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**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





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

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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 competencies 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.

2. Growth Mindset or Mastery Orientation

Definition and Background

Academic mindset, growth mindset or mastery orientation (again, many names for similar concepts) have been defined most generally as “...student attitudes, beliefs, and dispositions about school and learning that are associated with positive academic outcomes and school success.” (Snipes, Fancsali and Stoker, 2012, p. 6). These authors offer a definition of academic mindset that is broad and includes a variety of concepts sometimes listed as correlated to acquiring a growth mindset rather than as part of this concept:

- Passion and purpose
Having a passion or purpose to learn, enjoyment of learning
- Grit and growth
Belief that intelligence grows by taking on challenges, recognition of power to shape own future, determination to persist in the face of difficulty and confidence in ability to learn
- Identity and community
Valuing the power of the mind, willingness to speak up to get what is needed to learn, pride in contribution to a learning community

Others offer a more limited definition, seeing the core concept to be the belief that intelligence and thus performance, can be developed (like a muscle), rather than being a fixed entity (Blackwell, Trzesniewski and Dweck, 2007). Chien et al. (2012) contrast a mastery orientation with a performance orientation:

“Children with a mastery orientation have learning goals—they are concerned with increasing their competence and abilities while mastering new tasks over time. Conversely, children with a performance orientation have performance goals—they are concerned with seeking positive judgments of their competence.” (p. 3)

While children with a mastery orientation seek out challenging tasks, those concerned only with performance seek to avoid failure by avoiding risk and challenge.

As part of its development of a “deeper learning” framework, the William and Flora Hewlett Foundation recently added “academic mindset” to its previous five components of this framework (master core academic content through critical thinking and complex problem solving, working collaboratively, communicating effectively, and learning how to learn (Farrington, 2013). They added this concept so that their framework would have a motivational component, in addition to the specific competencies and learning strategies they had already

embraced. The particular beliefs they cite as included in academic mindsets are, from the point of view of the learner:

- I belong in this academic community;
- I can succeed at this;
- My ability and competence grow with my effort, and
- This work has value for me.

Farrington writes that holding these attitudes facilitates engaging in the other learning strategies that are part of the Hewlett framework, encourages engagement, and supports persistence.

Relationship to Academic Achievement

There are now a multitude of studies documenting the relationship of academic or mastery mindset to positive academic achievement. For example, as in many other articles, Blackwell, Trzesniewski and Dweck (2007) have demonstrated that embracing the view that intelligence is malleable was related to an upward trajectory in grades in junior high school, a time when grades normally decline. Meece and Holt (1993) found higher science grades were associated with a mastery orientation and Stipek and Gralinski (1996) found higher grades and higher test scores at the end of the school year among children with such an orientation compared to children who believe intelligence is fixed. Yeager and Dweck (2012) built on the research showing academic performance as a correlate of an academic or mastery mindset to find that such views could also lower adolescents' aggression and stress—in turn resulting in higher academic performance.

Similar findings appear in Dweck (2008) working both with junior high school math students and with college pre-med classes. Flores, Lemons and McTernan (2011) showed that students with a growth mindset performed better on a physics exam than students with a fixed mindset. We have provided here only a small sample of the extensive research that exists. That research is remarkably in agreement that a growth or mastery orientation to learning leads to better academic performance.

Malleability

Many of the studies on growth mindset have deliberately manipulated subjects' beliefs about intelligence and whether it can be changed (e.g., Good, Aronson and Inzlicht, 2003; Wilson and Linville, 1985). Snipes, Fancsali and Stoker (2012) recently reviewed the strategies used by these studies and cited several important practices shown to be effective. These are:

- *“Instruction that teaches students that intelligence grows with effort*
- *Shifting students’ explanations for academic and social challenges from stable internal causes to temporary external causes*
- *Affirmation and visualization exercises*
- *Exercises that help students relate coursework to their lives*
- *Progress monitoring and support interventions*
- *Support to improve students’ learning strategies*
- *Programs that integrate content-specific instruction with mindset development” (p. 10).*

This same review cites numerous specific programs and curricula that use these strategies with success.

Delale-O’Connor et al., (2012) described three general strategies for developing a mastery orientation:

- *“Providing tasks that are meaningful to children, given their interests and environments.*
- *Presenting children with realistic but challenging tasks and placing the emphasis on mastery of the skill, rather than performance.*
- *Focusing on the value of learning (and what can be gained), in both adult-child interactions and in formal and informal evaluations.” (p. 5)*

Overall, we conclude that this is a well-researched competency, again with varying definitions, that is related to academic performance across a variety of indicators and it is malleable.

Growth Mindset or Mastery Orientation: Articles

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

Author	Measure	Intervention	Key Findings
3rd or 4th grade literacy			
Meece & Miller (2001)	Achievement Goal Orientation Scales (Task-Mastery Goal, Performance Goal, and Work-Avoidant Goal)	None	The sample consisted of 3rd-5th grade students. Task-mastery goals explained the degree to which students use learning strategies that improve their reading and writing competencies, while students with the lowest reading scores had significantly higher performance goals scores.
Stipek & Gralinski (1996)	Ability Performance Beliefs Scale, Effort-Related Beliefs Scale, Mastery Goal Orientation, Performance Goal Orientation, all created by authors	None	The sample consisted of students in grades 3-6. Beliefs in intelligence as fixed were negatively associated with math and social studies grades.
8th grade math			
Blackwell, Trzesniewski, & Dweck (2007)	Implicit Theories of Intelligence for Children	Both control and experimental group received eight 25-min workshops where they learned about the physiology of the brain, study skills, and antistereotypic thinking. Experimental group was also taught intelligence is malleable and can be developed.	Incremental theory predicted an upward trajectory in math grades over the two years of junior high school, while students in the control group experienced a downward trajectory in math grades.
Good, Aronson & Inzlicht (2003)	Did not measure growth mindset, measured academic outcomes only	7th grade (female and minority students) in the experimental condition were taught that "their mind is a muscle" while control students learned about drugs.	Females in the experimental condition earned higher math test scores and minority students earned higher reading test scores than students in the control condition.
Meece & Holt (1993)	Motivation Goals was measured by The Task-Mastery Scale, The Ego-Social Scale, and The Work-Avoidant Scale	None	For the 5th and 6th grade students, mastery goals orientation students had the most positive achievement profile (science grades, achievement test scores, effort ratings).
Snipes, Fancsali, & Stoker (2012)	Multiple (lit review)	Identifies 5 evidence based interventions	A review of the literature showed that interventions that taught that intelligence grows with effort (growth mindset) increased math and reading grades for middle school students and GPA for college students.

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Author	Measure	Intervention	Key Findings
Stipek & Gralinski (1996)	Ability Performance Beliefs Scale, Effort-Related Beliefs Scale, Mastery Goal Orientation, Performance Goal Orientation , all created by authors	None	The sample consisted of students in grades 3-6. Beliefs in intelligence as fixed were negatively associated with math and social studies grades.
High School Graduation			
Agbuga (2011)	Authors modified Achievement Goals: Mastery, Performance-Approach, and Performance-Avoidant. Also modified Persistence/Effort Scale	None	Mastery and performance-approach goals were significant positive predictors of persistence/ effort for both gender groups.
Flores et al. (2011)	Personal Beliefs Survey	None	A student with the growth mindset will have a greater probability of achieving higher gains on the FCI (physics test) than a student with a fixed mindset.
College enrollment and completion			
Aronson, Fried & Good (2002)	"You have a certain amount of intelligence and you really can't do much to change it" and "You can learn new things but you can't really change your basic intelligence"	Participants in the experimental condition wrote a letter to a middle school student encouraging them to work hard and explaining intelligence is malleable (as they were just taught) while control participants wrote about intelligence being multi-faceted.	Black college students in the experimental condition reported greater enjoyment of the academic process, greater academic engagement, and obtained higher grade point averages than the control group.
Coutinho & Neuman (2008)	Achievement Goal Questionnaire (four scores for Mastery Approach, Mastery Avoidance, Performance Approach, Performance Avoidance)	None	For the undergraduate college students self-efficacy was the strongest predictor of performance. Mastery-approach goals were positive predictors of self-efficacy.
Snipes, Fancsali, & Stoker (2012)	Multiple (lit review)	Identifies 5 evidence based interventions	A review of the literature showed that interventions that taught that intelligence grows with effort (growth mindset) increased math and reading grades for middle school students and GPA for college students.

Growth Mindset or Mastery Orientation: Articles

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

Author	Measure	Intervention	Key Findings
Wilson & Linville (1985)	Academic only	College freshman in the experimental condition were taught that the causes of low grades were temporary, the control group was taught nothing about grades	Students in the experimental condition had higher GRE practice test scores and increases in course grades.
Career/workforce			
Brett & VandeWalle (1999)	Goal Orientation Scale (three dimensions: Learning Goal Orientation, Performance Goal Orientation, Avoidance Goal Orientation)	None	Only the content goals with a skill improvement focus had a positive relationship with performance for MBA students making professional presentations.
VandeWalle, Brown, Cron & Slocum (1999)	Goal Orientation Scale (two dimensions: Learning Goal Orientation and Performance Goal Orientation)	None	A learning goal orientation had a positive relationship with sales performance while a performance goal orientation had no relationship.

Growth Mindset or Mastery Orientation Bibliography

Abd-el-Fattah, S., and Yates, G.C.R. (2006) Implicit theory of intelligence scale: Testing for factorial invariance and mean structure. Proceedings of Australian Association for Educational Research Conference, November, 2006, Adelaide. Retrieved from <http://publications.aare.edu.au/06pap/abd06289.pdf>

Agbuga, B. (2011). Gender differences in achievement goals and their relations to self-reported persistence/effort. *Eurasian Journal of Educational Research (SSCI)*, 44, 1-18.

Aronson, J., Fried, C., & Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology*, 38, 113-125.

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, 78 (1), 246-263.

Brett, J.F., & VandeWalle, D. (1999). Goal orientation and goal content as predictors of performance in a training program. *Journal of Applied Psychology*, 84, 863–873.

Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational Behavior and Human Decision Processes*, 67, 26-48.

Chien, N., Harbin, V., Goldhagen, S., Lippman, L., & Walker, K. E. (2012). Encouraging the development of key life skills in elementary school-age children: A literature review and recommendations to the Tauck Family Foundation. *Child Trends Working Paper*. Publication #2012-28.

Cobb, R. Jr. (2003). The relationship between self-regulated learning behaviors and academic performance in web-based courses. Dissertation submitted to the Faculty of Virginia Polytechnic Institute and State University. Retrieved from http://scholar.lib.vt.edu/theses/available/etd-03212003-130332/unrestricted/srloonline_dissertation.pdf

Coutinho, S. A. & Neuman, G. (2008). A model of metacognition, achievement goal orientation, learning style and self-efficacy. *Learning Environments Research*, 11 (2), 131-151.

Delale-O'Connor, L., Farley, C., Lippman, L., & Walker, K. E. (2012). Essential self-management skills: Summary of research. *Child Trends Working Paper*. Publication # 2012-27.

Dweck, C. S. (2008). Mindsets and math/science achievement. Stanford University. The Opportunity Equation. Retrieved from <http://dev.opeq.blenderbox.com/uploads/files/868cea31-5888-4e45-a832-62b4377dbbfb.pdf>

Elliot, A. J. & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology*, 100, 613-628.

Farrington, C. A. (2013). Academic Mindsets as a critical component of deeper learning. University of Chicago. Consortium on Chicago School Research. Retrieved from [http://www.hewlett.org/uploads/documents/White Paper Academic Mindsets as a Critical Component of Deeper Learning Camille Farrington April 20 2013.pdf](http://www.hewlett.org/uploads/documents/White_Paper_Academic_Mindsets_as_a_Critical_Component_of_Deeper_Learning_Camille_Farrington_April_20_2013.pdf)

Flores, D., Lemons, A.; McTernan, H. (2011). The correlation between student growth mindset and conceptual development in physics. Retrieved from <http://modeling.asu.edu/modeling/Mindset&Physics-McT,L,F.pdf>

Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. *Journal of Applied Developmental Psychology*, 24, 645-662.

Hendricks, J. (2012). The effect of gender and implicit theories of math ability on math interest and achievement. Masters Theses & Specialist Projects. 1147, 33. Retrieved from <http://digitalcommons.wku.edu/theses/1147>

Meece, J. L. & Holt, K. (1993). A pattern analysis of students' achievement goals. *Journal of Educational Psychology*, 85 (4), 582-590.

Meece, J. L. & Miller, S. D. (2001). A longitudinal analysis of elementary school students' achievement goals in literacy activities. *Contemporary Educational Psychology*, 26, 454-480.

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., et al. (2000). Manual for the patterns of adaptive learning scales (PALS). Ann Arbor: University of Michigan. Retrieved from http://www.umich.edu/~pals/PALS%202000_V12Word97.pdf

Snipes, J., Fancsali, C., & Stoker, G. (2012). Student academic mindset interventions – a review of the current landscape. Retrieved from <http://www.impaqint.com/files/4-content/1-6-publications/1-6-2-project-reports/impag%20student%20academic%20mindset%20interventions%20report%20august%202012.pdf>

Stipek, D. & Gralinski, J. H. (1996). Children's beliefs about intelligence and school performance. *Journal of Educational Psychology*, 88 (3), 397-407.

VandeWalle, D., Brown, S. P., Cron, W. L., & Slocum, J. W. (1999). The influence of goal orientation and self-regulation tactics on sales performance: A longitudinal field test. *Journal of Applied Psychology*, 84, 249-259.

VandeWalle, D. & Brett, J. F. (1999). Goal orientation and goal content as predictors of performance in a training program. *Journal of Applied Psychology*, 84 (6), 863-873.

Wilson, T. D. & Linville, P. W. (1985). Improving the performance of college freshmen with attributional techniques. *Journal of Personality and Social Psychology*, 49 (1), 287-293.

Yeager, D.S. & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47 (4), 302-314.