely to govern the recurrent response; and,
3. **Effect** (intensity) - the likely recurrence of a response is generally governed by its consequence or effect - generally in the form of reward or punishment.

In the same era, a highly efficient and effective business model - known as scientific management – began to have an impact on the structure of education. Developed by Frederick Winslow Taylor, this management model, which sought to measure and maximize human performance took over the imagination and practices of education early in the 20th century. The “efficiency movement” brought with it a particular version of effectiveness, which migrated from the factory floor to the classroom through standardized procedures; standardized times for the accomplishment of results; sequenced actions (each which could be isolated from the others); and rewards, punishments and methods for teaching the “workers” to adhere to these standards.

“What began with such enthusiasm and hope around a century ago in the organization and imagining of schooling has simply worn out...”
(Jardine, Clifford & Friesen, 2008, p. 14).

Taylor and Thorndike's models of schooling also defined teacher effectiveness. Relationships between teachers and students were seen as secondary to the importance of teachers managing the class by stressing punctuality, obedience and time on task and delivering information in a timely, efficient manner according to a prescribed schedule established far beyond the classroom. Learning goals were standardized, simple and invariant.

TEACHING FOR TODAY'S WORLD

Over the past 20 years we have learned that this model of learning is fundamentally flawed. If schools are to continue to exist in a knowledge society, they have to change. These changes, "do not represent the usual process of adding to and improving existing ideas: rather they represent a paradigm shift – a radical break with the past that requires us to stop and completely rethink much of what we do" (Gilbert, 2005, p.10). Former conceptions of knowledge, minds and learning no longer serve a world where what we know is less important than what we are *able* to do with knowledge in different contexts and where our capacity for learning far outweighs the importance of our ability to follow rules (Gilbert, 2005).

Preparing teachers for the 21st century requires a close look at what it means to teach and learn in increasingly networked, technology-rich, digital classrooms. Schools and teachers need to thoughtfully and intentionally design learning environments and tasks in which teachers can explore issues that are relevant and develop pedagogies that are effective for a knowledge era. They need to develop new images and acquire new expertise to design and facilitate meaningful learning with technology. Given this shift in our world, and the new research from the learning sciences, one can see the complexity that teachers face in working with learners in the 21st century. Based on a selective examination of the research literature, this paper presents a set of principles and strategies about effective teaching and learning in light of these new conditions.

New paradigms of teaching and learning are pushing us toward "more generous and more realistic educational policy affecting how teachers are to function." (Eisner, 1998, p.111)

Five core principles, described below and in the Effective Teaching Practices Rubric (Appendix), provide a foundation for an effective teaching practices framework:

1. Effective teaching practice begins with the thoughtful and intentional design of learning that engages students intellectually and academically.
2. The work that students are asked to undertake is worthy of their time and attention, is personally relevant, and deeply connected to the world in which they live.
3. Assessment practices are clearly focused on improving student learning and guiding teaching decisions and actions.
4. Teachers foster a variety of interdependent relationships in classrooms that promote learning and create a strong culture around learning.
5. Teachers improve their practice in the company of peers.

Surrounding these five core principles, and infused into each of them, is the effective use of the technologies of our time for both teaching and learning.

PRINCIPLE 1 - TEACHERS ARE DESIGNERS OF LEARNING

Today, effective teaching practices centre on the importance of learning opportunities that are thoughtfully and intentionally designed to engage students both academically and intellectually.

While academic engagement draws our attention to on-task behaviours that signal a serious engagement in class work, intellectual engagement refers to an absorbing, creatively energizing focus requiring contemplation, interpretation, understanding, meaning-making and critique. Learning that invites students to engage intellectually awakens the human spirit's desire to know. The result is a deep, personal commitment on the part of learners to explore and investigate ideas, issues, problems or questions for a sustained period of time.

It is relatively easy to identify curriculum outcomes for relevant programs of study, but often much more difficult to link these outcomes to the larger disciplinary concepts required to make connections to the disciplines, students' lives and the world. Recent research from the learning sciences have highlighted the importance of these connections and identified three considerations that are particularly important when designing learning for academic and intellectual engagement:

1. start with students' prior knowledge,
2. organize and use knowledge conceptually, and
3. build assessment into the fabric of study.

“...educating involves a passion to know that should engage us in a loving search for knowledge.”

(Freire, 1998, p. 4)

These principles, along with the need to make meaningful connections to the students' lives and the world, require teachers to enter an iterative cycle of defining, creating, assessing and redesigning that is essential in creating effective learning environments in which students inquire into questions, issues and problems; build knowledge; and develop deep understanding.

PRINCIPLE 2 - WORK STUDENTS ARE ASKED TO UNDERTAKE IS WORTH THEIR TIME AND ATTENTION

The most effective learning takes place when learners have reached what Csikszentmihalyi (1990, in OECD, 2007) calls a state of 'flow'. This experience of intrinsic motivation that Willms, Friesen of Milton (2009) and Friesen (2007) call intellectual engagement, is one in which the learner is so focused that time itself seems to disappear. At this point the brain begins to make connections and see patterns in the information, which results in a "powerful illumination, which comes from understanding" (OECD 2007, p. 72). A sense of sudden epiphany is, "the most intense pleasure the brain can experience in a learning context" (ibid., p. 73) and naturally, is an experience that is intensely motivating as students feel the pleasure inherent in deep learning.

To develop competence in an area of inquiry or study, students must:

- a. have a deep foundation of factual knowledge;
- b. understand facts and ideas in the context of a conceptual framework; and
- c. organize knowledge in ways that facilitate retrieval and application.

These conditions can be achieved through work that is designed for and with students to instill depth in thinking and intellectual rigour, while also involving students in substantive conversation. In addition to incorporating disciplinary and interdisciplinary perspectives, the work teachers' design for students is personally relevant and connected to the worlds in which they live, both in and outside of school.

PRINCIPLE 3 - ASSESSMENT PRACTICES IMPROVE STUDENT LEARNING AND GUIDE TEACHING

In contemporary learning environments, assessment should make up a large part of the school day, not in the form of separate tests, but as a seamless part of the learning process. The intentional design of assessment-for-learning that invites students to co-create assessment criteria with teachers is a powerful strategy that enables students to think deeply about, understand the next steps, and become increasingly self-directed in their learning.

Students need clear targets and models of what constitutes quality work in order to improve their learning. The criteria for evaluating any learning achievements must be made transparent to students so they have a clear overview both of the aims of their work and of what it means to complete it successfully. The British Assessment Reform Group (2006) has identified seven characteristics of assessment that promote learning:

1. assessment is embedded in the design of the teaching and learning;
2. students know the learning goals;
3. students recognize the standards they are aiming for;
4. students are involved in self-assessment;
5. feedback provided enables students to take their next steps;
6. teachers hold the belief that every student can improve; and
7. assessment involves both teacher and pupils reviewing and reflecting on the assessment data.

William et al. (2004) also stress the importance of teachers deliberately and directly teaching the habits and skills of collaboration in peer-assessment, which supports self-assessment by helping pupils to see their own work more objectively, through the eyes of their peers. In order for students to guide their own work and to become more self-regulated learners, they need to be encouraged to keep the aims of their work in mind and to examine their progress towards meeting these aims through the lens of the assessment framework that they have collaboratively designed.

PRINCIPLE 4 – TEACHERS FOSTER A VARIETY OF INTERDEPENDENT RELATIONSHIPS

Effective learning environments are characterized by a series of interdependent relationships that promote and create a strong culture of learning. These relationships are,

- pedagogical (teacher to student);
- peer (student to student);
- community (student to others outside of school); and,
- student to the subject disciplines they are learning about.

Over time, as students experience these relationships and learning environments that support caring, risk-taking and trust, students' confidence in themselves as learners grows. Such environments "develop people's ability to connect with one another, work together across their differences, and add value to each other" (Gilbert, 2005, p. 68). And in this context, diversity in a student population becomes something that is welcomed, appreciated, and explored.

The importance of relationships of various sorts cannot be overlooked in considering contemporary ideas about effective teaching practices. Relationships are critical in educating students not only for skills needed in the work place, but also in building social cohesion and producing minds that thirst to build knowledge throughout the course of their lives.

PRINCIPLE 5 - TEACHERS IMPROVE THEIR PRACTICE IN THE COMPANY OF THEIR PEERS

For far 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.

Recent findings about top-performing school systems in the world support the notion that learning improves when teacher learning happens in the classroom, teacher leadership receives consistent support, and teachers have opportunities to learn from one another (McKinsey & Company, 2007). It is critical for teachers to have a familiarity with one another's work that comes with frequent conversations of a professional nature centered on the work, access to each other's classrooms, and collaborative planning time. It is also very clear that as self-reflective as a teacher may be, receiving constructive feedback from one's peers is imperative in order to improve teaching.

Technology also plays a pivotal role in transforming the conventional work environment in schools. Teachers are beginning to avail themselves of opportunities in networked professional learning communities to share resources and expertise, discuss pedagogical approaches, reflect on practice and provide support for their colleagues as part of the community experience. Using networked communities of inquiry as an integral component, educators can work in a collaborative, collegial space to question and investigate ideas and engage in pedagogical conversation around their own work and practice. Within networked classrooms, where teachers and students alike have access to computers and the Internet, the classroom is no longer an isolated workplace (Clifford et al., 2004).

CONCLUSION

Today's teachers are called upon to work with colleagues to design learning environments that promote deeper engagement in learning as a reciprocal process. Learning can no longer be understood as a one-way exchange where "we teach, they learn." It is a process that requires teachers to help students learn with understanding, and not simply acquire disconnected sets of facts and skills. Effective teaching practices also recognize how important strong relationships are in educating students, building social cohesion, and producing minds that thirst for knowledge for a lifetime. They, along with administrators and other important adults, make school a socially, academically, and intellectually exciting and worthwhile place to be.

"Education is about relationships. They are the key to learning success. We, as educators, must know and respect our students and help them know and respect one another as fellow learners" (Fried, 2001, p. 49).

"...in a knowledge-building space, all ideas are regarded as constantly improvable through others' ability to pose theories, build on contributions, ask questions, posit different theories, offer evidence from contrary perspectives, challenge interpretations. In order to learn to their full potential, individuals must develop and contribute ideas that are both shared and extended by others." (Clifford, 2004, p. 7)

APPENDIX – EFFECTIVE TEACHING PRACTICES RUBRIC

PRINCIPLE 1 – TEACHERS ARE DESIGNERS OF LEARNING				
<p>Design is Focused on Building Understanding</p>	<p>Teacher has a general understanding of curricular outcomes and uses them to deliver instruction.</p>	<p>Teacher has a clear understanding of curricular outcomes and sometimes incorporates them into inquiry-based learning (i.e. project-based, problem-based or design-based).</p>	<p>Teacher has an understanding of: (i) how students learn, (ii) disciplinary core concepts and connections, and (iii) curricular outcomes, designing inquiry-based learning tasks (i.e. project-based, problem-based or design-based) that focus student inquiry on issues, questions and problems central to the discipline.</p>	<p>Teacher has an exceptional understanding of: (i) how students learn, (ii) disciplinary core concepts and connections, and (iii) curricular outcomes, skillfully designing strong inquiry-based learning tasks (i.e. project-based, problem-based or design-based) that focus student inquiry on issues, questions and problems central to the discipline, connected to students' lives and connected to the world outside of school.</p>
<p>Design is Informed by Disciplinary Knowledge</p>	<p>Teacher selects activities that emphasize subject matter acquisition which deal with acquiring information, facts and formulas.</p>	<p>Teacher designs learning activities that are organized around subject matter and occasionally brings discipline experts into the classroom to talk about the work they do.</p>	<p>Teacher designs learning experiences that are organized around disciplinary ideas and core concepts and requires that students make connections between existing and new ideas to build understanding.</p>	<p>Teacher designs learning experiences that engage the students in doing work that require distinct ways of thinking about and acting in the world that particular disciplines embody – i.e. students think, act and engage with ideas and core concepts in the same ways as historians, chemists, biologists, botanists, writers, journalists, photographers, architects, etc. to make meaningful connections and build deep understanding.</p>

PRINCIPLE 2 – WORK STUDENTS UNDERTAKE IS WORTHWHILE

<p>Work is Authentic</p>	<p>The work students undertake requires them to acquire and recall static, inert facts.</p>	<p>The work students undertake has some connection to the world outside of the classroom.</p>	<p>The work students undertake requires them to engage in productive collaboration with each other and with discipline and other experts around matters that are central to the discipline and the broader community outside of school.</p>	<p>The work students undertake requires them to engage in productive collaboration with each other and with discipline and other experts around real problems, issues, questions or ideas that are of real concern and central to the discipline, to the students and to the broader community outside of school.</p>
<p>Work Fosters Deep Understanding</p>	<p>The work students undertake builds habits of mind that emphasize group think by requiring a simplistic solution and/or absolute conclusion attributed to an external authority with no consideration of implications.</p>	<p>The work students undertake requires that they demonstrate industrial habits of mind that present conclusions relative to each other, with simplistic solutions, and a cursory examination of implications.</p>	<p>The work students undertake fosters disciplined habits of mind. Students are asked to:</p> <ul style="list-style-type: none"> i. formulate plausible solutions, ii. articulate assumptions, iii. formulate reasoned judgment and conclusions based on evidence, and iv. consider implications that reach beyond the immediate situation. 	<p>The work students undertake fosters strong habits of mind, innovation and creativity. Students are routinely asked to:</p> <ul style="list-style-type: none"> i. formulate plausible, coherent working theories, ii. formulate well reasoned judgment and conclusions based on evidence with an examination of different viewpoints, iii. analyze assumptions, iv. discuss how things might be otherwise, i.e. supposition, v. thoroughly examine implications, vi. consider ambiguities, vii. work across a variety of contexts, viii. make connections between and among concepts.

PRINCIPLE 3 – ASSESSMENT PRACTICES IMPROVE STUDENT LEARNING AND GUIDE TEACHING

<p>Assessment is Comprehensive</p>	<p>Assessment is exclusively summative (i.e. tests or assignments after learning has occurred).</p> <p>The teacher is unaware of ways to use formative assessment to improve learning or to inform teaching practices.</p> <p>Assessment of learning provides a limited picture of student learning.</p> <p>Teacher relies on one source of assessment data that appears primarily in the form of pencil and paper tests that emphasize recall.</p>	<p>Assessment is primarily summative informed by some formative (i.e., assessment activities built into the learning process) data.</p> <p>The teacher occasionally uses a formative assessment instrument to improve learning and guide planning decisions.</p> <p>Assessment of learning provides a general picture of student learning and competencies.</p> <p>Teacher uses a limited number of sources as assessment data that includes tests, paper and pencil artifacts and the occasional technology presentation.</p>	<p>Assessment is both summative and formative.</p> <p>The teacher uses a limited number of formative assessments to improve learning and inform instructional decisions.</p> <p>Assessment of learning provides an accurate, defensible picture of student learning and competencies.</p> <p>Teacher uses a variety of assessment data from observations, conversations and artifacts that include a wide range of learning proofs including written assignments, student reflections, portfolios, digital images of student work, audio and video recordings.</p>	<p>Assessment is integral to the learning and woven into the day-to-day fabric of teaching and learning.</p> <p>The teacher uses a wide range of ongoing formative assessments to inform instructional decisions and improve practice.</p> <p>Assessment of learning provides an accurate, comprehensive, defensible picture of student learning and competencies at the time the grade is awarded.</p> <p>Teacher and student work together to determine and gather a variety of assessment data from observations, conversations and artifacts that include a rich variety of learning proofs including written assignments, student reflections, portfolios, digital images of student work, audio and video recordings.</p>
<p>Clear Criteria are Established</p>	<p>Assessment criteria are shared after the work has been graded.</p>	<p>Assessment criteria are developed by the teacher and fully explained to students before the work begins.</p>	<p>Assessment criteria are collaboratively designed with students to ensure that everyone has input and understands the learning expectations.</p>	<p>Assessment criteria are collaboratively designed with students and mediated by or added to by experts or expertise within the discipline to reflect authentic real world standards for high quality work.</p>

PRINCIPLE 3 – ASSESSMENT PRACTICES IMPROVE STUDENT LEARNING AND GUIDE TEACHING (CONTINUED)

<p>Students are Self-Directed</p>	<p>Students do not have access to assessment criteria to set personal goals; therefore, are unable to participate in goal setting by identifying proof of learning and reflecting on the gap between current achievement and expected achievement.</p>	<p>Students do not have sufficient access to assessment criteria while learning and/or the criteria are so vague that they are of little help. Therefore students have limited opportunities to participate in goal setting by identifying proof of learning and reflecting on the gap between current achievement and expected achievement.</p>	<p>Students have sufficient access to assessment criteria and feedback while learning and therefore are able to:</p> <ul style="list-style-type: none"> i. identify proof of learning, ii. identify the gap between current achievement and expected achievement, iii. help monitor their own learning as it progresses, and iv. help establish learning goals. 	<p>Students have access to and revisit assessment criteria throughout the study and receive ongoing, specific feedback from a variety of sources in all aspects of learning and therefore are able to:</p> <ul style="list-style-type: none"> i. produce proof of learning, ii. identify the gap between current achievement and expected achievement as well as plans for reducing it, iii. monitor and direct their own learning, iv. develop effective learning strategies, and v. establish important learning goals.
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PRINCIPLE 4 – STRONG RELATIONSHIPS EXIST

<p>Students' Relationship to the Work</p>	<p>Students are disinterested in and see no relevance to the work they are asked to complete.</p> <p>Most students are off task and some are acting out.</p> <p>Students go through the motions of completing work in order to avoid negative consequences.</p>	<p>Students are compliant but see little relevance to the work they are asked to complete.</p> <p>Some students are off task while others are compliantly doing the work.</p> <p>Students complete work with little enthusiasm or do just enough to get by.</p>	<p>Students can make general connections between the work and self, others and/or the real world.</p> <p>Students do the work but their primary motivation is to earn grades.</p> <p>Students are motivated by grades to do a good job.</p>	<p>Students are deeply involved in the work and know why it matters to them, to the discipline and/or to the real world.</p> <p>Students are emotionally and intellectually invested in the work (don't want to stop/put it down/leave class/school).</p> <p>Students are so excited by learning that they spend extra time and effort doing their work. They derive excitement and pleasure from the work they are doing and grades are not their primary motivation.</p>
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PRINCIPLE 4 – STRONG RELATIONSHIPS EXIST (CONTINUED)

<p>Teachers’ Relationship with the Students</p>	<p>The teacher asks students to come to his/her desk if they encounter difficulties while working quietly at their desks.</p> <p>The teacher provides directions on how to complete assignments.</p>	<p>The teacher circulates among students as they work to ensure that they are following directions and assisting them as needed.</p> <p>The teacher provides choices of products that students may use in completing assignments.</p>	<p>The teacher circulates among the students as they work collaboratively, to monitor learning, stimulate discussion, pose questions, provoke thinking or suggest resources as requested or appropriate.</p> <p>The teacher helps students to learn how, when, and why to use different strategies and provides hints, clues, and other feedback to the entire class based on an observation of individual students or in anticipation of likely problems.</p>	<p>The teacher engages students in dialogue as they work to extend learning, stimulate discussion, pose questions, provoke thinking, suggest resources and help students determine their next learning steps.</p> <p>The teacher and other instructional partners make their thinking processes public, help students to learn how, when and why to use different strategies and technologies that provide hints, clues, or other feedback as the students’ work progresses rather than at the end.</p>
<p>Students’ Relationships with Each Other</p>	<p>Students work alone with some opportunities to orally answer questions about the subject content.</p> <p>Students compete with each other.</p>	<p>Students share ideas to build understanding of the subject content.</p> <p>Students work as members of a group where decision-making procedures are established informally, frequently leading to inconsistency in implementation and a failure to involve all group members in decision-making.</p>	<p>Students interact with each other about ideas in which the dialogue builds on each other’s ideas.</p> <p>Students work with each other following established procedures for making decisions.</p>	<p>Students collaborate with each other in which dialogue creates an intellectual camaraderie that promotes improved collective understanding of the topic.</p> <p>All team members mobilize personal strengths to set forth their ideas and to negotiate a fit between personal ideas and ideas of others, using contrasts to spark and sustain knowledge advancement of the entire team, acknowledging that each member has a significant role to play and personal responsibility in decision-making.</p>

PRINCIPLE 5 – TEACHERS IMPROVE THEIR PRACTICE IN THE COMPANY OF THEIR PEERS

<p>Teaching is a Scholarship</p>	<p>The teacher relies on commercially produced instructional materials.</p> <p>The teacher relies on and rarely strays from prescribed resources even if information is outdated and/or inaccurate.</p> <p>The teacher operates in isolation.</p> <p>The teacher participates in learning communities as part of a school initiative but does not use online communication technologies for professional learning.</p> <p>Teacher has not looked at educational research since graduating from teachers' college/university.</p>	<p>The teacher provides students with opportunities to explore areas within the teacher's expertise and/or suggested by commercially produced instructional guides.</p> <p>The teacher occasionally brings current events related to curriculum topics into the classroom to share with students.</p> <p>The teacher shares lessons and activities he/she has created.</p> <p>The teacher participates in learning communities as part of a school initiative and occasionally uses online communication technologies for professional learning.</p> <p>Teacher is knowledgeable about research but makes little or no attempt to incorporate ideas into own practice.</p>	<p>The teacher provides students opportunities to explore areas outside of the teacher's expertise, but always stays a step ahead of the students.</p> <p>The teacher continues to learn about and stay abreast of new knowledge related to the subjects he/she teaches.</p> <p>The teacher obtains feedback about instructional planning from colleagues and mentors.</p> <p>The teacher participates in school-based and online learning communities to access continuous ongoing professional learning to improve practice.</p> <p>Teacher is knowledgeable about and acts in accordance with current research.</p>	<p>The teacher extends his or her own knowledge and questions along with the students' and invites students to become a part of the instructional process.</p> <p>The teacher continues to learn about and stay abreast of discipline knowledge as it evolves in real world contexts.</p> <p>The teacher works in collaboration with others to design robust learning tasks and obtain feedback about instructional planning from colleagues and mentors.</p> <p>The teacher participates in school-based and online learning communities to access and extend continuous ongoing professional learning for self, to improve practice and to advance the learning of colleagues.</p> <p>Teacher takes the initiative to inform self about current research literature and incorporates it into teaching and learning practices.</p>
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