SKILLS & DISPOSITIONS

THAT SUPPORT YOUTH SUCCESS IN SCHOOL

PART 1: Defining and Measuring Motivation, Engagement, and 21st Century Skills

Youth Development Executives of King County &

The Road Map Project

October 2012; REVISED April 2014

BACKGROUND AND ACKNOWLEDGEMENTS

Youth Development Executives of King County (YDEKC)
The mission of YDEKC is *to build and organize the youth development field in King County*. Our vision is that every young person has the opportunity to learn, lead, work, thrive, contribute and connect with active support from organized, networked and unified youth development efforts in King County. We are Executive Directors, CEOs and other key leaders of non-profit organizations directly serving youth ages 5 through young adulthood within King County. We are focused on developing shared outcomes and measurement tools; adopting high-quality common standards of practice; and speaking with a common voice.

The Road Map Project (staffed by Community Center for Education Results)
The "Road Map Project" is a collective impact effort aimed at getting dramatic improvement in student achievement in South Seattle and South King County. The Road Map Project goal is to double the number of students in the region who are on track to graduate from college or earn a career credential by 2020. The Road Map Project is committed to nothing less than closing the unacceptable achievement gaps for low-income students and children of color and increasing achievement for all students from cradle to college and career.

Youth Development for Education Results (YDEKC & the Road Map Project)
In 2011 and 2012, the Youth Development for Education Results work group of the Road Map Project worked to increase the clarity of the Road Map indicators, goals and strategies wherein community-based youth development organizations play a vital and integral role. To accomplish this, Youth Development Executives of King County (YDEKC) convened a work group comprised of key partners around King County working on the overlaps between youth development and education results.

2011-2012 Workgroup goals:
1. **Define:** Gain agreement around definitions of motivation and engagement and 21st Century social skills based on research that links these skills and dispositions to academic success.
2. **Measure:** Identify available or develop new tools to measure these skills and dispositions. Explore opportunities for increasing and simplifying data collection and data sharing.
3. **Move:** Identify research-based strategies to increase student motivation, engagement and social skills.

Core Workgroup (2011-2012):

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Boys and Girls Clubs of King County, Emily Holt	Neighborhood House, Catherine Verrenti
CDSA, Caryn Swan-Jamero	New Futures, Jenn Ramirez Robson
Communities in Schools of Seattle, Shira Rosen	School's Out Washington, Amanda Thomas
Communities in Schools of Renton, Sue Paro	Seattle Parks and Recreation, Lori Chisholm
Community Schools Collaboration, Deborah Salas	The Service Board, Ashley Miller
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INTRODUCTION

An almost universally held goal for young people is that they transition to adulthood prepared to succeed in school, work, and life. However, the ways success is defined vary widely; and the ways we measure success and support youth in achieving it vary even more. This variety is particularly apparent in the areas of student motivation and engagement.

Research points to several interrelated domains of learning: **knowledge** (acquiring information), **skills** (the ability to demonstrate a particular behavioral repertoire), and **dispositions** (mindsets that become internalized, such as curiosity or persistence).[1] As a nation, we have placed high value on measuring knowledge through standardized testing, but devoted less attention to skills and dispositions. The skills and dispositions that underlie student motivation and engagement are critical to youth success in all domains, but these skills and dispositions are difficult to define and measure. Greater consistency in definition and measurement could lead to better alignment of practice across the family, school, and community settings in which youth spend their time.

A core assumption of collective impact is that alignment of language, measures, and supportive practices improve outcomes. In an education context, coordinated efforts across skill-building domains can lead to increased motivation and engagement, and ultimately to increased academic achievement. It is an assumption of this paper that motivation and engagement to succeed in school are critical to meeting the Road Map Project goal of doubling the number of students in South Seattle and South King County who are on track to graduate from college or earn a career credential by 2020.[2]

In 2011-2012, Youth Development Executives of King County (YDEKC), in partnership with the Road Map Project, convened a work group to identify and describe those skills and dispositions that matter most to school success. This paper represents an attempt build on this work by clarifying definitions and suggesting approaches to shared measurement and coordinated practice in the Road Map region. It consists of two main parts:

1. **Definition and Measurement:** What are the key skills and dispositions that support youth success? This section summarizes current research on what matters most in the areas of motivation and engagement, and explores the opportunities and challenges associated with different approaches to measuring motivation and engagement.
2. **Strategies:** This final section explores strategies to build student skills and dispositions in both school and out-of-school settings.

Both parts were developed through a broad consultation process with Road Map partners in the education and youth development sectors. Originally published in October 2012, this paper covers definition and measurement of skills and dispositions. It has been revised based on continuing conversations with researchers and practitioners in this emerging field of inquiry.

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[1] Katz (1988)

[2] The percentage of students motivated and engaged to succeed in school is a "Student Support Indicator" within the Road Map framework.

SECTION 1: DEFINITION OF SKILLS AND DISPOSITIONS THAT SUPPORT YOUTH SUCCESS

Researchers, educators, youth development practitioners, parents, and the general public all use different words to describe the skills and dispositions they hope young people will develop and demonstrate. Some of the labels commonly used to describe these skills and dispositions include 21st century skills, social and emotional competencies, non-cognitive or non-academic skills, engagement and motivation, and habits of mind. Connected to each of these terms are frameworks that include different but related lists of indicators.

In school, these skills and dispositions primarily manifest through the **academic behaviors** that are necessary to excel in coursework at all levels. According to a recent study conducted by the Consortium for Chicago School Research, "academic behaviors are those behaviors commonly associated with being a 'good student.' These include regularly attending class, arriving ready to work (with necessary supplies and materials), paying attention, participating in instructional activities and class discussions, and devoting out-of-school time to studying and completing homework."[3]

Typically, we have assessed academic behaviors by looking at school attendance or course performance, but this does little to inform efforts to improve the skills and dispositions that contribute to these behaviors. As a result, we have expended a great deal of effort addressing symptoms (such as poor grades) without fully understanding underlying causes (lack of motivation). We need to go beyond our traditional measures to help ensure that all young people are able to achieve in school – and ultimately in life. We believe that the positive youth development approach can help guide this effort.

> *"Recent research on non-cognitive factors has not only suggested their importance for student academic performance but has also been used to argue that social investments in the development of these non-cognitive factors would yield high payoffs in improved educational outcomes as well as reduced racial/ethnic and gender disparities in school performance and educational*

WHAT IS POSITIVE YOUTH DEVELOPMENT?

Youth Development is a relatively new field of study and practice, really emerging in the last two decades. Often, youth leadership and youth development are used interchangeably. Historically, youth development has occupied two competing views. On the one side are those who view youth and youth development from the perspective of problems or deficiencies. This view, classically stated, holds that young people are or have problems that need to be fixed. On the other side is the conception of youth as assets to be developed. This position, broadly called **positive youth development**, holds that young people need supportive environments to develop the skills and dispositions that will help them become successful and healthy adults.[4] Youth development programs strive to make young people "active agents" by providing a "higher density of

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[3] Farrington et al. (2012), p. 8
[4] Lerner et al. (2005)

growth experiences" than they might find elsewhere.[5] Positive youth development focuses on a variety of holistic youth outcomes, and requires a different set of indicators of success.

PRIORITIZING OUTCOMES AND INDICATORS

Common, operational definitions of youth skills and dispositions are a necessary precondition to effective measurement. The Youth Development for Education Results work group came together with the goal of gaining agreement on labels and definitions for the concepts that matter most to school success, for use in the Road Map region and beyond. The work group met during 2011-2012 to review different outcome frameworks and identify those concepts with strong research linkages to school success, and strong resonance for practitioners in the education and youth development fields. The resulting framework describes priority outcomes and indicators related to student motivation and engagement. This has led to the ongoing development of common measurement tools for assessing how young people are doing in these important areas.

CRITERIA FOR VETTING INDICATORS

Each indicator described in this paper has been vetted using the following criteria:[6]

- **Communication Power:** Do the general public, educators and youth development professionals agree that the skill or disposition is important to youth success?

- **Proxy Power:** Does research validate that the skill or disposition has a strong linkage to success in school (K-12 and/or postsecondary) and/or in the workforce?

- **Data Power:** Can the skill or disposition be measured? Do tools exist to measure it?

- **Practice Power:** Are there strategies, practices or interventions that can be widely implemented to increase attainment of the skill or belief?

Indicators that appear on the Youth Development for Education Results framework rate moderate-to-high on all "powers." Some indicators may have strong linkage to life success, but are not as closely tied to school or work success. In such cases the indicator will remain a priority for the Youth Development field, but may not appear on the Road Map list of indicators.

SKILLS AND DISPOSITIONS THAT MATTER TO SCHOOL SUCCESS: OUTCOME DOMAINS AND CONSTRUCTS

The skills and dispositions featured in this report are based on a review of the literature on motivation and engagement, primarily within the fields of education and psychology. We found motivation to be a set of internal skills and dispositions, while engagement is context-dependent. Both, however, vary across tasks and contexts, and may therefore be malleable in young people. The framework on the following page identifies and describes the specific domains and constructs that comprise our definition of motivation and engagement: **future orientation**, **self-management**, **self-efficacy and mindsets**,

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[5] Larson (2000), p. 178
[6] Vetting "powers" based on Friedman (2005)

perseverance/grit, and **belonging and identity**. Key 21st century skills are also featured. Specifically, **interpersonal skills** and those thinking and learning skills that students most need to navigate increasingly complex environments: **creativity** and **critical thinking**. Following the framework itself is a brief summary of the research by skill area or outcome domain. For each, we present a definition of the skill, and describe how and why it matters to youth success.

SKILLS & DISPOSITIONS THAT SUPPORT YOUTH SUCCESS IN SCHOOL

	OUTCOME DOMAINS	SKILLS & DISPOSITIONS
Motivation & Engagement	**FUTURE ORIENTATION**	• **Goal management:** Setting short- and long-term goals and monitoring progress toward their achievement • **Hope and optimism:** Positive beliefs regarding one's future potential, goals and choices
	SELF MANAGEMENT	• **Emotional regulation:** Assessing and regulating one's feelings and emotions • **Self-discipline:** Ability to focus on a task in spite of distractions
	PERSEVERANCE/ GRIT	• **Perseverance:** Tendency to persist in spite of obstacles or setbacks • **Goal orientation:** Commitment to the achievement of goals over time
	SELF EFFICACY & MINDSETS	• **Self-efficacy:** Belief in one's own capabilities and capacity to learn and succeed • **Growth mindset:** Belief that intelligence and ability can increase through effort • **Mastery orientation:** Enjoyment of learning and desire to master new skills; willingness to try new things • **Relevance:** Belief that work done in school is related to personal aspirations
	BELONGING & IDENTITY	• **Sense of belonging:** Perception of acceptance and support in a learning community • **Relationship building:** Establishing and maintaining positive relationships with adults and peers in a school setting • **Personal identity:** Understanding and valuing one's own culture and beliefs • **Social capital:** Recognizing and using family, school, and community resources; asking for help when needed
21st Century Skills	**INTERPERSONAL SKILLS**	• **Collaboration:** Negotiating and compromising when working in groups or pairs • **Communication:** Communicating effectively for a variety of purposes and audiences • **Cultural competence:** Ability to work effectively with people from different backgrounds; appreciation of diversity • **Conflict resolution:** Preventing, managing, and resolving interpersonal conflict • **Compassion:** Taking the perspective of and empathizing with others
	CREATIVITY	• **Ideation:** Using a wide range of idea creation techniques • **Imagination:** Using intellectual inventiveness to generate, discover, and restructure ideas or imagine alternatives • **Innovation implementation:** Acting on creative ideas to make a new contribution
	CRITICAL THINKING	• **Metacognition:** Ability to reflect on one's assumptions and thinking for the purposes of deeper understanding and self-evaluation. • **Problem solving:** Generating and selecting from alternatives based on desired outcomes • **Analytical thinking:** Separating problems or issues into their component parts

SKILLS & DISPOSITIONS THAT SUPPORT
YOUTH SUCCESS IN SCHOOL

RESEARCH SUMMARY BY DOMAIN

FUTURE ORIENTATION

WHAT IT IS:

Future orientation consists of two distinct but closely related concepts: the ability to **set goals and monitor progress toward their achievement** and **hope and optimism regarding one's future potential, goals, and options**. Future orientation is related to one's ability to take goal-directed action. It is not sufficient to have goals; one must also have the general belief that these goals can be met.[7]

WHY IT MATTERS:

Future time perspective is a key feature of adolescence. As future time perspective develops, having a long-term goal or purpose, especially when that goal or purpose is intrinsic (i.e. related to one's desired contribution rather than to external rewards), instills tenacity and promotes deeper learning in youth.[8] Once a young person commits to a personally valued future goal, he or she develops a system of proximal sub-goals and self-regulatory behaviors to achieve. Goal orientation is an important component of academic success when school work is seen as relevant to future goals and instrumental to their attainment.[9]

Hope and optimism are important corollaries to goal orientation. A young person with a hopeful attitude and an optimistic vision of their future self may be more motivated to pursue educational and vocational goals. Accordingly, hope is a strong predictor of success in middle school, high school, college, and beyond.[10] Youth who are not hopeful or goal-oriented may lack a clear sense of direction, and feel overwhelmed by external stressors and expectations.[11] Positive future orientation also predicts better social and emotional adjustment, and helps to mediate the effects of stress in youth.[12]

Research has suggested that youth who engage in delinquent behavior have a restrictive view of their options in life. Supporting youth to envision a positive "possible self," and the path it will take to become that person, can have a marked effect on outcomes – particularly for those from impoverished communities.[13] Young people's goals are highly sensitive to their context, their background, and their self-perception. In their work on role models, Lockwood and Kunda found that young people are more likely to be positively motivated by a "superstar" figure when they perceive that figure to be more like themselves, and when their success appears attainable.[14] Studies have shown improved academic outcomes for students

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[7] Snyder et al. (1997)
[8] Lee, McInerney, Liem & Ortiga (2010); Damon (2008)
[9] Miller & Brickman (2011)
[10] Snyder, et al. (2002)
[11] Lopez (2009)
[12] Wyman, Cowen, Work & Kerley (1993)
[13] Oyserman & Markus (1990)
[14] Lockwood & Kunda (1997)

who participate in activities that explicitly help them to reconcile their present self-concept with a positive view of their future self.[15]

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[15] Oyserman, Bybee, & Terry (2006)

SELF-MANAGEMENT

WHAT IT IS:

Self-management consists of the ability to **identify and regulate one's emotions and behaviors** (to handle stress and control impulses) and to **focus on a task in spite of distractions or competing priorities**. Emotional regulation combined with an ability to focus on productive tasks can support success in all life domains.

WHY IT MATTERS:

Much research shows that self-management (and its component competencies) is important to success in school and in the workplace.[16] Sometimes referred to as self-regulation or executive functioning, self-management includes many skills related to a person's ability to delay gratification, stay focused, and ignore distractions. Many research studies have shown the predictive nature of self-management on student performance across ages from early childhood to college.[17] These studies also suggest that the context a student is in (i.e. the classroom) can influence his or her ability to stay focused on tasks, especially when self-management skills and strategies are explicitly provided.[18] Adults with strong self-management skills report better relationships and higher levels of overall self-esteem.[19]

Self-management skills can be taught directly, and can be fostered by creating environments that support skill development. Some research has suggested that self-control is like a muscle, which implies that environments with structure and clear limits can help children to conserve resources, while opportunities to practice self-control can build strength.[20] Within a school or program setting, activities that focus on self-management processes (self-monitoring, planning and organizing, task persistence) can help youth to improve upon their innate abilities. Additionally, helping young people to set goals, identify obstacles, and learn self-control strategies can improve a range of academic, behavioral, career, and life outcomes.[21]

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[16] Collaborative for Academic, Social and Emotional Learning (2011)
[17] Shoda, Mischel & Peake (1990)
[18] Farrington et al. (2012), p. 24
[19] Tangney, Baumeister & Boone (2004)
[20] Muraven & Baumeister (2000)
[21] Oyserman, Bybee, & Terry (2006); Brigman & Webb (2007)

PERSEVERANCE / GRIT

WHAT IT IS:

The notion of grit combines the **tendency to persist in spite of obstacles or setbacks** with a **commitment to the achievement of goals over time**. Persisting through postsecondary education or career success takes a great deal of focus over a many years. "Gritty" students are able to set personal and academic goals, monitor progress, plan, and course correct along the way.

WHY IT MATTERS:

The ability to persevere is critical to one's ability to achieve over time. Obstacles are inevitable, so one's ability to overcome them enables one to grow and progress. Grit is closely related to perseverance. Angela Duckworth defines grit as "perseverance and passion for long term goals," and has found that grit predicts educational and career attainment better than (and unrelated to) IQ.[22] Differences in long-term outcomes – like high school graduation and college and career success – may owe more to differences in "non-cognitive" qualities like grit than to cognitive ability. Research has implicated perseverance as a factor in improved outcomes ranging from high school and college graduation to good health and strong relationships.[23]

While "grittiness" appears to be a relatively stable personality trait, it is possible that some environments and activities are more likely to encourage perseverant behaviors. According to Farrington et al., young people are more likely to see challenging work through to completion when they feel a sense of belonging in the context in which they are working, feel capable of succeeding, and believe that their level of success corresponds to their level of effort:

> While some students are more likely to persist in tasks or exhibit self-discipline than others, *all* students are more likely to demonstrate perseverance if the school or classroom context helps them develop positive mindsets and effective learning strategies. In other words, the mechanisms through which teachers can lead students to exhibit greater perseverance and better academic behaviors in their classes are through attention to academic mindsets and development of students' metacognitive and self-regulatory skills, rather than trying to change their innate tendency to persevere.[24]

Other research has shown that early childhood, mentoring, and youth development programs make a difference in academic and life outcomes because of their focus on building perseverance and other key non-cognitive skills.[25]

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[22] Duckworth et al. (2007), p. 1087
[23] Tough (2012)
[24] Farrington et al. (2012), p. 7
[25] Tough (2012)

SELF-EFFICACY & POSITIVE MINDSETS

WHAT IT IS:

Self-Efficacy and positive mindsets are concepts comprised of several parts. Self-efficacy refers to a student's **belief in his or her own abilities and capacity to learn and succeed**. Mindsets, or ways of thinking, are a distinct but closely related concept. A "growth" (as opposed to "fixed") mindset is a general **belief that intelligence and ability can increase through effort**, and has been identified as a critical student success skill.**[26]** Mastery orientation is the general **tendency to work toward mastery (or learning) rather than performance**. In practice, students with a mastery orientation enjoy learning for its own sake and exhibit a willingness to try new things. Finally, relevancy is a **belief in importance of learning and that the work done in school is relevant to achieving personal goals**.

WHY IT MATTERS:

A young person's belief in his or her ability to learn and be successful (i.e. "self-efficacy") is a better predictor of future academic performance than prior performance or measured level of ability.[27] Strong self-efficacy "enhances human accomplishment and personal well-being in many ways. People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided."[28] In addition to beliefs about the self, beliefs about school and program settings influence success; when youth see a connection between what they are learning and their lives or a future goal, they are more likely to be motivated to persist at tasks.[29]

Having a "growth mindset" – defined as the belief that intelligence and ability can increase through effort – leads to success in many life domains. Research shows that young people with a growth mindset do better in school, in part because they are more likely to work toward self-betterment.[30] In one longitudinal research study, students with a growth mindset at the beginning of 7th grade proceeded to perform better in math over the next two years than their peers with a fixed mindset, despite entering 7th grade with identical past achievement test results.[31] One possible explanation is that the students with a growth mindset embraced challenge and believed increased effort would lead to success.

Similarly, students who value mastery over performance are more likely to seek out challenges, develop their abilities, and persist through difficult situations.[32] A mastery orientation may also improve academic performance, particularly when

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[26] Dweck (2007)
[27] Bandura (1997)
[28] Bandura (1994)
[29] Farrington et al. (2012)
[30] Dweck (2007); Wolters (2004)
[31] Blackwell, Trzesniewski & Dweck (2007)
[32] Wolters (2004)

contrasted with a "performance-avoidance" orientation (i.e. fear of failure and resistance to novelty).[33] Research has shown an association between mastery goals and motivation, positive affect, use of metacognitive learning strategies, and ultimately performance on academic tasks.[34] Achievement is further enhanced by the perceived relevance of learning tasks. According to Jalongo, "learners are motivated to learn when they can reconcile the perceived value… with the cost."[35]

Youth can develop positive mindsets. When given growth-oriented messages about intelligence and ability, youth can change their perspective on effort and work. Directly teaching the concept of neuroplasticity – that the brain continuously creates new connections – has proven effective at cultivating a growth mindset.[36] In a classroom or program environment, encouraging effort can cultivate a growth mindset while praise for ability (i.e. "being smart") reinforces a fixed mindset. Experiences that involve appropriate risk-taking and encourage productive failure can encourage mastery orientation and produce gains in the classroom and elsewhere.

Can Increasing Self-Efficacy and Positive Mindsets decrease the Achievement Gap? Increasing students' self-efficacy and mindsets may prove to be an effective strategy for decreasing the achievement gap. Specifically, teaching a growth mindset can mitigate the effects of "stereotype threat" (internalized oppression) on African American and Latino students, and can increase girls' success in STEM subjects.[37] "Stereotype threat" impedes performance when a student is reminded that society perceives their demographic (often by race or gender) as low-achieving before that student completes a performance task. Even as simple a reminder as checking a demographic box before a test can compromise that test's results.[38] This indicates the need for strategies that focus on building a "growth mindset" in individual students, especially those who have been most negatively affected by inequitable systems, practices and policies in the past. Of course, eliminating the experiences that lead to internalized oppression (or belief in a negative stereotype about oneself) is as important as helping individual students overcome "stereotype threat."

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[33] Meece et. al. (2006)

[34] Pintrich (2000); Shim, Ryan & Anderson (2008)

[35] Jalongo (2007), p. 400

[36] Good, Aronson, & Inzlicht (2003)

[37] Dweck (2007)

[38] Steele & Aronson (1995); Appel & Kronberger (2012)

BELONGING & IDENTITY

WHAT IT IS:

A sense of belonging in our context refers to a young person's **perception of acceptance and support in a learning community**. One important component of this is the ability to establish **positive relationships with adults and peers**. Another is the ability to **access help when needed**. Finally, personal identity, or **the understanding and valuing of one's own cultural or ethnic background**, is an important part of an individual's functioning in their environment.

WHY IT MATTERS:

Adolescents who have better relationships with peers and adults experience a greater sense of belonging in school and elsewhere. This helps them to remain motivated and engaged in school, and to earn better grades.[39] A strong sense of belonging not only supports success in school but also is a powerful protective factor against risk behaviors. When young people feel rejection or exclusion, they are more likely to become aggressive or withdrawn, lose interest in school, and ultimately drop out. In a survey of high school dropouts, students reported craving attention, and recalled their best days in school as days their teachers "noticed them, encouraged them and got them involved."[40]

At the most basic level, a sense of social belonging has been shown to increase motivation.[41] Several studies have looked at critical transitions – such as entering college or middle school - and young people's sense of belonging. In one study, older college students helped new students acclimate to college life. The effects on belonging were particularly striking for African American students; even brief participation in the study program decreased the achievement gap by half over the next three years.[42] Similar effects have been shown for students transitioning into middle school. When young people feel rejection or exclusion, they are more likely to become aggressive or withdrawn, show less interest in school, and ultimately drop out.[43]

One reason that belonging matters to success is that young people who are comfortable in school or elsewhere are more likely to seek help when they need it. Help seeking is associated with higher levels of motivation and with improved outcomes, especially in college.[44] College readiness research shows that successful college students are able to independently recognize when they have a problem and to actively seek out help from professors, students or other sources.[45]

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[39] Furrer & Skinner (2003), p. 158; Roeser, Midgley, & Urdan (1996)
[40] Bridgeland et al. (2006), p. 13
[41] Walton& Cohen (2011)
[42] Walton & Cohen (2007)
[43] Osterman (2000)
[44] Marchand & Skinner (2007); Conley (2007)
[45] Conley (2007a)

Ethnic identity – in particular a strong identification with one's heritage – is also positively associated with a range of outcomes including coping ability, mastery, self-esteem, and optimism.[46] According to Codjoe, "Most scholars of ethnic and racial identity now agree with the view that ethnic and cultural identity provides a sense of social connectedness that is the basis for psychological well-being and that a strong sense of connection and pride in one's ethnicity is related to healthy developmental outcomes."[47] All students, regardless of race or ethnicity, have multiple cultural identities including class, gender identity, sexual orientation, religion, national origin, and/or race.

Students must work to integrate aspects of their identities as they move from home to community to school; successful integration of their full identity can help in their success. Immigrant youth with well-integrated identities scored significantly higher than all other groups on various measures of psychological adjustment.[48] In contrast, acculturation or assimilation (the giving up of one's historical cultural identity and the adoption of dominant cultural norms) can negatively impact student success. Olneck found that "maintenance of ethnic loyalty, not assimilation, appears associated with stronger school performance among immigrant children."[49]

While related to motivation, belonging and identity are highly context-dependent. Youth who feel attachment to their school are more highly engaged, and do better as a result. Welcoming, personalized, emotionally safe, and culturally sensitive environments are helpful to fostering youth belonging and identity. Formal and informal mentoring programs, meaningful parent engagement, and programs that use a peer cohort model can also be highly effective.

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[46] Roberts et.al. (1999)
[47] Codjoe (2006), p. 45
[48] Phinney (2001)
[49] Olneck (1995), as cited in Phinney (2001), p. 503

INTERPERSONAL SKILLS

WHAT THEY ARE:

Interpersonal skills are a broad category of skills relating to one's ability to relate to others. These are the ability to negotiate and compromise when working in groups or pairs (collaboration); communicating effectively for a variety of purposes and audiences (communication); the ability to work effectively with people from different backgrounds and appreciation of diversity (cultural competence); preventing, managing, and resolving interpersonal conflict; and the ability to take the perspective of and empathize with others. Interpersonal skills are increasingly important in increasingly diverse and collaborative school and work environments.

WHY THEY MATTER:

Many of the skills described above make up the constructs of "Social Awareness" and "Relationship Skills" as defined by the Center for Academic, Social and Emotional Learning (CASEL).[50] In his 2004 book, Joseph Zins explicitly links the development of person-centered social skills, as defined by the CASEL framework, with improved academic achievement.[51] This is likely due to the fact that students who are better able to form relationships develop deeper attachments to school. Izard and colleagues (2001) found that pre-school aged at-risk children's ability to detect and label what they called "emotion cues" in others facilitated positive social interactions. These positive social interactions, in turn, promoted learning. Additionally, strong social skills can prevent disciplinary action and conduct problems that inhibit learning.

Collaboration skills are increasingly being recognized as critical to school, work, and life success. Johnson and Johnson (2009) report that positive peer relationships are associated with improved academic achievement, an effect that is particularly apparent in cooperative learning tasks. Other studies have found this relationship to be more tenuous. A recent research review speculates that "social skills have a weak direct relationship with course grades because many classrooms—particularly at the high school level—still tend to rely on lecture-style instructional delivery which minimizes the social and cooperative aspects of learning."[52]

Communication skills are necessary for success in school, life, and work. Research on social-emotional competencies and 21st century skills consistently confirms the importance of developing strong interpersonal communication skills in children and adolescents.[53] Formal communication is likewise important, as it is foundational to academic and career success. Both writing and speaking skills are a primary means of demonstrating to others one's ability in various skill areas.

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[50] Collaborative for Academic, Social, and Emotional Learning (2011)
[51] Zins, Weissberg, Wang & Walberg (2004)
[52] Farrington (2012), p. 11
[53] Partnership for 21st Century Skills (2011); World Health Organization (2003); Paul & Elder (2008); Catalano et al. (1999)

The ability to work collaboratively with others representing diverse points of view is considered essential to college and workforce readiness in the 21st century. Conley's research on college readiness demonstrates that contextual skills, including the ability to interact with a diverse group of people, are critical. Indeed, collaboration is a basic expectation of college-level work.[54] In a study of college graduates' workforce readiness, employers identified collaboration, work ethic, and communication as among the most important skills in the workplace. Only 24% of surveyed employers believed that new employees with four-year college degrees had "excellent" skills in these areas.[55]

Strong interpersonal skills develop throughout childhood and adolescence in settings where group goals and teamwork are emphasized. Children and youth need guidance in techniques for handling conflict appropriately, and in working collaboratively with others across differences.

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[54] Conley, D. T. (2007a)
[55] Casner-Lotto & Barrington (2006), p. 10-14

CREATIVITY

WHAT IT IS:

Creativity encompasses many competing definitions and associations, and involves multi-faceted processes, all of which make it difficult to define and assess. Sub-components of creativity include the **use of a wide range of idea creation techniques**, the ability to **restructure ideas to make a new or useful contribution**, and the **application of prior skills or knowledge to new circumstances**.[56]

WHY IT MATTERS:

Concepts like "creativity" and "innovation" are often used at the highest levels of education and workplace discourse, but that does not often translate to accountability and action around those goals. Creativity has been deemphasized within the K-12 education system, though its fundamental importance to long-term success is well known.

At Tufts University, an assessment of creativity for college admission predicts college success more accurately than standard admissions tests.[57] High levels of childhood creativity, as measured by the Torrance Test of Divergent Thinking, predict future creative accomplishment. In fact, the correlation to lifetime creative accomplishment was more than three times stronger for childhood creativity than for childhood IQ.[58] Creativity is projected to increase in importance for future workforce entrants, according to more than nearly three quarters of employer respondents to a recent survey. On the same survey, more than half of employer respondents report that new workforce entrants with a high school diploma are deficient in this skill set.[59] A 2010 IBM poll of 1,500 global CEOs identified creativity as the primary "leadership competency" of the future.[60] However, one accepted measurement of creativity has shown falling scores for U.S. students in creativity since the 1990s.[61]

Creativity can be cultivated in youth by providing a wide variety of opportunities for creative expression. Several practices are known to foster creativity: encouraging youth to experiment, generate and explore ideas, and try new things. In addition, creativity develops through trial and error, so acceptance of mistakes is essential to a creativity-promoting environment.

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[56] Arts Corps (2011)
[57] Kaufman et al (2008)
[58] Bronson, P. (2010)
[59] Casner-Lotto & Barrington (2006), p. 10

[60] IBM (2010)
[61] Bronson, P. (2010)

CRITICAL THINKING

WHAT IT IS:

Critical thinking is the ability to reason using evidence, think abstractly, make inferences, and problem solve.[62] Strong critical thinkers are able to reflect upon their assumptions for the purposes of deeper understanding or self-evaluation. The ideal critical thinker is:

> …habitually inquisitive, well informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances permit.[63]

WHY IT MATTERS:

The Center for Critical Thinking has identified several academic, practical, and professional reasons why critical thinking skills are imperative in promoting a young person's positive development. Many of the concepts woven throughout middle and high school academic curricula require an ability to think abstractly and reason logically.[64] SAT and ACT tests specifically assess students' critical reasoning skills as they are predictive of success in postsecondary programs.[65] College coursework demands that students are able to draw inferences, analyze arguments, and reason using evidence.[66]

Critical thinking is increasingly recognized as one the key areas required for career success. It has been identified as the 21st century skill that empowers individuals to "make judgments about the barrage of information that comes their way every day – on the Web, in the media, in homes, workplaces and everywhere else."[67] Additionally, a majority of employers report that critical thinking and problem-solving skills are necessary to workforce success, but that most high school graduates are deficient in these skill areas.[68]

Critical thinking is increasingly recognized as one the key areas required for college, work, and career success. It has been identified as the 21st Century skill uniquely situated to empower individuals to "make judgments about the barrage of information that comes their way every day—on the Web, in the media, in homes, workplaces and everywhere else."[69]

[62] Bjorkland, D.F. (1995)

[63] Facione (1990), p.2

[64] IBM (2010)

[65] The College Entrance Examination Board (2001)

[66] Conley (2007b)

[67] Partnership for 21st Century Skills (2008)

[68] Casner-Lotto et al (2006)

[69] Partnership for 21st Century Skills (2008)

Additionally, employers are specifically looking for individuals with strong reasoning and problem solving skills, the "skills that business needs," when hiring new employees.[70]

Programs which aim to develop young people's critical thinking skills encourage youth to develop reasoning and inquiry skills, discuss the rationale behind actions and ideas, and find underlying assumptions in hypotheses.

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[70] Committee for Economic Development (2011)

SECTION 2: MEASURING PRIORITY INDICATORS

No existing measurement tool perfectly captures the skills and dispositions described in the previous section, and there are many challenges involved in aligning skills data across school districts and community-based organizations (CBOs). We are optimistic that by measuring school climate / learning environment and individual skills and dispositions, we will be able to triangulate with academic data to better support students' skill development. In this section, we discuss our approach to measurement to date, and possible directions for moving forward in 2014 and beyond.

APPROACHES TO MEASUREMENT

Student skills and dispositions are rarely measured directly; rather, we tend to view academic outcomes such as grades and test scores to be proxies for underlying skills. While we acknowledge that academic mindsets and behaviors contribute strongly to grades, we also believe that measuring skills and dispositions directly could guide practice at the classroom, school, or program level. For this reason, we considered several **approaches to measuring student skills and dispositions**:

The School Climate / Learning Environment: It is difficult to separate the skills and dispositions that young people have from the places in which they spend their time – schools, community-based organizations, and home or neighborhood environments all influence how young people feel about themselves and their future. Having a school- or program-level measure of the climate young people experience is important for understanding strategies and practices that support student success skills and dispositions. School (or program) climate can be assessed through:

- Youth surveys
- Parent surveys
- Teacher or counselor surveys
- Community-Based Organization program staff surveys
- Observational assessments (for example, the Youth Program Quality Assessment used by many King County youth development organizations and Washington's 21st Century Community Learning Centers)

Individual Skills and Dispositions: in order to ensure that we are able to target strategies to improve skills and dispositions for the young people who need it most, it is important to understand how young people perceive themselves and their skills. Youth skills and dispositions can be assessed through:

- Youth surveys
- Parent surveys targeting perceptions of their child
- Individual **student skills** can be assessed through:
- Demonstrations of skills through student work, including reports, presentations, and projects
- Assessment rubrics completed by teachers, youth workers, or classmates covering students' collaboration, communication, creativity and critical thinking skills

These approaches are not mutually exclusive, and may in fact complement one another. By measuring both school climate AND skills and dispositions, we hope to be able to triangulate with core academic data to identify and scale promising practices that build student motivation and engagement, and to provide more intensive and targeted supports to the young people who need it most.

CONSIDERATIONS IN IDENTIFYING AND SELECTING MEASUREMENT TOOLS:

An exploration of school climate surveys in use in the Road Map region in 2012 indicated that none of them explicitly focus on students' beliefs about themselves and their skills. For this reason, we prioritized the adoption or creation of a tool to measure individual students' skills and dispositions. Several considerations guided our work in selecting appropriate measurement tools:

- **Aggregate data versus individually identified data:** The challenges of collecting and protecting data increase when personal or sensitive information can be attached to an individual. Privacy laws (HIPAA, FERPA) place limits on the exchange of student-level data; however, the benefits that could be realized when interventions can be targeted to individual students could be substantial. Aggregate data (at the school, district, or community level) is still very useful for scaling strategies that help to build *all* students' motivation and engagement.

- **Age of population:** The importance and relevance of various indicators, and how they are measured, is influenced by a **student's age and stage of development**. Older youth are able to more reliably self-report, while assessment at the elementary ages may require staff or teacher observation. The current focus of this work is on the middle and high school years, though we acknowledge the importance of these skills at younger ages.

- **Psychometrics (reliability and validity):** There are many questions about the reliability and validity of tools for measuring skills and dispositions. Most available tools have not been validated with the populations that are dominant in South Seattle and South King County. The high number of English Language Learners – both refugees and immigrants – who speak dozens of languages and have a wide variety of cultural norms adds complexity to the creation and use of survey tools.

- **Full tools vs. scales:** While full tools often have advantages (normative information, support for interpretation of data), many of the nationally available tools do not align well to our outcome framework. Fortunately, many tools have been created in such a way that individual scales can be pulled out to measure particular constructs.

- **Feasibility:** Financial cost and time to administer, analyze, and report on data was a substantial consideration. Some national tools have back-end analysis and reporting functions, but many cost more than doing the data collection locally.

- **National Sample:** Using a tool that has been used nationally could provide a powerful comparison group; however, it may be more important to be able to compare across local districts than with a national sample.
- **Locally Vetted and Used:** We believed that tools already in use in our local school districts or CBOs may be easier to scale up than an entirely new tool.

Ultimately, our group decided to develop a survey aligned to our constructs of interest for use in the Road Map region. The survey draws from existing tools, and from the expertise of practitioners within the education and youth development sectors. After an initial pilot administration, the **Student Engagement and Motivation Survey, Version 2.0** is in use in several Road Map districts in 2013-2014. The following section briefly describes the process through which the survey was developed, and how it is currently being used.

THE STUDENT ENGAGEMENT AND MOTIVATION SURVEY:

In 2012, the Youth Development for Education Results (YDER) work group of the Road Map Project, in partnership with the Center for Educational Effectiveness (CEE), developed and piloted a **Student Engagement and Motivation (SEMS) Survey** to measure the ways that students' beliefs about themselves and their abilities relate to their school attitudes, behaviors, and outcomes. Since 2002, CEE has surveyed students, parents, and teachers around Washington State about their perceptions of the school environment, based on the Nine Characteristics of High-Performing Schools.[71] CEE's Educational Effectiveness Surveys (EES) – like many climate surveys - have typically focused on school, staff and organizational practices rather than individual student skills and beliefs.

After a comprehensive review of similar survey tools, YDER and CEE selected questions that could serve as a complement to the EES or could stand alone as a measure of student motivation and engagement. Wherever possible, we used subscales from existing public-domain instruments that have been validated for use with middle and high school students. In some cases, we adapted or created questions and subscales as a group. Cognitive pre-testing was done with young people to ensure that questions and concepts were developmentally appropriate.

An initial version of the survey was pilot tested with 6,000 students in the Renton School District in December 2012. This pilot provided preliminary evidence of the survey's reliability, and of its potential to increase our understanding of student motivation and engagement at the school, district, and aggregate levels. We found that asking students to assess their individual skills and dispositions could yield valuable insights into student behaviors (attendance, discipline and course work). Students who reported having low grades and being absent frequently scored lower on skill and dispositions measures than did their peers.

A revised version of the student survey was developed in the spring of 2013 based on findings from the Renton pilot, and on a smaller-scale pilot of a similar survey in after-school settings. In fall of 2013, the Student Engagement and Motivation

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[71] State of Washington, Office of the Superintendent of Public Instruction (2007)

Survey, Version 2.0 was made available to other Road Map districts for use on its own, or in conjunction with existing climate surveys.

It is our hope that the survey's results will guide the work of schools and community partners in the future. We believe that implementing strategies that build student motivation and engagement at school and in the community could have a significant impact on student success and other life outcomes. Several of these strategies are described in Part 2 of this report.

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