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Every child. Cradle to career.

Beyond Content: Incorporating Social and Emotional Learning into the Strive Framework

Volume I: Social and Emotional Competencies and their Relationship to Academic Achievement

August, 2013

PRA
Philliber Research Associates

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Every child. Cradle to career.

A Letter from the Strive Task Force on Measuring Social and Emotional Learning

Mainstream education has traditionally put an emphasis on mastery of core academic content, particularly since the inception of "No Child Left Behind." However, emerging research is demonstrating that other, non-content competencies are important to success in school and career. The Strive Network is focused on supporting this full range of competencies in our communities.

Recognizing a connection between building social emotional competencies and academic success, and hearing much interest in the subject within the Network, the Strive Cradle to Career Network launched, early this year, the *Task Force on Measuring Social and Emotional Learning* comprised of representatives from the Network as well as experts in the field. Our charge was to:

- Determine a menu of social and emotional competencies that are well related to achievement, are malleable, and that cradle-to-career partnerships can track and measure as part of their work
- Identify a set of scalable measures / assessments of these competencies

To accomplish these goals, Philliber Research Associates was engaged to study this complex and emerging field, and identify competencies and measures that met criteria decided upon by the Task Force, which placed an emphasis on improvement of student achievement.

The Task Force on Measuring Social and Emotional Learning is very pleased to offer this report entitled ***Beyond Content: Incorporating Social and Emotional Learning into the Strive Framework*** which fulfills the objectives identified above. This report has been developed to serve as a resource to the Network, helping guide its membership of cross-sector education partnerships as they identify competencies upon which to focus and to measure.

The Task Force's approach to this research has taken into account the unique context of the Cradle to Career Network, specifically the nature of a *cross-sector* and *data-driven* method of improvement in which communities come together around an agreed-upon set of outcomes and data they want to improve. (see www.strivenetwork.org for more information on the Strive approach to improving student achievement.) Thus, throughout the research review, the emphasis was placed on identification of competencies and measurement of these competencies versus identifying best practice interventions. There is certainly value in understanding what is working in terms of building these social and emotional competencies, which lead to improved academics, but as cradle-to-career communities know, often the solutions exist in their own backyards. So, a critical first step is

understanding what to measure and what the data are telling them before identifying solutions. Still, we have taken care to include competencies that are, in fact, malleable so that communities can find strategies to enhance these among their young people, should they choose to do so.

Organized into three volumes – Volume I identifying and defining competencies that are clearly related to academic achievement and are malleable, Volume II summarizing available measures in the context of the cradle-to-career continuum, and Volume III offering a compendium of assessment tools – this report serves as a foundational resource for cradle-to-career partnerships as they explore this emerging field. We hope that this report will also serve as a resource to the broader field, and that national organizations and foundations with an interest in "beyond content" learning will build upon this base as they seek to make advancements in academic achievement. We look forward to partnering in that endeavor as we know this is only the beginning of this important work.

The Task Force extends heartfelt thanks to Philliber Research Associates for their excellent work and, more importantly, their flexibility as we found our path on this part of our Roadmap. The Task Force also wishes to thank our working group who did the heavy lifting on reviewing materials and providing feedback – your dedication is much appreciated and has been invaluable to this report. And finally, thank you to the MetLife Foundation and Robert Wood Johnson Foundation for their generous support, without which this project would not be possible.

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To access the full three volume report, please visit: www.strivenetwork.org/resources/reports

Table of Contents

Social-Emotional Learning: An Introduction

This is Volume I of the three volumes created to assist Strive communities in understanding, choosing, and measuring social-emotional competencies along the cradle to career continuum. These volumes are entitled:

Beyond Content: Incorporating Social and Emotional Learning into the Strive Framework

> *Volume I: Social and Emotional Competencies and their Relationship to Academic Achievement*
>
> *Volume II: A Summary of Measures by Competency and Stage of the Cradle to Career Continuum*
>
> *Volume III: A Compendium of Social and Emotional Competency Measures*

In the past two decades, a substantial literature has accumulated to show that there are other factors that affect academic achievement besides content learning and memorization of subject material. Alternatively called socio-emotional competencies, socio-emotional learning (SEL), noncognitive factors, or 21st Century skills, this cluster of attitudes, abilities, and skills has now been shown to be directly and in the case of some of them, strongly related to student academic achievement.

In Strive communities, where there is an intense focus on student progress, there is high interest in using the most effective strategies to achieve this important goal. These volumes are the result of an extensive literature review linking social emotional comptencies with a solid research base that shows them to be related to academic achievement and demonstrates that they are malleable.
This volume includes:

1. Definitions and conceptual background information on five key competencies meeting these criteria.

2. A discussion of the research on these competencies and their relationship to various indicators of academic achievement.

3. Lists of studies linking these competencies to the Strive benchmark indicators of achievement across the cradle to career continuum.

4. An extensive bibliography on these competencies and the research that supports their value in academic achievement so that communities can learn more about incorporating them into their strategies for assisting students.

The Appendix to this volume also includes some information on two other competencies that may be of interest: critical thinking and creativity. These were not included in the main body of Volume I because of their more tenuous relationship to academic achievement.

This work has revealed several important things about our knowledge of SEL. First, while it is now quite clear that these competencies are important to student success, the definitions and categorization of these competencies lack clarity. Writers and researchers use the same words for competencies with somewhat different definitions and the same definitions are used for different concepts. This, in turn, leads to a vast number of measurement approaches. While we would not expect completely consistent usage, definitions, or measures for SEL, this field of study would profit by more consistency so that we could begin to accumulate more secure knowledge about the utility of each.

Secondly, not all of the competencies included here are non-cognitive and indeed, a recent piece by Conley (2013), argues that this label should be abandoned since all of these competencies include at least some cognitive processes. Rotherham and Willingham (2010) have argued that the label "21st Century Skills" is also inappropriate because these competencies are hardly new and have long been required for academic achievement to be maximized.

It is also clear that the competencies are not equally well-related to achievement, as we discuss in our reviews of each of the five we have chosen, and we are only beginning to understand how they are related to one another. For example, if a student possesses a high degree of academic self-efficacy, or belief in his/her ability to succeed in school tasks, that student is also likely to display high perseverance or grit on such tasks, since he/she expects to succeed.

Finally, while all of the competencies chosen here are indeed malleable across the cradle to career continuum, they are not all equally malleable and some require more intensive and earlier intervention than others. We yet have much to learn about how to maximize their acquisition.

Still, this review is being shared because SEL is clearly an additional strategy for Strive communities to use in enhancing student achievement. We are hopeful that the Compendium provides Strive communities with a resource for understanding, enhancing, and measuring their success in increasing achievement-related competencies among their young people.

5. Self-Regulated Learning and Study Skills

Definition and Background

There are a variety of similar competencies to study skills, including self-management, self-evaluation, self-direction, time management, and self-control. There is a substantial amount of overlap in these concepts and the findings of studies that employ them. Self-management however, seems to be a broader concept which might include management of emotions, resources, or behaviors—not just academic self-management. Here we are going to use "self-regulated learning" to keep our focus on academics. We are going to also discuss study skills under this concept because these appear to be the concrete strategies and tools by which students engage in or actualize self-regulated learning.

Bandy and Moore (2010) state that self-regulation includes the unconscious and conscious processes that affect the ability to control responses. They claim it includes both cognitive self-regulation (self-reflection, planning and thinking ahead) and social-emotional self-regulation (ability to inhibit inappropriate responses, delayed gratification, and self-control). In a learning situation, self-regulation includes appropriate use of study strategies and methods and the ability to manage time and other resources effectively to meet academic demands (Crede & Kuncel, 2008). According to Pintrich (2000), it can be thought of as consisting of three stages:

- the planning stage (evaluation of task and goal setting);
- the monitoring stage (tracking progress), and
- the self-reflection stage (learning from outcomes).

In effect, students who exhibit self-regulated learning are able to manage the focus of their attention and utilize appropriate study skills, while simultaneously managing their emotions and behaviors.

A review of the research suggests that self-regulated learning is related to other competencies. For example, Farrington et al. (2012, p. 39) conclude that "learning strategies tend to increase students' self-efficacy, which in turn is related to increased academic perseverance when school work gets challenging." Grit or perseverance, emotional competence, self-efficacy, and responsible decision making all depend on student self-regulation to some degree. Examples of similar concepts examined in the literature include academic behaviors, learning strategies, metacognitive strategies, and problem solving.

Relationship to Academic Achievement

Numerous studies over the past 30 years strongly associate self-regulated learning with academic success. Indeed, it appears that self-regulated learning may be the category most closely correlated with overall success in school. The following examples illustrate these findings:

"Academic behaviors are the most proximal noncognitive factors to student academic performance. Virtually all other factors that affect school performance- including content knowledge, academic skills, student background characteristics, and the full range of noncognitive factors- exercise their effect through students' academic behaviors." (Farrington et al., 2012, p. 19)

"Student absences and study habits are the strongest predictors of high grades- above test scores or student background characteristics- and explain 61% of the variation in course failures." (Farrington et al., 2012, p. 15)

"Self-regulation and self-efficacy best predict academic performance. Students with high self-efficacy use metacognitive strategies and self-regulation more. While self-regulated learning is interrelated with self-efficacy, it appears to be more directly related to academic performance." (Pintrich & Groot, 1990, p. 37)

"Study habit and skill measures improve prediction of academic performance more than any other noncognitive individual difference variable examined to date and should be regarded as the third pillar of academic success [test scores and grades being the other two pillars]." (Crede & Kuncel, 2008, p. 425)

"[A meta-analysis found that] academic-related skills (study skills, problem solving, time management etc.) were shown to be the strongest predictors of college retention [and also predicted college GPA]. " (Robbins et al., 2004, p. 274-275)

"For African American boys, learning-related skills predict math and literacy achievement above the effects of problem behaviors, SES, or home literacy environment." (Matthews et al., 2010, p. 757)

"Self-control predicted changes in grades better than IQ, while IQ predicted standardized test scores better than self-control." (Duckworth, Quinn, and Tsukayama, 2012, p. 439) This is important because high school GPA is a better predictor than SAT scores of college GPA and college graduation. (Geiser & Santelices, 2007; Bowen, Chingos, & McPherson, 2009)

There is other research with similar findings. Academic behaviors (e.g., attending class, doing homework, organization, etc.) have been shown to be related to improved course grades, credit accumulation, grade promotion, test scores, and graduation (Allensworth and Easton, 2007). A study of 538 children in K-6th grade showed a strong relationship between self-regulation and academic achievement in literacy and math (McClelland et al., 2006). Self-control in young children, as evaluated by the "marshmallow test" research, was also related to academic achievement later in adolescence, including high SAT scores (Mischel, Shoda and Rodriquez, 1989).

Malleability

Self-regulated learning both in terms of behavior and academic strategies is malleable. In a randomized control trial by Zimmerman et al. (2011), 496 college students in remedial math courses were assigned to either the self-reflection skills group or the control group which received math instruction as usual. For students in the treatment group, the self-regulated learning training increased their national math examination pass-rates by 25%. An additional study by Delale-O'Connor et al. (2012) suggests that the best method for increasing self-regulated learning is by utilizing a variety of strategies, such as goal setting, feedback loops, clarifying expectations, and encouraging children to use "self-talk."

The teaching of metacognitive skills is best done in specific content areas since ability to monitor cognition is related to domain-specific knowledge (National Research Council, 1999).

A meta-analysis of 48 studies found that self-regulation training produced a large effect size (0.62) on academic performance, using a variety of tactics (Dignath et al, 2008).

According to Gettinger and Seibert (2002), study skills are malleable and are best taught using these four clusters of strategies:

- Repetition or rehearsal strategies
- Organization (e.g. time management, material organization, study habits)
- Cognitive (e.g. acquire background knowledge, connect new ideas to what is already known, develop new schemata)
- Meta-cognitive (e.g. ability to assess the need for studying, plan, implement, monitor, and evaluate their study approaches)

Overall, we conclude that this is a well-researched competency that is strongly related to academic performance and is malleable at all ages and stages.

Self-Regulated Learning: Articles

References to articles covering more than one age group are repeated.

Author	Measure	Intervention	Key Findings
Kindergarten Readiness			
Blair & Razza (2007)	Inhibitory Control (measured by Peg-tapping) and Effortful Control (used short form of Children's Behavior Questionnaire)	None	For the sample of 3-5 year olds, results indicated self-regulation accounted for unique variance in math and letter knowledge independent of IQ. Inhibitory control was a prominent correlate of both early math and reading ability.
Maier, Vitiello & Greenfield (2012)	Devereux Early Childhood Assessment (only used teacher version of Protective Factors Scale: measures initiative, self-control, and attachment)	None	For the sample of preschoolers, results indicated that Protective Factors predicted initial levels of language and literacy.
McClelland, Acock & Morrison (2006)	Cooper-Farran Behavioral Rating Scales (subscale Work-related Skills)	None	Learning related skills at kindergarten uniquely predicted reading and math skills between kindergarten and sixth grade even after controlling for IQ, age, ethnicity, and maternal education level.
McClelland et al. (2007)	Head-to-Toes Task (taps inhibitory control, attention, and working memory)	None	For the sample of preschoolers, behavioral regulation significantly and positively predicted literacy, vocabulary, and math skills. Growth in behavioral regulation predicted growth in literacy, vocabulary, and math skills even after controlling for site, gender, and background variables.
Shoda, Mischel & Peake (1990)	The Marshmallow Test (test preschoolers self-control and delayed gratification), The Adolescent Coping Questionnaire, and California Child Q-Set	Four conditions: marshmallow either exposed or obscured, and whether or not ideation instruction was provided	Correlations were found between seconds of delayed gratification in preschool and cognitive competence and SAT scores in adolescence.

Self-Regulated Learning: Articles

References to articles covering more than one age group are repeated.

Author	Measure	Intervention	Key Findings
3rd or 4th grade literacy			
Dignath, Büttner & Langfeldt (2008)	Multiple (meta-analysis)	None	A meta-analysis of 48 studies of primary school students showed that self-regulated learning was significantly correlated with reading/writing performance.
Duckworth, Quinn & Tsukayama (2012)	19 self-control items from the Social Skills Rating System, and the Impulsivity Scale for Children	None	For 4th-8th graders, self-control predicted changes in report card grades over time better than did IQ.
Kitsantas, Steen, & Huie (2009)	Motivated Strategies for Learning Questionnaire (Learning Strategy Scale only)	None	For the 3rd and 5th graders, the results of the study revealed that only self-regulatory strategies consistently predicted GPA and achievement test scores in math and language arts.
Matthews, Kizzie, Rowley & Cortina (2010)	6-item Learning Approaches Scale (adapted from Social Skills Rating Scale)	None	Kindergarteners were followed through 5th grade, results showed that learning-related skills explained the literacy development of African American boys over and above the effects of problem behaviors, SES, and home literacy environment.
8th grade math			
Dignath, Büttner & Langfeldt (2008)	Multiple (meta-analysis)	None	A meta-analysis of 48 studies of primary school students showed that self-regulated learning was significantly correlated with math performance. Furthermore, the highest benefits from the analyzed interventions can be gained in mathematics performance.
Duckworth, Quinn & Tsukayama (2012)	19 self-control items from the Social Skills Rating System, and the Impulsivity Scale for Children	None	For 4th-8th graders, self-control predicted changes in report card grades over time better than did IQ.
Kitsantas, Steen, & Huie (2009)	Motivated Strategies for Learning Questionnaire (Learning Strategy Scale only)	None	For the 3rd and 5th graders, the results of the study revealed that only self-regulatory strategies consistently predicted GPA and achievement test scores in math and language arts.

Self-Regulated Learning: Articles

References to articles covering more than one age group are repeated.

Author	Measure	Intervention	Key Findings
High School Graduation			
Cleary, Platten & Nelson (2008)	Self-Regulation Strategy Inventory Self-Report and Rating Student Self-Regulated Learning Outcomes teacher report	Self-regulation Empowerment Program (teaches task analysis, goal-setting, strategic planning, and self-reflection)	For the sample of high school students, those in the intervention group had enhanced science test scores and more frequent use of self-regulatory strategies.
Nota, Soresi & Zimmerman (2004)	Self-Regulated Learning Interview Schedule	None	For the sample of high school students, the cognitive self-regulation strategy of organizing and transforming proved to be a significant predictor of high school math grades and college examinations passed and average course grades.
College enrollment and completion			
Butler (1998)	Metacognitive Questionnaire and Strategy Interview	Strategic Content Learning (teaches students to use strategic approaches, analyze task demands, identify learning activities, and evaluate performance)	Results reveal consistent improvements in students' metacognitive knowledge about key self-regulated processes and college grades.
Crede & Kuncel (2008)	Multiple (meta-analysis)	None	Overall, study habit and study skill measures improve prediction of academic performance (college admission test scores and GPA) more than any other noncognitive individual variable examined to date.
Zimmerman, et al. (2011)	Self-Regulation Measures (Based on Bandura and Schunk)	College math students in the treatment condition learned how to detect math problem errors, adapt their strategy, use feedback, and self-reflect on quiz scores.	Students in the treatment group outperformed control group students on in-class math exams, on passage rates of the National Gateway Examination in Mathematics (by 25%), and passage of the math course.

Self-Regulated Learning: Articles

References to articles covering more than one age group are repeated.

Author	Measure	Intervention	Key Findings
Career/workforce			
Christian & Ellis (2011)	State Self-Control Capacity Scale	Sleep deprivation	Sleep deprivation decreases individuals' ability to self-regulate emotions and behaviors. Results from the field and lab showed that sleep deprivation can lead to decreased self-control while increasing hostility, resulting in increased workplace deviance.
Creed, King, Hood, & McKenzie (2009)	Motivation Control Scale, Emotion Control, and Employment Commitment Scale	None	All three self-regulation strategies were positively associated with job-seeking intensity, and job-seeking intensity was the best predictor of job offers.
De Stobbeleir, Ashford & Buyens (2011)	Frequency of Feedback Inquiry and Monitoring (created by authors)	None	Self-regulation skills (defined by feedback inquiry and monitoring) were positively correlated with supervisor ratings of employee performance.

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