# The Impact of Evaluative Approaches on High School Students' Learning through Reading Engagement

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## ABSTRACT

The purpose of this study was to investigate how the quality of teachers' evaluation practices coupled with student achievement levels might be related to students' self-perceptions about their engagement in "learning through reading". To that end, self-report questionnaires were administered to 92 teachers in 10 francophone public high schools in the Montreal region and to their 1799 7th grade students. Quantitative analyses suggested that: 1) when teachers adopted a multimodal approach (diversified and personalized practices), their students generally reported being better engaged in learning through reading, and 2) low and high achievers differed in their self-perceptions of their learning through reading engagement. The results are significant because they uncover relationships between particular evaluation practices, students' learning through reading engagement and achievement.

## CONTEXT

Among all the school activities in which students engage, one appears particularly significant for academic success: Learning through Reading (Cartier, 2000; Vacca, 2002). In all courses, students read textbooks to learn new concepts and technical terms (Laparra, 1986) and to develop a better understanding of social and natural phenomena (Johnson & Giorgis, 2001).

LTR can be defined as "a process and a learning activity during which the reader/learner's goal is to master a topic through reading texts while managing their work environment and task progress" (Cartier, 2000, p. 93). Students must recognize the expectations and requirements of the activity to self-regulate accordingly, which is challenging for some high school students (Cartier, 2003; Stetson & Williams, 1992).

In our research, we employ a model of self-regulated learning to characterize students' engagement in important kinds of academic work, such as learning through reading (Butler & Cartier, 2004; Cartier & Butler, 2004) (see Figure 1). This model depicts the links between learning and the academic environment where learning takes place. The environment includes teaching and evaluation practices along with activities designed to guide students' learning. This model also acknowledges the role of the individual in shaping self-regulation, by examining core components of the learning process (Wang, Haertel & Walberg, 1993) — emotional, motivational, cognitive, and metacognitive — and by considering students' background and school history (e.g., experience with this type of activity in the past).

Several researchers have shown that being significantly engaged in and self regulating during learning has an effect on scholastic achievement. Haynes (1987) showed that whether or not students used cognitive or self-regulating strategies such as choosing the main idea or managing their time was related to whether they were high, average, or low achievers. Several studies have identified differences between high achieving students and those with learning difficulties in their use cognitive and self-regulating strategies (Corno, 1994). In general, students who have a harder time self regulating have lower grades (Zimmerman & Martinez-Pons, 1986). Furthermore, students at risk for failure use inadequate or insufficient learning strategies (Butler & Cartier, 2004; Cartier, 2003; Cartier & Langevin, 2005).

Many researchers have underlined the fact that teachers' assessment practices can influence students' use of learning strategies, reading and performance (Brookhart & DeVoge, 1999; Eccles, Wigfield, Midgley, Mac Iver & Feldlaufer, 1993; Parkes, 2000; Vallerand, Fortier, & Guay, 1997). The effects of teachers' assessment practices can be negative or positive. For example, using test and exams, a typical example of which is a multiple-choice exam, has the effect of reducing learning (Resnick & Resnick, 1993). In effect, this kind of exam assesses learning of independent parcels of information and presents students with a task that is not well linked to the key competences that are expected from students.

Researchers have also long agreed that people working in schools should adopt an individualized and diversified approach. Evaluating individual students' learning on the basis of their needs, their prior acquisitions and the curriculum, fosters commitment and perseverance and helps prevent discouragement (Crooks, 1988; Eccles, Wigfield, Midgley & Adler, 1984; McMillan & Workman, 1998; Weiss, 1995). Also, varying evaluation methods makes it possible to take into account different ways of processing information (Wagner & Lily, 1999). Use of varied practices thus fosters engagement, individual progress, the use of strategic knowledge and perseverance in the face of difficulties.

Already, efforts to adapt evaluative practices have been observed in schools. Unfortunately, while these new practices usually have strong theoretical foundations, their real efficiency and conditions maximizing their effectiveness remain unknown, deserving further study. Also, low and high achievers have seldom been compared on the basis of their of LTR engagement.

## OBJECTIVES

The purpose of this study was to investigate how the quality of teachers' evaluation practices coupled with student achievement levels might be related to students' self-perceptions about their engagement in "learning through reading".

## RESEARCH DESIGN AND METHODS

First we administered a self-report questionnaire on evaluative practices (Chouinard et al., 2005) to 92 7th grade teachers ($N$ = 63 females and 29 males) from ten French secondary public schools in the region of Montreal, Canada.

Subscales were constructed to reflect seven dimensions of evaluation practices: 1) differentiation ($\alpha$ = 0.85), 2) students' participation ($\alpha$ = 0.60), 3) individual productions ($\alpha$ = 0.77),

4) team production ($\alpha = 0.73$), 5) tests and exams ($\alpha = 0.64$), 6) importance of effort ($\alpha = 0.55$), 7) importance of rank and grades ($\alpha = 0.73$). Analysis of the collected data from the teachers (SPSS Two-Steps Cluster analysis) revealed two main evaluative approaches: the *unimodal* approach, characterized above all by the use of tests and exams; and the *multimodal* approach, characterized by greater individualization of evaluative practices, cumulative student participation in the process, the use of more varied measurement instruments (individual productions and team work) and fewer tests and exams.

Second, we asked 1,799 of these teachers' 7th grade students to complete a self-report questionnaire on their engagement in learning through reading (adaptation from Cartier and Butler, 2003). Students referred to an example learning through reading activity in Language arts when answering the questionnaire. Sets of subscales were constructed to measure three qualities of students' learning through reading engagement: 1) *Students' Perceptions of Activity Demands*: (a) interpretation of activity demands ($\alpha = 0.59$), (b) general performance criteria ($\alpha = 0.71$) and (c) specific performance criteria ($\alpha = 0.75$); 2). *Self-Reported Use of Self-Regulation Strategies*: (a) planning ($\alpha = 0.48$), (b) monitoring ($\alpha = 0.82$), (c) adjusting ($\alpha = 0.82$), and (d) peripheral involvement ($\alpha = 0.76$); and 3) *Self-Reported Use of Cognitive Strategies*: (a) for reading ($\alpha = 0.73$) and (b) for encoding and recalling ($\alpha = 0.81$).

Third, students' achievement in Language Arts was self-reported on a five point scale. For analysis, students were grouped into three categories: high achievers ($n = 787$), average achievers ($n = 658$) and low achievers ($n = 290$).

Subsequently, multivariate analyses of variance (MANOVA; *Pillai's Trace*) were performed on the collected data in a 2 (unimodal or multimodal assessment) x 3 (high, average, low achievers) model. Among participants retained for the analyses, 1,316 experienced the unimodal learning assessment approach while 483 were exposed to a multimodal approach. The learning through reading variables served as dependent variables and were separated into the three broad categories listed above for the purpose of the analysis.

## RESULTS AND DISCUSSION

*Students' Perceptions of Activity Demands.*
Multivariate analysis yielded significant simple effects of the learning assessment approach ($F_{(3, 1662)} = 3.2$, $p < .05$) and of achievement level in Language Arts ($F_{(6, 3326)} = 3.79$, $p = .001$). However, the interaction effects were not significant ($F_{(6, 3326)} = 1.35$, $p = .233$).

Univariate analyses on the three subscales in this area (see Table 1) suggested that students exposed to a multimodal assessment approach better recognized activity demands (e.g., the need to understand the text and learn from it) and referred to more specific criteria when self-evaluating compared to students exposed to a unimodal assessment approach. Moreover, two significant simple effects of students' achievement level were observed. Low achievers were better able to recognize important activity demands compared to other students. High achievers referred more to general performance criteria for self-evaluation.

*Self-Reported Use of Self-regulation Strategies.*
Multivariate analysis yielded significant simple effects of the learning assessment approach ($F_{(4. 1661)} = 7.34$, $p < .001$) and students' achievement level ($F_{(8. 3324)} = 6.81$, $p < .001$). However, the interaction effects were not significant ($F_{(4. 3324)} = 0.47$, $p = .88$).

Univariate analyses on the subscales within this broad category (see Table 2) suggested that the students who were exposed to a multimodal assessment approach reported more use of planning, monitoring and adjusting strategies compared to students exposed to a unimodal assessment approach. In addition, one significant simple effect of students' achievement level was observed. Lower achievers reported using more peripheral (inappropriate) strategies compared to other students.

*Self-Reported use of Cognitive Strategies.*
Multivariate analysis yielded significant simple effects of assessment approach ($F_{(2. 16634)} = 5.75$, $p < .01$) and student achievement level ($F_{(4. 3328)} = 10.62$, $p < .001$). However, interaction effects were not significant ($F_{(4. 3328)} = 1.01$, $p = .40$).

Univariate analysis of the two subscales in this general category (see Table 3) showed that students who were exposed to a multimodal assessment approach reported using more encoding and recall strategies compared to students exposed to a unimodal approach. In addition, significant simple effects of students' achievement level were observed, such that high achievers reported using more reading strategies compared to other students.

Our findings in the present study are consistent with prior research which has demonstrated the effects of evaluation practices on the learning process of students and academic achievement (e.g., Eccles, & al. 1984; Stipek, 1993; Wagner, & Lilly 1999). Our findings suggest that use of multimodal evaluation practices can be related to improved perceptions of the demands of an LTR activity (as reflected in task interpretation and identification of specific performance criteria), greater self-reported use of self-regulating strategies (for planning, monitoring and adjusting), and greater self-reported used of cognitive strategies (for learning, encoding, and recalling).

Surprisingly, low achieving students seemed to have the best understanding of the complexity of an LTR activity. Perhaps factors other than evaluative practices could explain this difference. For example, it is possible that low achieving students are provided with more specific information about the demands of an LTR activity to help them to perform better. More consistent with prior research, lower achieving students also reported using more ineffective (i.e., peripheral) strategies such as quitting in the face of difficulties or wanting to work with friends.

Finally, high achieving students reported greater use of reading strategies than did their average or underachieving classmates. In order to learn through reading, it is important to be able to read the text in an effective way as well as to use encoding and recalling strategies. Surprisingly, these high achieving students did not report greater use of self-regulated strategies than did others students. Perhaps factors as the characteristics of learning activities (Perry, 1998) and the characteristics of instruction (Thomas & Rinehart, 1990) could explain this result.

**CONCLUSION**

Since the late 1990's, clear concerns have emerged about the mechanisms in place to evaluate learning, particularly in the United States where a tradition of external assessment has long existed. Within this framework, Fredericksen and Collins (1989) proposed a systematic conception of evaluation considering assessment practices both as end-products of academic systems' orientations and factors for change in educational contexts. Similar concerns have elsewhere led Messick (1989) to expand the concept of validity to encompass the potential positive and negative impacts of various forms of learning assessment on students, the learning environment and even values related to education. Now researchers agree that evaluative approaches are not neutral and that attention must be paid to their effects. This is demonstrated in the present study which reveals specific relationships between evaluation practices and students' perceptions of their learning through reading engagement. Evaluating students' focus on engagement in a learning activity represents a major challenge. Thus, this study's results are significant since it demonstrates the impact of different assessment practices on the engagement of students with clear implications for their academic achievement.

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Figure 1. A model of Self-Regulated Learning in Complex Activities (Butler & Cartier, 2004; Cartier & Butler, 2004)
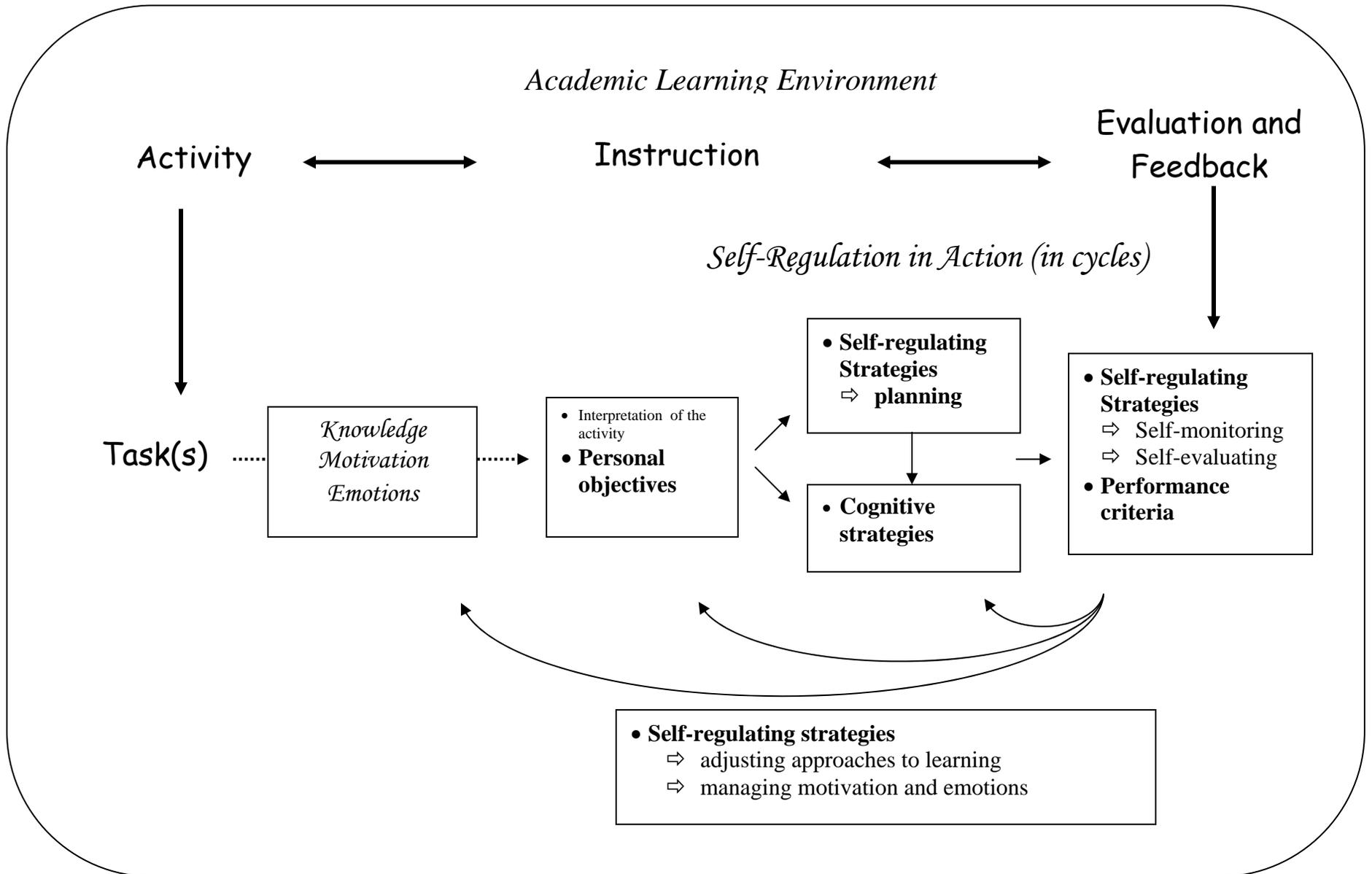
Table 1: Perceptions of the demands of the activity by secondary students according to teachers' assessment approaches and students' achievement levels

| Variables | Unimodal approach | | | Multimodal approach | | | F value and significance | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low | Average | High | Low | Average | High | Approach | Achievement | Approach X Achievement |
| Interpretation of the demands of the activity | 2.66 (0.87) | 2.48 (0.82) | 2.54 (0.67) | 2.76 (0.84) | 2.69 (1.10) | 2.58 (0.78) | 5.54* | 3.22* | 1.44 |
| General performance criteria | 3.10 (1.11) | 3.19 (0.78) | 3.34 (0.73) | 3.18 (1.08) | 3.27 (1.14) | 3.28 (0.86) | 0.46 | 3.62* | 1.04 |
| Specific performance criteria | 2.65 (1.00) | 2.51 (0.74) | 2.52 (0.74) | 2.68 (0.96) | 2.67 (0.97) | 2.67 (0.80) | 5.97* | 0.91 | 0.59 |

*$p < .05$  **$p < .01$  ***$p < .001$

Table 2: Self-reported use of self-regulation strategies of secondary students according to teachers'assessment approaches and students' achievement levels

| Variables | Unimodal approach | | | Multimodal approach | | | F value and significance | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Low | Average | High | Low | Average | High | Approach | Achievement | Approach x Achievement |
| Planning | 1.90 (0.77) | 1.89 (0.75) | 1.87 (0.71) | 2.08 (0.75) | 2.12 (1.06) | 2.00 (0.77) | 16.54*** | 1.15 | 0.52 |
| Control | 2.48 (0.70) | 2.51 (0.73) | 2.55 (0.61) | 2.64 (0.88) | 2.68 (0.83) | 2.70 (0.61) | 15.43*** | 0.81 | 0.03 |
| Adjustement | 2.47 (0.88) | 2.44 (0.69) | 2.48 (0.59) | 2.51 (0.65) | 2.56 (0.72) | 2.57 (0.60) | 4.67* | 0.31 | 0.28 |
| Periphery involvement | 2.26 (0.58) | 2.11 (0.53) | 2.01 (0.42) | 2.21 (0.53) | 2.15 (0.66) | 1.98 (0.46) | 0.33 | 22.68*** | 0.91 |

* $p < .05$    ** $p < .01$     *** $p < .001$

Table 3: Self-reported use of cognitive strategies of secondary students according to teachers' assessment approaches and students' achievement levels

| Variable | Unimodal approach | | | Multimodal approach | | | F value and significance | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low | Average | High | Low | Average | High | Approach | Achievement | Approach x Achievement |
| Reading strategies | 2.92 (0.58) | 2.99 (0.59) | 3.12 (0.51) | 3.00 (0.56) | 3.02 (0.77) | 3.16 (0.55) | 2.18 | 11.95*** | 0.18 |
| Encoding and Recall strategies | 2.35 (0.64) | 2.29 (0.67) | 2.32 (0.60 | 2.44 (0.58) | 2.48 (0.84) | 2.41 (0.61) | 11.20** | 0.29 | 0.93 |

\* p < .05    \*\* p < .01      \*\*\* p < .001