Embracing and Measuring an Expanded Definition of Student Success

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At NewSchools Venture Fund, we believe every young person should finish high school prepared and inspired to pursue a good life; a life full of opportunity, choices, connection and meaning. To realize this aspiration, students need a strong academic foundation, as well as other mindsets, habits and skills that are correlated with success in young adulthood.[1] Our strategy supports teams of educators and entrepreneurs who are tackling this challenge.

One of our investment areas is a national portfolio of new innovative schools that embrace this expanded definition of student success. These schools are designed to support every student's academic and social-emotional development. We ask the teams of educators in these schools to focus on three categories of indicators: academic results, social-emotional competencies and school culture/climate factors.

Beginning in the 2016-17 school year, we launched a multi-year project to support schools in these efforts and to generate, analyze and share data and insights about these categories. The project objectives are to:

- **provide school teams in our portfolio with data and insights** that help them improve student outcomes on a range of indicators associated with long-term success;
- **supply them with evidence-based resources and supports** for improving instructional practices related to the indicators;
- **create or curate instruments that are valid and reliable** for measuring these data; and
- **advance the state of the art in practice, research and policy** regarding an expanded definition of student success.

While there is growing consensus that schools should focus on more than reading and math scores, the field lacks agreement on which additional indicators are most important and how to measure them. For decades, researchers from the fields of economics, psychology and sociology

have illuminated the complex multidimensionality of human development, calling attention to the incomplete measures that are traditionally used to assess student and school success.[2]

This has led to growing calls to leverage the science of human development to create and redesign schools with a focus on comprehensive student development. But how? Which competencies and culture/climate factors are most important? How can they best be measured and cultivated in schools?

In this brief, we share four of the insights we developed from this project in its first full year (2016-17 school year):

1. **Get started and commit to learning as you go. But get started.**
2. **Social-emotional competencies support improved academic development. And school culture/climate factors create the conditions for both.**
3. **Social-emotional indicators may not always rise in lock-step with students' development of those competencies.**
4. **Early analysis suggests our measures work. Educators and researchers can use these instruments in similar contexts with confidence.**

This brief includes design and implementation lessons we learned from working closely with school leadership teams and our research partner, as well as observations based on the data collected from more than 3,000 students at 23 schools across 11 states.
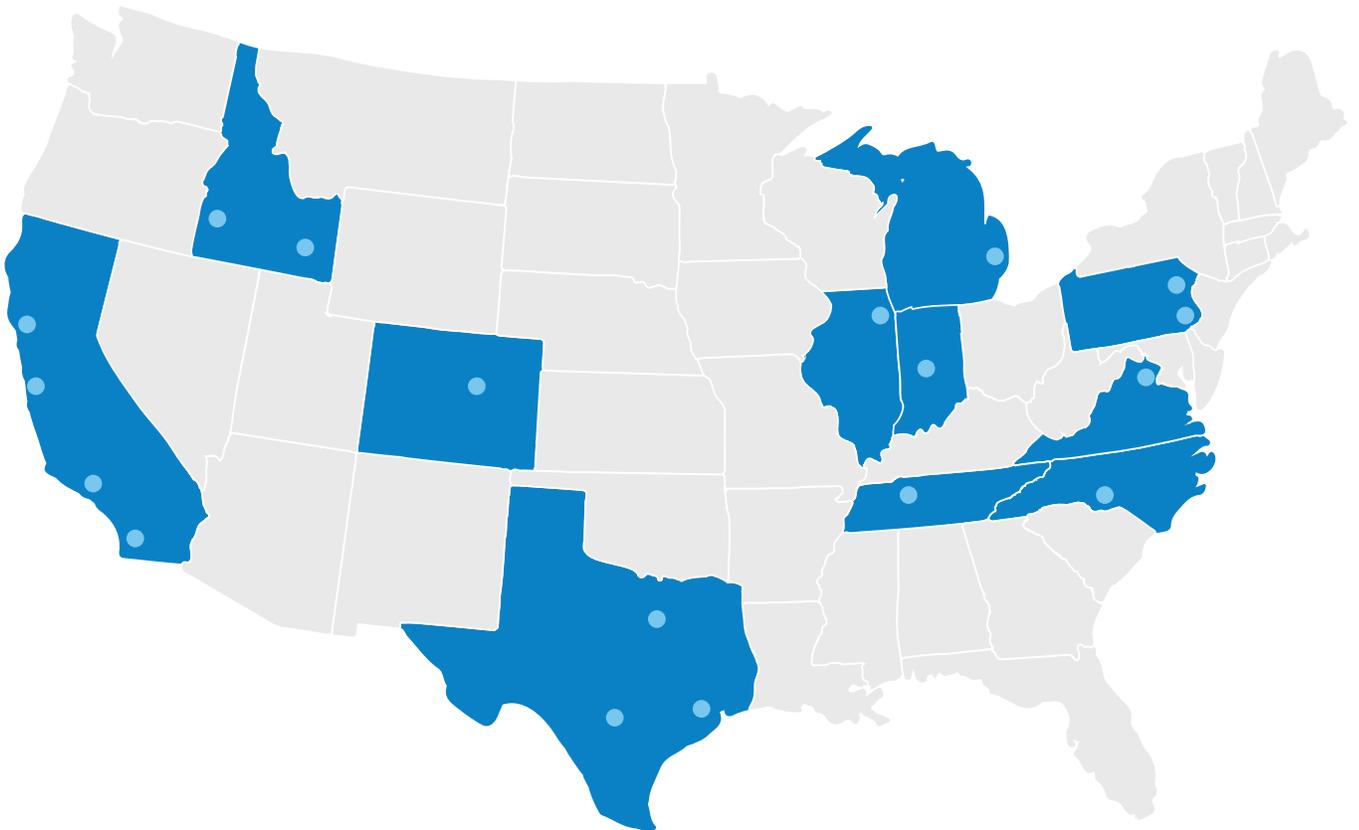
Get started and commit to learning as you go. But get started.

Making sense of a dizzying number of conceptual approaches is a tall order for any teacher or school leader. The American Institutes for Research recently cataloged 136 social-emotional frameworks in use by researchers, educators and other youth development professionals.[3] The Taxonomy Project at Harvard University is on a mission to map the points of alignment and difference across these frameworks to highlight what they have in common and where they diverge.

Amid this complexity, our team at NewSchools needed a way to support our growing portfolio of innovative schools as they design learning environments to support academic and social-emotional development. And more generally, we wanted to do our part to help the sector advance on how to measure and improve student development on this expanded definition of success.

We partnered with Transforming Education (TransformEd) in 2016 to design and execute a project aimed at selecting a set of indicators our schools could collectively focus on, so that they and we could develop a deeper understanding of how to effectively help students develop along a broader set of academic and social-emotional competencies.

Our aim was to make the project as valuable to our schools as possible, so in partnership with TransformEd, we asked each school leader to identify and explain the indicators they cared about in addition to academic outcomes. Collectively, they named more than 60 factors, including social-emotional competencies, cognitive skills, personality traits, and moral and social values.

We then filtered the full list through TransformEd's Three M framework, which has three steps:

1. Is it **meaningful**?
Evidence exists that the indicator is correlated with important short- or long-term outcomes. We relied on the University of Chicago's Framework for Young Adult Success and other studies to complete this step.[4]

2. Is it **measurable**?
It can be assessed in a school setting.[5]

3. Is it **malleable**?
The competency or skill can be developed in a school setting.[6]
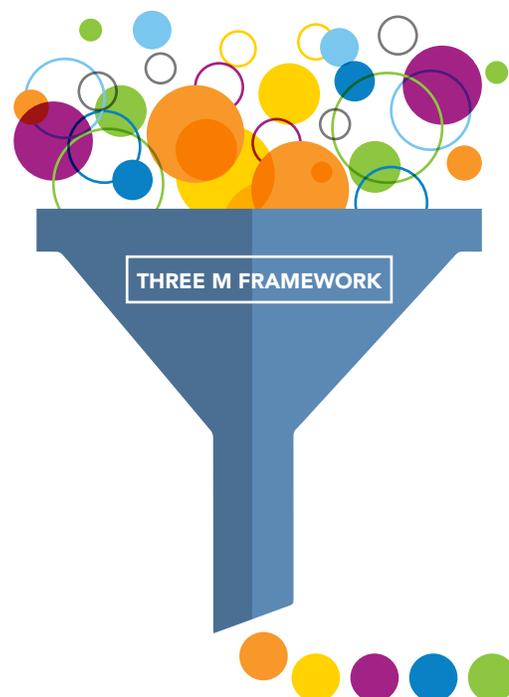
THREE M FRAMEWORK

Using the Three M framework resulted in the identification of seven shared mindsets, habits and skills across our portfolio:

- **growth mindset**
- **intellectual curiosity**
- **perseverance**
- **self-awareness**
- **self-efficacy**
- **self-regulation**
- **social awareness**

It also illuminated a group of seven priorities that could be more accurately described and measured as attributes of a positive learning environment:

- **cultural and linguistic competence**
- **learning strategies**
- **rigorous expectations**
- **school safety**
- **sense of belonging**
- **student engagement**
- **teacher-student relationships**

For now, we have adopted the term "social-emotional competencies" to describe the seven mindsets, habits and skills, even though the label has some definitional and conceptual limitations.[7] The field is still trying to sort out the best terminology but seems to be coalescing around this term. We refer to the aspects of the learning environment as "school culture/climate factors."

One lesson we learned about our project design and implementation is that although the 14 indicators were shared at the portfolio level, they represented more outcomes than any one school planned to focus on alongside their academic

results. For some schools, this number of data points was more overwhelming than useful. We are exploring the most effective approach to this challenge.

In the 2018-2019 school year, we will continue to measure all 14 constructs but are asking school leaders to identify up to three they intend to focus on for improvement. This will allow us to provide more targeted support to individual schools based on their priorities and needs, while also continuing to learn at the portfolio level and grow the aggregate datasets for future comparative and longitudinal analyses.

Social-emotional competencies support improved academic development. And school culture/ climate factors create the conditions for both.

As we surveyed the landscape to understand how researchers and schools were measuring various indicators, we observed that they frequently viewed our three categories separately. We also noticed that schools often try to improve academic performance and/or social-emotional competencies without acknowledging and addressing the learning environment as an enabler or inhibitor of student development and therefore, a critical component of creating equitable learning outcomes.

We have a long way to go to fully understand the connections between indicators and to act on them effectively. Our schools are committed to equity—holding high expectations for all students and ensuring outcomes are not predictable by race, ethnicity or family income—so the interdependencies between school culture/climate factors and academic and social-emotional development are of paramount importance to our work together.

We are mindful about the consequences of narrowly interpreting—or over-interpreting—early patterns in our data. Nevertheless, we are committed to learning with our schools in a formative way, even in the early years of the project. In that spirit, we have identified a few emerging patterns and are working with our schools and TransformEd to learn from them.

For example, **growth mindset—the belief that one's abilities can improve with effort—is the competency most strongly correlated with academic growth and proficiency in our schools, both in reading and math.** This is an exciting finding since it holds true for students across grade level and race/ethnicity status, and it confirms recent experimental research linking growth mindset to academic achievement.[8]

We also observed that **in the fall semester, student perception of school safety was the culture/ climate factor most strongly correlated with academic growth in both reading and math. Yet, in the spring semester, it was student perception of teachers' expectations.** With only a year of data, we don't know if these relationships will hold. But, if they do, we will dig deeper into their meaning and implications for practice.

TransformEd facilitates a "data deep dive" with instructional teams at each school within weeks of surveying their students. These empirically-grounded conversations provide space and time to celebrate and learn from school-specific bright spots, illuminate areas for improvement, and identify resources and interventions that address student needs. School leaders value these comprehensive data sessions as a cornerstone of reflective practice.[9] As the project continues, we are committed to working with TransformEd to strengthen these sessions to explore some of the connections between indicators. We also will work with researchers to understand more about which interventions are more effective under certain conditions.

Over the next few years, as our sample increases and our collective understanding of patterns in the data grows, we will share deeper and more comprehensive analysis and insights from the study.

Social-emotional indicators may not always rise in lock-step with students' development of those competencies.

A curious pattern emerges when we plot social-emotional competencies by grade level: across most, results seem to peak among elementary school students, dip among middle school students, and recover among high school students. The trendline is particularly pronounced when plotting grade-level indicators of intellectual curiosity, perseverance, and self-efficacy. It is somewhat less pronounced when looking at grade-by-grade indicators of self-awareness and social awareness; and even less so when looking at growth mindset and self-regulation.

We have only fully analyzed one year of data from our project. But, we can compare grade-by-grade competency trends across datasets.

For example, researchers using two years of competency data from the California CORE Districts, which serve more than one million students, have also observed a relatively steep decline in self-efficacy and social awareness indicators among middle school students, with a less steep decline in growth mindset and self-regulation.[10]

This raises interesting questions for our ongoing project, but also for the supports school leaders should provide teachers. Is there a predictable pattern whereby middle school students struggle to develop and exercise certain social-emotional competencies? Middle school teachers and developmental researchers would probably say yes, and our data seems to support what they

have observed anecdotally and accounted for with theory. How might educators in our portfolio of schools better support adolescents during the transition years of middle school?

What does "success" look like in a context where indicators might be expected to decline over a specific period? We usually associate learning, growth, and development with a pattern of ever-higher scores.

> When attending to the social-emotional needs of middle school students, we might rely on a more relative notion of success. Improvements may not always be measured by rising indicators.

Rather, interventions that "catch" students and prevent them falling below an expected threshold could be considered quite successful—even if the measure is still trending downwards. We should acknowledge this dynamic and provide teachers with the support they need to be successful.

Early analysis suggests our measures work. Educators and researchers can use these instruments in similar contexts with confidence.

We were eager to get started in 2016, so we worked with TransformEd to identify measures already in use for social-emotional competencies and school culture/climate factors. No single instrument met our needs, so we created two new instruments by assembling validated scales from existing surveys.

Our seven social-emotional scales included 39 items assembled from surveys used by:
- National Assessment of Educational Progress
- Chicago Consortium for School Research
- American Institutes for Research
- Collaborative for Academic, Social, and Emotional Learning (CASEL)
- California CORE Districts
- Washoe County School District in Nevada

Our seven scales of culture/climate factors included 36 items from:
- U.S. Department of Education's School Climate Surveys
- Panorama Education's School Climate Survey

Students need approximately 45 minutes to complete both surveys, which typically are administered during an advisory or homeroom period to minimize the impact on instructional time. Although self-report surveys have limitations, such as social desirability bias and reference bias, many measurement experts have embraced them as a practical tool for studying psychological forces like beliefs, attitudes, perceptions and values in multiple domains of human activity.[11] Self-reports have methodological advantages in school contexts, allowing researchers to reliably and easily assess students' inner states.[12]

We remain eager to work with other schools, researchers and funders to explore additional instruments that can be used to measure social-emotional competencies. But in the meantime, we feel responsible for ensuring our surveys are measuring the constructs our school leaders care about. After all, they are using the information to reflect on their designs and practices and making adjustments based on what they learn.

TransformEd engaged Education Analytics to assess the validity of our surveys using data collected in the first year of this project. Because we assembled 14 existing scales into two new survey instruments, we wanted to ensure these mash-ups preserved the integrity of the original scales in the contexts in which we are using them.

Survey validation is a continual process.[13] But initial findings suggest our social-emotional competency survey and school culture/climate survey are suitable instruments of the constructs they aim to measure in our portfolio schools. TransformEd and Education Analytics used tests of internal consistency, item discrimination, omit rates, differential item functioning, exploratory factor analysis and confirmatory factor analysis to arrive at this conclusion. TransformEd will soon publish a working paper that delves into the technical elements of how we designed the surveys and the results of the psychometric analyses.

In the meantime, school and system leaders, teachers, funders and researchers can use these instruments in similar contexts with confidence.

We are eager to partner with others to continue building a data set for these measures and to strengthen their use in practice, even as we continue to test their validity in the coming years. If you feel our surveys are a fit for your needs, we are eager to share them with you, along with our emerging lessons about their implementation in classrooms.

Looking Ahead

We expect to issue additional insight briefs periodically that build on and extend the lessons from our first year of this project. In the 2017-18 school year, we added another cohort of new schools, growing our partnership to 36 schools across the country that serve more than 11,000 students. We will also integrate attendance and suspension data into our analyses, exploring how these factors might be related to measures of academic growth and proficiency, competency development and perceptions of culture/climate. We are currently analyzing the data from 2017-18 and look forward to sharing patterns and lessons later this year.

The 2018-19 school year study will include at least 18 new schools that are joining our portfolio, which will again grow the robustness of our sample. As the data set continues to expand, we aim to look at longitudinal patterns by student subgroups. We will also explore the implementation of an innovative games-based measure of social-emotional learning that has compelling potential to quantify competency development.

In the meantime, we are eager to hear what you find most interesting about our lessons so far—and for you to share insights from your own efforts to expand the definition of student success. You can reach us at **jatwood@newschools.org** and **schildress@newschools.org**.

Endnotes

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9. Two examples of the feedback we received from school leaders about their data deep dives with TransformEd:
   "This info is the first I have seen that breaks down this type of data into material that I can use now and present easily to staff. When combined with our recent academic data, the alignment is spot-on and can be used tomorrow; not next month."
   "I was invigorated by our [data deep dive] conversation—you [NewSchools and TransformEd] shared the most compelling quants on our [school] culture I've witnessed this year."

10. CORE is a consortium of 10 districts throughout California that serve roughly 1.1 million of the 6.2 million K-12 students in the state. For a history of CORE, see:

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