

The Search for Competence in the 21st Century

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Abstract:

This article outlines the growth of What did you do in school today? as a national collaborative research and development initiative designed to capture, assess and inspire new ideas for enhancing the learning experiences of adolescents. We discuss the promise of the initiative's core ideas - particularly intellectual engagement and instructional challenge – for the design of learning environments that give rise to deep conceptual understanding and the emerge of competencies for navigating a 21st century world. Promising practices of the initiative are also explored with attention the potential of collaborative research and the emerging field of social innovation for transformational work in school and system change.

The journey towards a fully equitable public education system in Canada has been long and remains incomplete. And as school systems work to resolve issues inherent in a model of schooling designed for the past, the 21st century learning agenda challenges educators to consider new objectives for learning – over and above ways of improving upon existing ones - for all students, in all classrooms and in all schools.

Beginning with *Imagine a School*¹ and *Design for Learning* the Canadian Education Association (CEA) has invited adolescent learners to share their views about schooling and their experiences of learning. Speaking to audiences of educators, parents and their peers diverse groups students offered powerful insights about the nature of environments conducive to their learning. Students want to experience work that is *meaningful*, not easy: they want to work with ideas that matter, solve real problems, learn from each other, people in their communities, and experts in the subjects they are studying, engage in dialogue in their classes, and know that their learning contributes to making a difference in the world. They consistently demand to be respected.

We wondered if the experiences shared by students we had worked with were similar to those of students across Canada and whether schools would act on this new knowledge if we were able to provide it. *What did you do in school today?* became a national initiative designed to

¹ For more information about *Imagine a School* ... see, <http://www.youtube.com/watch?v=tNLAGHdIC6M> and <http://www.cea-ace.ca/sites/default/files/EdCan-2006-v46-n4-Lundy.pdf>

capture, assess and inspire new ideas for enhancing the learning experiences of adolescents in classrooms and schools.

What did you do in school today?

What did you do in school today? is an emergent strategy where CEA itself, learns within a network of Canadian school districts as they explore the value of student engagement as a core idea for improving the quality of teaching and learning in schools. A critical first step in the design of the initiative involved defining a core set of ideas. Student engagement had already gained popularity as a lever for secondary school reform across Canada although the meaning of the term ‘engagement’ in the research literature was fairly ambiguous.

Engagement had been described as both an outcome of schooling and as a process in learning (Fredericks, Blumenfeld, and Paris, 2004; National Research Council, 2003; Willms, 2003). The value of students’ sense of belonging, their engagement in the life of the school through clubs and sports, and the value of compliance with expectations for attendance, homework completion, behaviour codes etc. was well understood. What was far less clear, however, was whether relationships exist between students’ engagement with the curriculum, the activities they are required to do in their classrooms and the quality of their learning. Therefore, *What did you do in school today?* introduced a multi-dimensional framework of student engagement (Figure 1) that accepts the established concepts of social and academic (later named institutional) engagement and introduced the newer idea of intellectual engagement. The concept of intellectual engagement allows exploration of what students are doing in *classrooms*, how they feel about their experiences of learning, and whether the work they do contributes to their learning.

Figure 1 – WDYDIST Framework for Student Engagement

Social Engagement	Institutional (Academic) Engagement	Intellectual Engagement
Sense of belonging and meaningful participation in the life of the school (e.g. sports and clubs).	Active participation in the requirements for school success (e.g. attendance and homework completion).	Serious emotional and cognitive investment in learning (e.g. students’ interest and motivation and relevance of classes to their lives).

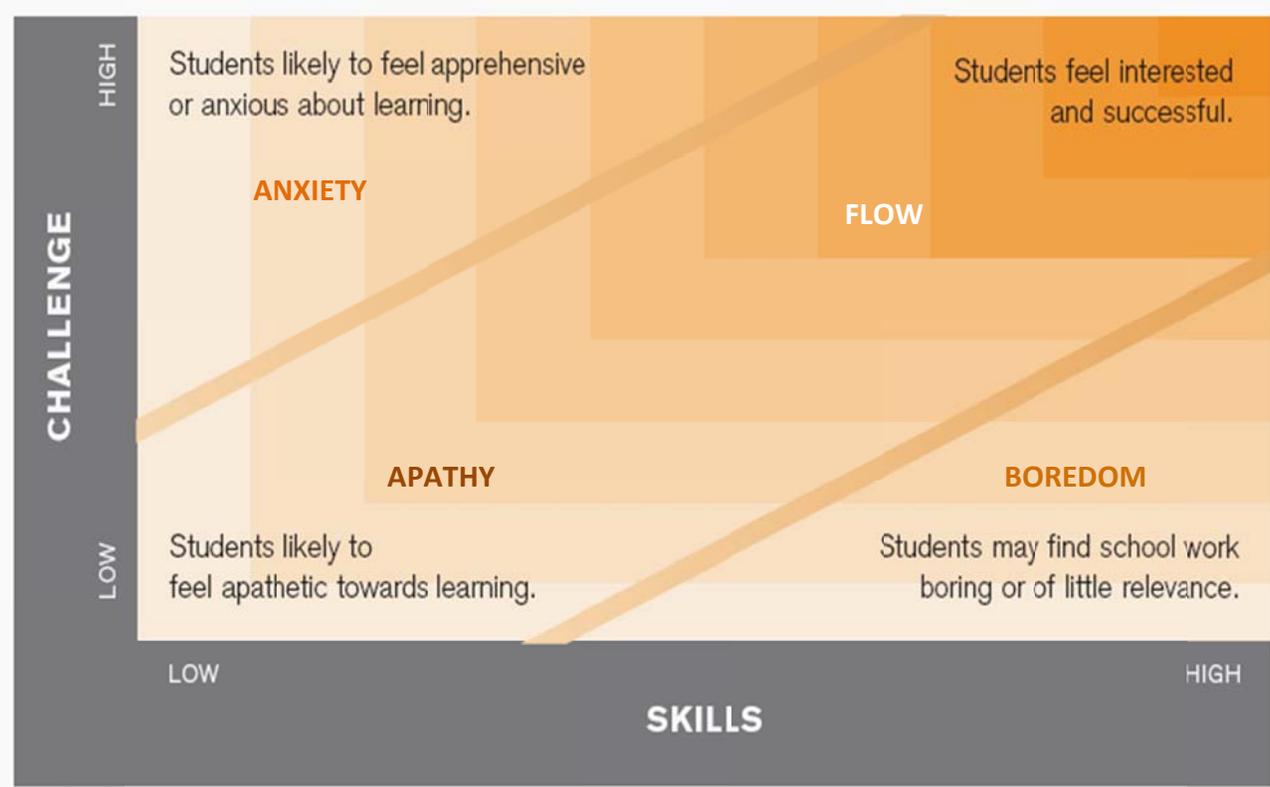
Since 2007, *What did you do in school today?* has grown from a network of ten to seventeen Canadian school districts. Administrators, teachers, and students in more than 150 schools are now working with ideas and data generated by CEA's multidimensional framework of student engagement.

The systematic collection of data² about students' experiences continues to provide a foundation for school and district inquiries into creating more effective and engaging learning environments. First year results revealed generally low levels of student engagement. While almost 70% of the 32,322 students reported positive experiences of social and institutional engagement, only 37% felt intellectually engaged in learning. Recent data capturing the experience of 64,836 middle and secondary students over three years confirms early findings that a large majority of students begin to disengage from learning in Grade 6 and continue to do so until Grade 9, where levels remain consistently low through to Grade 12 (Willms, Friesen and Milton, 2009: 16-29).

A second measure - instructional challenge – was developed from Csikszentmihalyi's *Theory of Flow* that arose from his research on optimal human experience (1990). The concept of 'flow' offered further insights into students' experiences of learning by elucidating the balance between the challenge inherent in the work students are asked to do in classrooms and their skills to do that work (Figure 2). Across Canada less than half of middle and secondary students experienced flow in their math and language arts classes. The remaining students found their schoolwork either too difficult or too easy, while a small percentage (less than 8%) felt apathetic toward their learning ('I can't do it and I don't care'.) Although students who are 'intellectually engaged' are not necessarily 'in flow', the odds of students who experience anxiety in their classes being intellectually engaged in learning are only 27%. These odds are even lower for the 8% who feel apathetic about the schoolwork they are asked to do.

² Students at schools participating in *What did you do in school today?* complete the Learning Bar's *Tell Them From Me* survey, which measures different aspects of social, institutional and intellectual engagement.

Figure 2 – Instructional Challenge



(Willms, Friesen, and Milton, 2009: 12)

Promising Ideas

The concepts of intellectual engagement and instructional challenge have resonated strongly with educators and students. To students and educators alike, it is self evident that learning is the result of human effort and thought. These concepts capture the aspirations of both teachers and students for teaching and learning that create enduring knowledge and skill. Renewed attention to the kinds of learning experiences young people need to develop an expanded set of competencies for navigating a 21st century world is a significant consequence of the new measures of intellectual engagement and instructional challenge.

Numerous lists of 21st century skills have been published and all include competence in problem solving, critical and creative thinking, collaboration and communication. The difference between the ‘then’ and the ‘now’, however, is that these competencies are required by all students and not just the few students who achieved them in the past.

Compared to mastering discrete skills and accumulating factual knowledge, becoming a competent learner who is able to draw on and synthesize knowledge across a variety of disciplines is a complex undertaking. Elsewhere we have argued that 21st century competencies can be acquired, but it is not clear that they can be directly taught (Dunleavy and Milton, 2010: 22). Competency arises in the combination of skills and knowledge to accomplish non-routine tasks or solve problems. Development of competence requires experiences that cause students to think, play, and do things with ideas, practices and tools that in turn, give rise to deep conceptual understanding.

The most accomplished educators, mathematicians, welders, athletes, computer technicians, chefs, community leaders, scientists, communicators, artists, and mechanics have a conceptual as well as practical understanding of their fields. It is through the practice that conceptual understanding occurs. The constant interaction of ‘thinking’ and ‘doing’ is a powerful foundation for all learning experiences designed to develop the social, cultural and intellectual competencies required to live a ‘good life’ in the complex world that is the 21st century.

There are times when students need easily recalled information and simply acquired skills to make progress in their learning, but these are best placed within the more expansive set of experiences in which competence emerges. Traditional measures of effective teaching and learning have drawn attention to the extent to which all students are able to achieve “the same sort of *functional* competence” (Sumara and Davis, 2010: 7) in discrete areas of the discipline or curriculum. Today, quality learning environments are those designed by teachers for students to experience the curriculum as ideas and problems that are real and worthy of exploration.

Classrooms need to encourage students to take things apart, design and make things and draw students into the languages of the major disciplines. Whether students are fascinated by, contribute to, and become confident in their conceptual understanding of the intended curriculum depends more on how they experience what we want them to than it does on any preconceived notions of their ability or motivation.

Developing real competence during adolescence often requires classroom work that increases personal motivation and moves students from surface to deep learning. Motivation is fostered when young people have opportunities to try “things that are challenging and of deep interest to them” (Evans et al, 2007: 199). Work that captures the close relationships among emotion, cognition and the development of social and intellectual learning capacities is work that students find worth their time and effort.

Engaging students in the curriculum in this way - through work that creates the conditions for deep emotional and cognitive investment in learning – is the foundation of intellectual engagement, instructional challenge and related core ideas that CEA continues to explore through *What did you do in school today?* Exploration of the role of students as co-designers or co-creators of their learning environments, of relationships between engagement and achievement, and the potential for bringing our aspirations for equity and excellence together in experiences that engage all students in using and developing 21st century competencies are at the heart of the further development of this initiative.

Promising Practices

The idea of 21st century competencies (or skills) for students is widely recognized. The associated competencies for teachers, by contrast, are far less understood or agreed upon. Strategies aimed at improving the existing structures, processes and practices of schools give rise to valuable incremental improvements in measured achievement and increased graduation rates. It is less clear that the same strategies will be robust enough to engage the ‘hearts and minds’ of students and teachers in sustained work with ideas and practices that build greater reciprocity between what we know about learning and its relationship to effective teaching.

Grounded in a reliable set of data, the core ideas of *What did you do in school today?* have become an important source of local, regional and national conversations about teaching and learning. Many promising practices are beginning to emerge in the network of participating schools

and CEA is collecting evidence that the process of collaborative research itself can become a powerful change strategy.

The initiative has mobilized new ideas, measured what hasn't been measured before, and developed new tools to facilitate the role of participating schools and districts as the change makers. The hard work of making effective teaching and learning the heart of public education can only be done at the place where students and teachers meet together. The collaborative and respectful relationships that have grown between CEA and its partners have contributed significantly to the success of *What did you do in school today?* Without them the initiative would be simply 'yet another research study'. These relationships will be critical as the initiative moves into a next phase of work with an intentional focus on understanding whether the emerging field of social innovation is useful for transformational work in school and system change.

One of the most promising debates to be revived by the still emerging 21st century learning agenda draws our attention to the past, present and future purposes of education. The old commitment to equal educational *opportunity* is finally being replaced by a promise of optimal *benefits* for all young people. Can public education provide for the full range of aspirations and passions of young people today? Can it uncover latent talents in students who have come to believe that they can't learn, or who choose not to in school? The promise of optimal benefits poses a complex challenge for school systems in a context where there is currently neither certainty nor agreement about district, school or classroom conditions required to fully realize it.

Improvement is a reasonable response to many issues in education. Where improvement has failed to disrupt core, and often hidden, assumptions and practices working against our ability to shift patterns of student engagement and achievement, however, a different approach may be required. The emerging literature on social innovation and disciplined innovation offers ideas about conditions that enable schools to tackle issues that to date, appear to be intractable.

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