

**RESEARCH SERIES**

**REPORT NUMBER ONE:  
THE RELATIONSHIP BETWEEN STUDENT  
ENGAGEMENT AND ACADEMIC OUTCOMES  
SEPTEMBER 2012**

JODENE DUNLEAVY,  
J. DOUGLAS WILLMS,  
PENNY MILTON, AND  
SHARON FRIESEN

## ***What did you do in school today?*** **Research Series**

### **REPORT NUMBER ONE: THE RELATIONSHIP BETWEEN STUDENT ENGAGEMENT AND ACADEMIC OUTCOMES, SEPTEMBER 2012**

Published by the Canadian Education Association (CEA)  
119 Spadina Avenue, Suite 705, Toronto, ON M5V 2L1

#### **Recommended Citation**

Dunleavy, J., Willms, J. D., Milton, P., & Friesen, S. (2012). *The Relationship Between Student Engagement and Academic Outcomes. What did you do in School Today?* Research Series Report Number One  
Toronto: Canadian Education Association.

© Canadian Education Association 2012. Some rights reserved. This report is licensed under a Creative Commons Attribution Non-Commercial No Derivatives Licence. Users are free to copy, distribute and transmit this document provided it is distributed in its entirety, and proper credit is given to the author(s) and the CEA and its website [www.cea-ace.ca](http://www.cea-ace.ca). Users may not use content for commercial purposes. Users may not alter, transform, or build upon content.  
ISBN: 1-896660-55-X

Publié en français sous le titre:

***Qu'as-tu fait à l'école aujourd'hui?***

**Le lien entre l'engagement des élèves et les résultats scolaires**

## SERIES INTRODUCTION

***What did you do in school today?*** is a national initiative of the Canadian Education Association (CEA) designed to capture, assess and inspire new ideas for enhancing the learning experiences of adolescents in classrooms and schools. ***What did you do in school today?*** is one of the few initiatives in Canada that focus specifically on the experiences of adolescent students. And it is the only initiative that focuses on the powerful concept of *intellectual engagement*.

***What did you do in school today?*** has advanced a core set of ideas about adolescent learning and educational change (e.g., students as agents of change) and has popularized a multidimensional framework of student engagement that recognizes the importance of young people's engagement in school (social and institutional engagement) and learning (intellectual engagement). It has also drawn attention to important relationships between engagement and key developmental outcomes for adolescent learners, and to increased student engagement as a pivotal idea for improving the quality of teaching and learning in Canadian schools.

Since ***What did you do in school today?*** was launched in 2007, more than 63,000 students have shared their experiences of learning and engagement with CEA through an online survey. This significant database forms a foundation of our national research strategy, which examines the policy and practice implications of many types of evidence, both qualitative and quantitative. First-year findings from the initiative were shared in a *First National Report* (Willms, Friesen, & Milton, 2009).

The purpose of the reports in this research series is to present new evidence and to share the knowledge we have gained about student engagement since 2007. Each report also explores trends or relationships in the data, especially as they relate to students' engagement in their learning. For the research questions that frame each report, we thank the educators who have shared their questions with us and helped us to understand what has inspired and challenged them in the course of working with core ideas of ***What did you do in school today?*** in their schools.

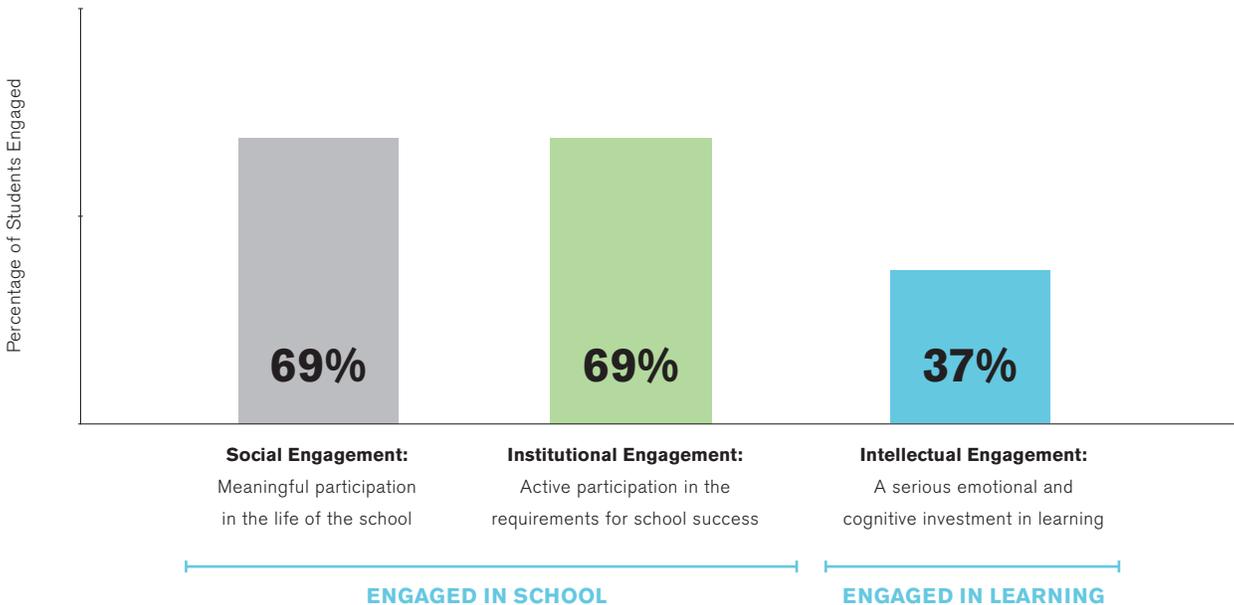
### FOCUS OF THIS REPORT

In this report – the first in our series – we explore the relationship between student engagement and academic outcomes, with a particular focus on the relationship between intellectual engagement and our measure of academic outcomes – students' marks. Following a discussion of recent results, we reflect on what these findings tell us about marks as measures of academic success. The relationship between institutional engagement (e.g., attending class, completing homework) and higher course marks revealed in our findings is striking. On the other hand, many students do well in their classes without being *intellectually* engaged. We explore the implications of these findings for policy and practice by highlighting how the most basic of structures in schools – such as marking practices and definitions of academic success – can often block the emergence of practices that support higher levels of achievement and intellectual engagement among larger numbers of students.

## EXPLORING THE RELATIONSHIP BETWEEN STUDENT ENGAGEMENT AND ACADEMIC SUCCESS

A national portrait of Canadian middle and secondary schools — published in the *What did you do in school today? First National Report* — showed that many students were engaged in school but few were engaged in their learning (see Figure 1). These early findings also revealed that the longer students stayed in school, the less likely they were to attend and feel intellectually engaged in their classes (Willms, Friesen, & Milton, 2009, p. 18).

**Figure 1.** Dimensions and Levels of Student Engagement, 2007–2008



(Willms et al., 2009, p. 17)

Schools and districts participating in *What did you do in school today?* took these low levels of student engagement in learning as a call to action and began exploring the implications of these findings for district, school and classroom practices. Given the current provincial and regional focus on improving student achievement, educators began wondering about the relationship between student engagement and student achievement. For example, if levels of intellectual engagement increased, would student achievement also increase?

Examining the relationship between student engagement and achievement is difficult in a Canadian initiative because curriculum and assessment standards are so different among provinces and territories. Therefore, to test this relationship, we created a measure of academic outcomes (as a proxy for achievement) based on course marks that would be relevant to all students regardless of their geographical location. All three dimensions of student engagement were included in our analysis, but we had a particular interest in the relationship between *intellectual* engagement and academic outcomes.

We wondered, for example, whether the students receiving higher course marks would also be the students reporting higher levels of engagement in learning. Our analysis revealed quite the opposite. Many students do well (i.e., get high marks) in their courses without being intellectually engaged, leaving us to wonder instead: What do marks and current classroom-level assessments actually measure?

## DATA AND METHODOLOGY

During the 2009–2010 school year, over 63,000 Grade 4–12 students completed the LearningBar's *Tell Them from Me 2.0* survey. Data presented in this report are drawn from this sample, but include responses only from the 51,708 Grade **6–12** students. When completing the survey, all students answered demographic questions (e.g., gender, current grade), identified their current or most recent marks in Language Arts, Science and Math from six options (see Figure 2), and answered questions on three measures for each of social, institutional and intellectual engagement (see Figure 3).

**Figure 2.** *Range of Marks*

90% to 100%
80% to 89%
70% to 79%
60% to 69%
50% to 59%
below 50%

**Figure 3.** *Nine Measures of Student Engagement*

Type of Engagement	Survey Measures
<b>Social Engagement</b>	<ol style="list-style-type: none"> <li>1. Sense of belonging</li> <li>2. Participation in sports and clubs</li> <li>3. Positive friendships at school</li> </ol>
<b>Institutional Engagement</b>	<ol style="list-style-type: none"> <li>4. Attendance</li> <li>5. Positive homework behaviour</li> <li>6. Values schooling outcomes</li> </ol>
<b>Intellectual Engagement</b>	<ol style="list-style-type: none"> <li>7. Interest and motivation</li> <li>8. Effort</li> <li>9. Quality instruction</li> </ol>

By holding student demographic factors constant, we were able to examine the relationships between academic outcomes (measured by self-reported course marks) and levels of social, institutional and intellectual engagement.

## OBSERVATIONS

Figures 4, 5 and 6 show the relative strengths of the relationships between all nine measures of student engagement and higher course marks for the three core subjects. There are some slight differences in these relationships, but the pattern is generally a *diminishing* relationship between academic outcomes (as measured here by course marks) and levels of, in order, institutional, social, and intellectual engagement.

All other things being equal (e.g., socio-economic background), the three measures of engagement that have the *strongest* relationship to higher marks for Language Arts, Science and Math are:

- **attendance**
- the level of **effort** students put into doing well in their classes
- positive **homework** behaviour (i.e., students complete their homework and hand it in on time)

Of these three measures, the first and third are measures of institutional engagement; only the second is a measure of intellectual engagement.

The measure of student engagement with one of the *weakest* relationships to higher marks in Language Arts, Science and Mathematics is **interest and motivation**, a measure of intellectual engagement. The third measure of intellectual engagement – **quality instruction** (determined by a series of questions about instructional clarity, relevance, and rigour) – is also weakly related to high marks in Language Arts and Science. This relationship is considerably stronger (but still not high) for Mathematics.

**Figure 4.** What Measures of Student Engagement Are Related to Higher Marks in *Language Arts*?

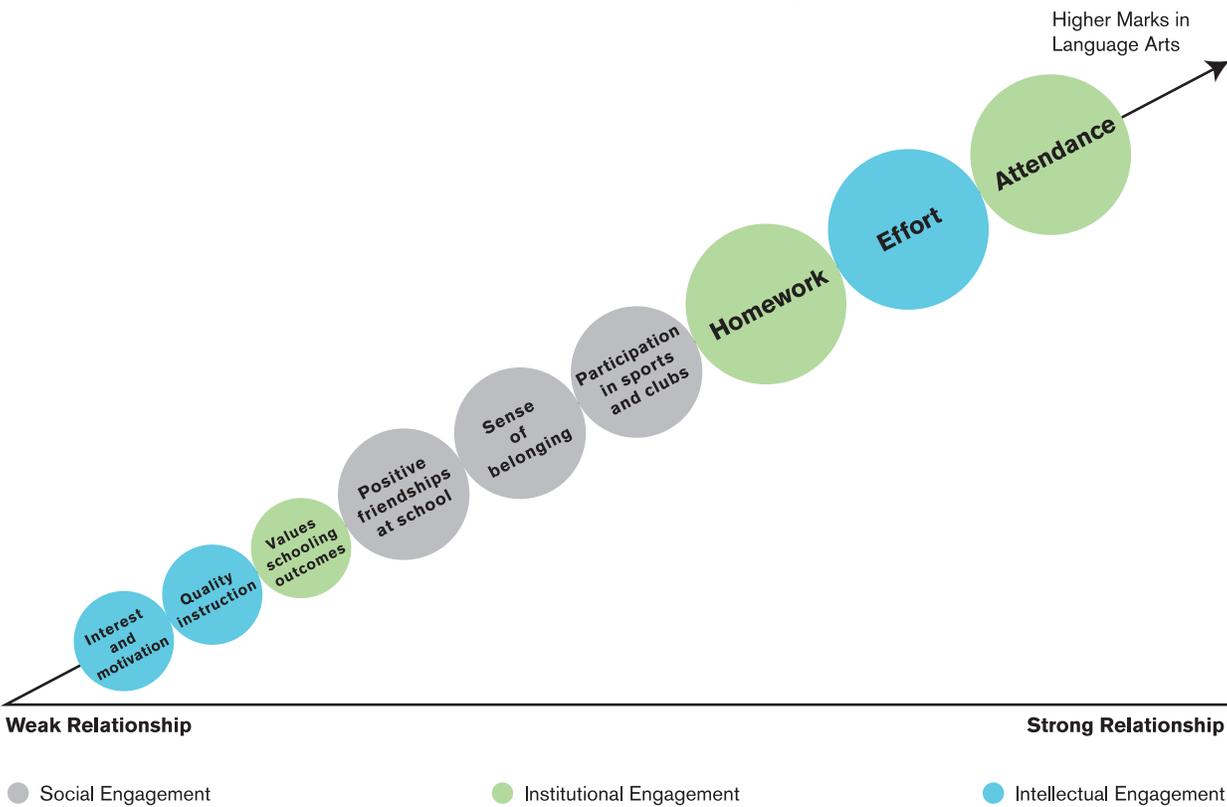


Figure 5. What Measures of Student Engagement Are Related to Higher Marks in Science?

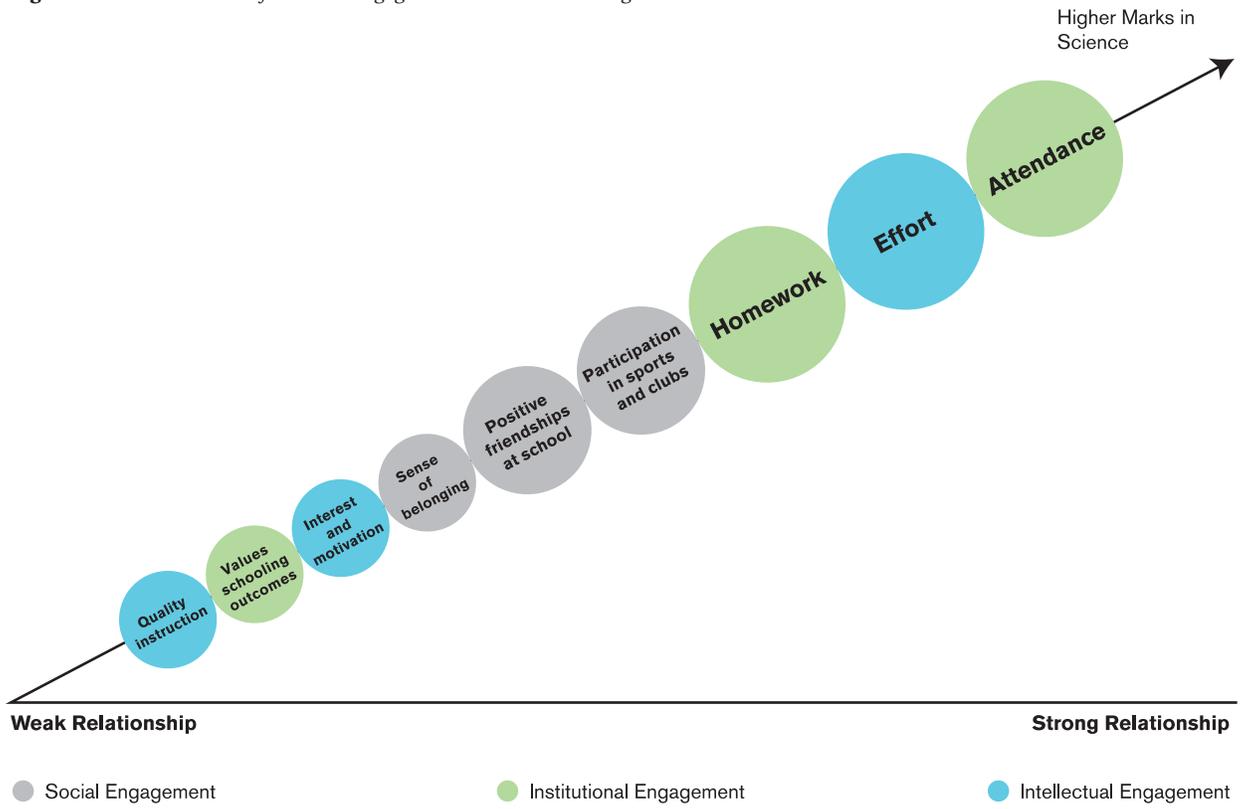
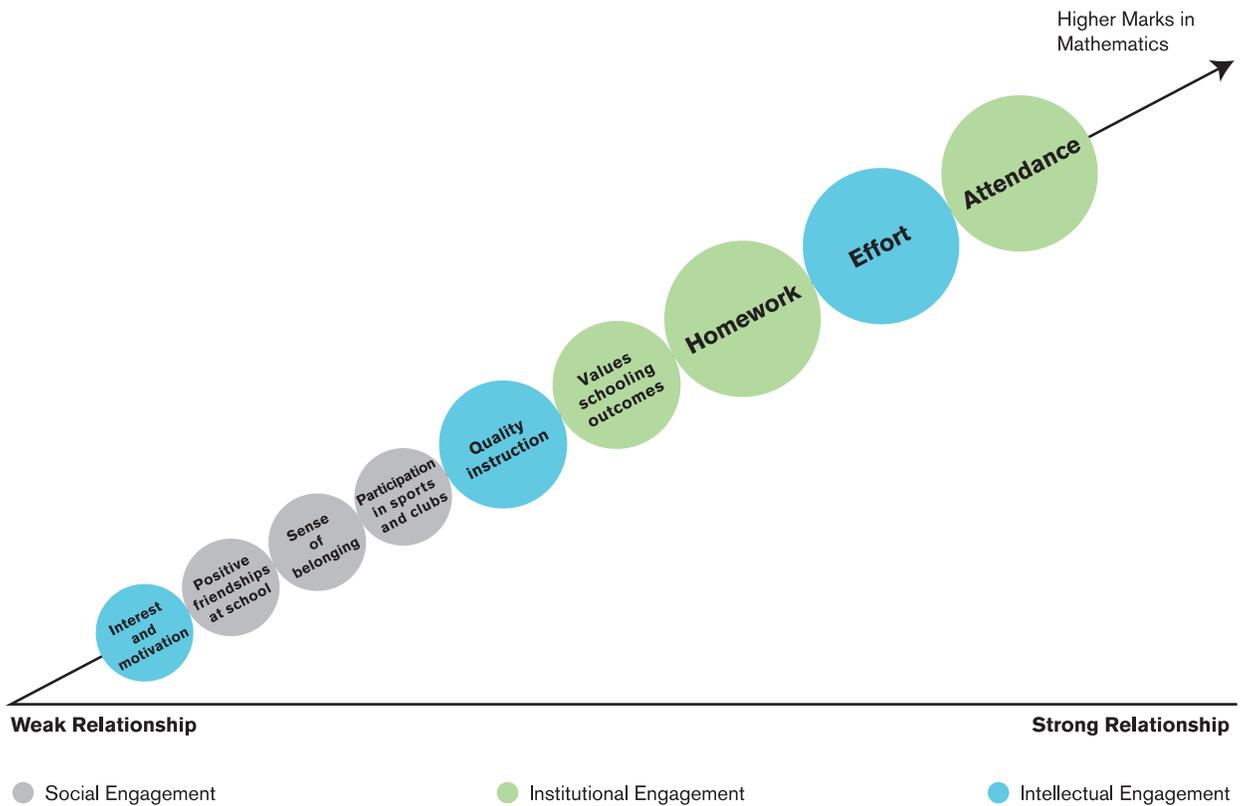


Figure 6. What Measures of Student Engagement Are Related to Higher Marks in Mathematics?



## ACADEMIC OUTCOMES AND INTELLECTUAL ENGAGEMENT

Our purpose in this study was to illuminate the relationship between intellectual engagement and academic outcomes. Educators involved with *What did you do in school today?* were immediately drawn to the idea of intellectual engagement. Teachers, and indeed most people, know intuitively that it is the brain that learns through experiences that require both thinking and doing. Educators who are working on the ways to increase intellectual engagement are doing so not only to make school work more enjoyable, but also to achieve better outcomes for students, including those who do not do well under the current arrangements in schools. Yet in our study, students do well on school-based assessments without being intellectually engaged.

As a result, our findings lead to further questions:

- What do marks and current classroom-level assessments measure?
- Does the work that students are asked to do require them to be intellectually engaged?
- What are the learning outcomes that we need to assess?
- What is the impact of student assessment practices on student learning?

## ENGAGED IN LEARNING OR DOING SCHOOL?

Research has established that student assessment is a powerful lever to improve learning and guide teaching (Friesen, 2009). New assessment strategies seek to inspire and inform students to achieve high-quality work. These assessment strategies are built on ideas of descriptive feedback that show students how they can improve their own work, the availability of exemplars that enable students to see what good work looks like, and rubrics that describe standards for different levels of performance.

But this exclusive focus on learning outcomes and quality of student work is contentious. Traditional marking practices include assessments of student behaviours such as the following to determine final marks: participation, attendance, on-time delivery of assignments, and the averaging of marks over the course of an academic term. Parents often share the view that compliance with these norms of behaviour will instill responsibilities essential in the “real world.” Teachers have relied on the inclusion of behavioural expectations in their assessments because these behaviours and attitudes do contribute to creating the conditions for learning in their classrooms.

## WHAT GETS COUNTED TOWARD SUCCESS AT SCHOOL?

When teachers at Valley High saw the first set of data from the *Tell Them From Me* student survey, they were shocked by the large number of students who said they wanted to attend university or college after high school. Many parents and guardians shared these aspirations, even though they knew that students at Valley High would have to overcome significant economic and academic barriers to reach their goals.

For many years, the school had been struggling with low attendance, achievement and graduation rates, but the survey helped teachers to see a new side of students: they wanted to be at school, believed they were making a strong effort to do well in their classes, and wanted to be successful.

Why then, staff wondered, was there such a wide gap between students' aspirations, their efforts to do well at school, and the marks they were receiving in their classes?

It would have been easy for teachers to assume that the gap was exclusively a result of students' lives outside of school: the school served a very diverse community struggling with a high crime rate, poverty and other challenges that put many students at risk in school. Instead of looking only at external factors, however, teachers examined how their own practices might be contributing to this gap. They began with marking practices, and for a full assessment term (three months) they joined together in an inquiry to document the factors they paid attention to most in determining students' final marks. At the end of the term, they discovered that beyond test and assignment marks, course marks were calculated more on attitudes and behaviour than evidence of learning:

- attendance
- participation
- homework and assignment completion
- effort
- attitudes toward school work

Across Canada, provincial and district policies emphasize that course marks should exclusively represent a student's achievement of learning outcomes, leaving “non-achievement” factors such as attitude, effort, homework completion, etc. to be reported elsewhere. In the school context, however, marking continues to serve many different purposes, and decisions about factors included in students' marks vary widely among teachers, even within the same school (Guskey, 2009).

The results of our national sample of *What did you do in school today?* schools may indicate that traditional assessment practices are still prevalent, in that the three measures correlated with higher marks — attendance, effort and homework completion — are the very things that current research and policy say should matter *least* in determinations of academic success. Although these behaviours and dispositions contribute to creating the conditions for learning, they do not tell us what students know and can do as a result of learning.

When institutional behaviours are elevated to measures of success at school, they result in what Denise Clark Pope calls “doing school” (2001), an attitude towards school that develops when students realize that good marks can be earned by compliance with expectations of institutional engagement rather than by meeting expectations for depth, originality and quality of work. Marking practices that favour institutional engagement reward hard-working students but do not necessarily encourage them to explore greater challenges. Many such students are likely to be those who find school boring. They are under-challenged by the work they are asked to do and may not become effective learners beyond the classroom. These same marking practices disadvantage students who are institutionally disengaged and are very detrimental to those who *cannot or don't know how to* “do school” well (Fleener, Lamb, Anton, Stinson, & Donen, 2011).

Elsewhere, we have recognized that social, institutional and intellectual engagement all contribute to important developmental outcomes for adolescent learners (Dunleavy & Milton, 2010). Institutional engagement, for example, provides students with opportunities to develop an “orientation to good work and personal responsibility” (Willms et al., 2009, p. 40). Classrooms are excellent places for students to learn these skills, especially in environments where caring adults are there to help students navigate and negotiate the rules. And yet, our results are not the first to suggest that the skills associated with institutional engagement may still be playing too large a role in how success is defined and assessed in secondary schools (Erickson, 2011; Fleener et al., 2011, p. 50). **(See the case study below, *What gets counted toward success at school?*)** As the National Research Council has observed, this focus also detracts from efforts to “achieve the more ambitious goal of promoting deep cognitive engagement that results in learning” (National Research Council, 2003, p. 32).

All of these factors contribute to a positive learning environment, but the marking focus was on these factors themselves, rather than on what students knew and could do as a result of them. When teachers paid attention to their practices, they also discovered how averaging students' marks across a term eliminated evidence of a student's growth and improvement from his or her final mark.

Valley High's inquiry also revealed inequities in marking practices, which clearly favoured students in a traditional middle-class home environment, who had the time and space at home to focus on school work, with parental support. But many students had different out-of-school experiences, with necessary commitments that took up large amounts of their time (e.g., work, family responsibilities) and that understandably interfered with their school attendance and homework. For these students, most teachers' approaches to marking were in fact measuring what the students could *not* do because of their life circumstances.

## **AN INVITATION TO ADMINISTRATORS AND TEACHERS**

At Valley High, administrators and teachers collaborated in a school-wide inquiry on assessment and marking. Together they spent a term just watching — not changing — their practice. We'd like to invite educators in other schools to join in a similar inquiry by just paying attention to the details of marking practices, to wonder why marking is the way it is, and to explore the implications of these practices for student learning, student engagement, and teaching.

## WHERE DOES THIS LEAD US?

Knowledge of how people learn has grown significantly in recent years. In many ways, we have yet to fully appreciate how this new knowledge should lead us to change our learning environments. The concept of intellectual engagement popularized by *What did you do in school today?* provides an avenue for exploring what types of experiences for young people give rise to enduring competencies for learning and life. Past educational emphasis has been on teaching facts and figures that were easily recalled or skills that were easily mastered by many students. But based on what we now know about how people learn, that past emphasis is being replaced – in research and theory – by a focus on the need for students to reach conceptual understanding within the major disciplines through the “deliberate practice” of 21st-century skills (Scardamalia, Bransford, Kozma, & Quellmalz, 2010, p. 20): problem solving, experimenting, thinking critically, modelling, building, collaborating, and so on. Engaging students in the curriculum in this way – through thought and action – is the foundation of intellectual engagement, through which students develop an orientation to original work, collaboration, and confidence as knowledge-builders (Willms et al., 2009, p. 40).

The concept of intellectual engagement resonates strongly with many educators because it represents the kinds of learning that they aspire to for all students. Yet often the most basic of structures in schools – in this case marking practices and definitions of academic success – can work against the emergence of practices that would support higher levels of achievement and engagement among larger numbers of students. Existing models of assessment rarely measure these higher types of learning or the competencies they foster.

We share Joe Bower's passion for wanting kids to be engaged in learning for reasons other than gaining marks on assignments (2011, April 25). To this, we might add a desire to see students' high levels of intellectual engagement reflected more clearly in marks than our current results indicate. We know what good assessment policies and practices look like. Our challenge is to create a cohesive and coherent strategy through which what we know about adolescent development – including learning – and what we know about effective educational practice are combined in ways that enable students to develop the competencies that arise from intellectually engaging school work.

## REFERENCES

- Bower, J. (2011, April 25). Grading: Where do I stand? *For the love of learning*. (Weblog). Available at: <http://www.joebower.org/2011/04/grading-where-do-i-stand.html>
- Dunleavy, J., & Milton, P. (2010). Sorting students into learning. *Education Canada*, 50(3), 20–23.
- Erickson, J. A. (2011, February). Transforming grading practices: A call to action. *Principal Leadership*, 11(6), 42–46.
- Fleenor, A., Lamb, S., Anton, J., Stinson, T., & Donen, T. (2011). The grades game. *Principal Leadership*, 11(6), 48–52.
- Friesen, S. (2009). *Teaching effectiveness: A framework and rubric*. Toronto, ON: Canadian Education Association.
- Guskey, T. (2009). *Bound by tradition: Teachers' views of crucial grading and reporting ideas*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- National Research Council – Institute of Medicine. (2003). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: The National Academies Press.
- Pope, D. C. (2001). *Doing school: How we are creating a generation of stressed-out, materialistic and miseducated students*. New Haven, CT: Yale University Press.
- Scardamalia, M., Bransford, J., Kozma, B., & Quellmalz, E. (2010). *White Paper 4: New assessments and environments for knowledge building*. Melbourne: University of Melbourne.
- Willms, J. D., Friesen, S., & Milton, P. (2009). ***What did you do in school today?*** *Transforming classrooms through social, academic and intellectual engagement – First national report*. Toronto, ON: Canadian Education Association.