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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



StriveTogether

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.

7. Creativity

Definition and Background

The creativity literature is replete with conceptual frameworks and definitions. Interest in creativity has a relatively long history and a presidential address at the American Psychological Association in 1950 is often credited with giving psychologists the challenge to take up research on this desirable attribute (Guilford, 1950). In more ancient times, creativity was often thought to be magical, a God-given gift, or even associated with madness (Isaksen, 2013).

There are a variety of labels for creativity, including creative problem solving and creative thinking. Here is a sampling of attempts to define these terms:

“A creative result is a result both original and appropriate. A creative person—a person with creativity—is a person who fairly routinely produces creative results.” (Perkins, 1988, p. 311).

“Creativity is a habit. ...That is, creativity becomes a way of life that one regularly utilizes so that one is hardly aware one is engaging in it.” (Sternberg, 2012, p. 3).

“Creative Problem Solving (CPS) is a framework which individuals or groups can use to: formulate problems, opportunities, or challenges; generate and analyze many, varied and novel options; and plan for effective implementation of new solutions or courses of action.” (Treffinger, 1995, p. 301).

Starko (2005) has argued that the emphasis on originality of products in connection with creativity is a very western concept but in Eastern or traditional cultures, creativity is a process of individual growth, evolution, or a spiritual journey in a community. On this theme, Kaufman and Beghetto (2009) have complained that “the exact question of what is creativity is often ignored or answered in too many different ways.” (p. 1).

Perhaps more numerous than definitions of this concept is the attempt to understand the underlying parts of creativity—the more theoretical dissection of what bolsters or is necessary for creativity. Isaksen (2013) has argued that studies of creativity have occurred across many disciplines, each of which employ a slightly different view, including education, psychology, science, and in managerial and industrial literature. This makes arrival at a single framework unlikely. Here are some examples of how researchers have tried to describe the underlying mechanisms of creativity:

From Rhodes, who summarized 56 definitions, emerged four “strands” of creativity, commonly called the four P’s of creativity (1961):

Person, including intellect, personality, traits, attitudes, values and behavior

Process, including stages of thinking people go through when overcoming an obstacle or achieving an outcome which is both novel and useful

Press or the relationship between people and their environment, the situation which is conducive to creativity, and

Product or the characteristics of artifacts of new thought and ideas, inventions, designs and systems.

Kaufman and Beghetto (2009) have argued that studies of creativity offer a dichotomy:

A focus on eminent creativity...studied by analyzing the lives of well-known creators or interviewing renowned individuals... These types of studies and theories are typically referred to as study “Big-C creativity.” (p. 1)

A focus on everyday creativity or the activities in which the average person may participate each day, such as arranging a scrapbook or creating new cuisine. They called this “little-c creativity.”

They later expanded this framework to the “Four C Model” adding:

Mini-c which is a part of the little-c process and includes the creative insights experienced by learners when they learn a new concept or “novel and personally meaningful interpretations of experiences, actions, and events.” (p. 3) and

Pro-c which represents “the developmental and effortful progression beyond little-c (but has not yet attained Big-C status).” (p. 5)

This latter category might include those who are professional actors, for example, who are creative but may never be thought of as creative geniuses for the ages.

Sternberg (2012) has suggested an “investment-based approach” to creativity, which he argues requires the confluence of six distinct but interrelated resources. He argues that creativity is not about one thing but about a system of things, including:

Intellectual abilities

Knowledge

Thinking styles

Personality

Motivation

Environment and

Confluence

Isaksen et al. (1993) have likewise proposed six stages to creative problem solving:

Mess-finding within experiences, roles and situations, exploring opportunities

Data-finding to examine a situation from many different viewpoints

- *Problem-finding to generate many possible statements of the problem and create a working problem statement*
- *Idea-finding to generate alternative solutions and choose those that are most promising*

- *Solution-finding to create criteria for evaluating ideas and then choosing one*
- *Acceptance-finding to consider sources of assistance and resistance and prepare specific plans for action*

Each of these stages has a “divergent phase” where many possibilities are considered, and a “convergent phase” where ideas are narrowed.

As might be imagined, these various attempts to describe and parse creativity lead to differing measurement strategies.

Relationship to Academic Achievement

The relationship between creativity and academic achievement is complex. Ai (1999) summarized a great deal of historical research as follows:

“The studies just cited can be divided into three groups according to their conclusions regarding the relation between creativity and academic achievement. Some studies found that creativity was related to academic achievement... Others found that creativity was not related to academic achievement... ...some researchers concluded that creativity was related to higher levels of academic achievement that required divergent and productive ability... (p. 330).

In trying to figure out why this literature is so mixed, researchers have generated several hypotheses for divergent findings across studies. Some have concluded that the effects of creativity on academic achievement are affected by intelligence so that high creativity can make up for somewhat lower intelligence (e.g., Yamamoto, 1964; Torrance, 1962). Others have found that the measure of creativity used in a study makes a difference in the findings (Ai, 1999) and still others find that some subscales of creativity are related to some kinds of academic achievement. For example, divergent thinking appears related to language fluency (Gras et al., 2010). Researchers have also detected gender differences in creativity and how it affects academic achievement (Baer, 1998; Furnham et al., 2006; Gras et al., 2010; Sethi, 2012).

Using a multilevel analysis of different kinds of classroom groupings (i.e., by ability), Freund and Holling (2008) were not the first to conclude that teachers value creativity differently. They argue that teachers often devalue creative behaviors exhibited by their students, even if they say they generally value creativity. They suggest that some teachers may be more intolerant of the independence or nonconformity exhibited by their most creative students. Beghetto (2010) points out that teachers often depict the ideal student as compliant and conforming—or convergent rather than divergent thinkers. This does not motivate them to try to enhance creativity. An empirical finding supporting this ambivalent attitude toward creativity is that conscientiousness—a much-valued characteristic by teachers—has been found negatively related to creativity (Furnham et al., 2006). They explain:

“...conscientiousness is positively associated with academic performance but negatively correlated with creativity. ...Indeed, there is an extensive literature to suggest that highly creative individuals are often poorly self-disciplined and indeed famous for the lack of conscientiousness.” (p. 142).

There is a great deal of writing from educators on how creativity can be enhanced in the classroom or how it is being destroyed by current educational practices, but in these works, creativity is often seen as a desirable outcome on its own, like math proficiency or high test scores, rather than as a social/emotional competency that will in turn, lead to these academic achievements.

There are also repeated assurances in this literature that when children are encouraged and offered opportunities to be creative, rather than being asked to learn responses to multiple-choice questions, they are more likely to be engaged in learning, which in turn, should lead to higher achievement. A historical study by Aikin (1942) tried to demonstrate that taking time from straight learning of facts in the classroom to do creative or inventive exercises did not damage students' achievement and in fact, led to slightly higher total grade averages, more awards, and higher grades in all subject fields.

Finally, there is also some discussion of the potential negative effects of creativity:

“...most studies of creativity seek to identify the causes of creativity examining thinking skills, motivations, dispositional characteristics, among other variables. One might, however, ask a different question: Exactly what are the effects of creativity on the individual, the people around him or her and the broader social system? ...creative work, by virtue of its intensity, may lead to a disrupted, rather shallow family life. ...rather than drinking causing creativity, creativity, as a result of the associated frustration and ambiguity, may cause alcohol abuse. Thus creativity, like most other human actions, may have good and bad outcomes.” (Mumford, 2003, p. 117)

Taken together, this literature paints a complex picture of the relationship of creativity to academic achievement. The relationship seems to be affected by how creativity is defined and measured and by what kind of academic behavior we are talking about. Further complications come from findings that both the characteristics of individuals and the contexts in which they learn may also affect this relationship. The literature also hypothesizes that the current stress on standardized testing in classrooms is not conducive to the development of creativity and in fact, may prevent development of this skill.

Malleability

There is a great deal of evidence, however, that creativity can be learned and there are publications on programs intended to enhance this skill (e.g., The Creative Education Foundation, The Creative Problem Solving Group, the Graduate Program of Critical and Creative Thinking at the University of Massachusetts, Boston and other sites; see Adams, 2005). Kaufman and Sternberg (2007) advise:

“Although one cannot directly teach creativity, one can teach for creativity. This involves, first and foremost, encouraging students to be creative and rewarding creative behavior. ...teaching for creativity requires the recognition that creativity is, in large part, an attitude toward life...”
(p. 58)

In fact, several authors have explored the use of rewards to encourage creativity, with mixed results. Eisenberger et al., (1998) found that offering explicit rewards increased the creativity of picture drawing among preadolescent children if they had previous training in divergent thinking or if instructions to children were explicit about the necessity for creative performance. But others argue that extrinsic rewards can produce negative effects on creativity if there is concern that one’s work will be evaluated. Some of these studies suggest that extrinsic rewards have negative impacts on girls but not boys (e.g., Baer, 1998; Amabile, 1996). Scott et al. (2004) have summarized the approaches to enhancing creativity as follows:

“...a number of approaches have been used to encourage creativity, including (a) provisioning of effective incentives... (b) acquisition of requisite expertise...(c) effective structuring of group interactions...(d) optimization of climate and culture...(e) identification of requisite career development experiences, and (f) training to enhance creativity.” (p. 361)

Their review of 70 studies on the effectiveness of these strategies finds generally positive effects on creativity. They recommend that creativity training should be based on a clear understanding of the particular skills required for creativity and should include opportunities to practice these skills with real world tasks.

Overall, we conclude that creativity is a complex concept that includes cognitive as well as non-cognitive elements, that it can be related to certain kinds of academic achievement, and that it is malleable. The complexity of the concept has given rise to a multitude of different approaches to its measurement and its secure relationship to academic performance—especially relative to concrete benchmarks like those Strive uses—is not well established. Creativity is not always valued or encouraged in today’s test-focused classrooms and teachers may not readily warm to an emphasis on building this competency.

Creativity Bibliography

Adams, K. (2005). The Sources of Innovation and Creativity. A Paper Commissioned by the National Center on Education and the Economy for the New Commission on the Skills of the American Workforce.

Ai, X. (1999). Creativity and academic achievement: An investigation of gender differences. *Creativity Research Journal*, 12 (4), 329-337.

Aikin, W. M. (1942). The story of the eight-year study, with conclusions and recommendations. New York: Harper & Brothers.

Amabile, T. M (1996). Creativity in context: Update to the social psychology of creativity. Boulder, Co: Westview.

Baer, J. (1988). Gender differences in the effects of extrinsic motivation on creativity. *Journal of Creative Behavior*, 32 (1), 18-37.

Beghetto, R. A. (2010). Creativity in the Classroom. In: Kaufman, James & Sternberg, Robert (ed.) (2012) *The Cambridge Handbook of Creativity*. Cambridge University Press. New York, New York.

Eisenberger, R., Armeli, S., & Pretz, J. (1998). Can the promise of reward increase creativity? *Journal of Personality and Social Psychology*, 74 (3), 704-714.

Freund, P. A. & Holling, H. (2008). Creativity in the classroom: A multilevel analysis investigating the impact of creativity and reasoning ability on GPA. *Creativity Research journal*, 20 (3), 309-318.

Furnham, A., Zhang, J, & Chamorro-Premuzic, T. (2006). The relationship between psychometric and self-estimated intelligence, creativity, personality and academic achievement. *Imagination, Cognition and Personality*, 25 (2), 119-145.

Gras, R., Bordoy, M., Ballesta, G., & Berna, J. (2010). Creativity, intellectual abilities and response styles: Implications for academic performance in the secondary school. *Anales De Psicologia*, 26 (2), 212-219.

Guilford, J. P. (1950). Creativity. *American Psychologist*, 5, 444-454.

Isaksen, S. G. (2013). A Compendium of Evidence for Creative Problem Solving. The Creative Problem Solving Group.

Isaksen, S. G., Dorval, K. B., Noller, R. B., & Firestein, R. L. (1993). The Dynamic Nature of Creative Problem Solving. In: Gryskiewicz, S. S. (ed.) (1993). *Discovering Creativity*. Center for Creative Leadership.

Kaufman, J. C. & Beghetto, R. A. (2009). Beyond big and Little: The four C model of creativity. *Review of General Psychology*, 13 (1), 1-12.

Kaufman, J. C., & Sternberg, R. J. (2007). Resource review: Creativity. *Change*, 39, 55–58.

Mumford, M. D. (2003). Where have we been, where are we going? Taking stock in creativity research. *Creativity Research Journal*, 15 (2/3), 107-120.

Perkins, D. N. (1988). Creativity and the quest for mechanism. In: Sternberg, R. J. & Smith, E. E., (eds). *Psychology of Human Thought*. Cambridge University Press, 1988, 309–336.

Rhodes, M. (1961). An analysis of creativity. *Phi Delta Kappa*, 42, 205-210.

Scott, G., Leritz, L. E., & Mumford, M.D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal*, 16 (4), 361-388.

Sethi, N. (2012). A study of academic achievement in mathematics in relation to creativity of high school students. *Indian Streams Research Journal*, 2 (4), 1-4.

Starko, A. J. (2005). *Creativity in the classroom: Schools of curious delight*. 3rd ed. Mahwah: Lawrence Erlbaum Associates.

Sternberg, R. J. (2012). The assessment of creativity: An investment-based approach. *Creativity Research Journal*, 24 (1), 3-12.

Torrance, E. P. (1962). *Guiding creative talent*. Englewood Cliffs, NJ: Prentice Hall.

Treffinger, D. (1995). Creative problem solving: Overview and educational implications. *Educational Psychology Review*, 7 (3), 301-312.

Yamamoto, K. (1964). Role of creative thinking and intelligence in high school achievement. *Psychological Reports*, 14, 783-789.