



## Unpacking Noncognitive Skills

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When we decided to create this collaborative, we sought to fill gaps and address needs that weren't being met effectively in schools, academic and otherwise. Academic skills are often more straightforward and measurable, especially for teachers, and because of this we wanted to place special emphasis on the "other" skills. We have all found ourselves, at one point or another in our professional careers, stretched much too thin in an attempt to address not only academic deficiencies but those elusive, less concrete, non-academic behaviors that significantly contribute to (or detract from) the learning process. At BTEC, when we tutor a child in math, of course we want to see growth in particular math skills. But beyond that, we strive to grow students in other ways, and set out to determine exactly how to capture this. Deciding which skills in particular to focus on and how to assess these skills has proven an illuminating experience, and here we share some of our findings with you.

### **What the research says**

A plethora of labels exist for the skills we want to address: *Non-cognitive, social/emotional, soft, college-readiness, 21<sup>st</sup> century...* and more. Add to that list constructs like *executive functioning* and *emotional intelligence* and what's left is a bundle of skills/traits/aptitudes that researchers and educators agree are important, difficult to measure, and largely left out of the equation when it comes to conversations around educational reform (and funding). Below we unpack some of these labels and offer our interpretation of the abundant attention paid to this area recently.

**Non-cognitive skills.** There is no universal set of non-cognitive skills, however, extensive overlap exists among researchers. For our intents and purposes we'll discuss seven particular skills identified by the nonprofit research institute RTI in their 2010 report on Noncognitive Skills in the Classroom (find all 216 pages [here](#)): motivation, effort, self-regulated learning, self-efficacy, academic self-concept, antisocial/prosocial behavior, and coping/resilience. You could read the entire report, or you could take note of this particularly poignant excerpt from the conclusion of the meta-analysis:

"Studies of some attributes, such as motivation and self-efficacy, consistently find associations between these attributes and various academic outcomes. However, for many of these concepts, such as effort, self-regulated learning, and coping, scholars do not have a well-established base of measurement, and, thus, it is difficult to determine how much these matter for academic outcomes" (p. 203).<sup>1</sup>

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<sup>1</sup> Rosen, J. A., Glennie, E. J., Dalton, B. W., Lennon, J. M., & Bozick, R. N. (2010). *Noncognitive skills in the classroom: New perspectives on educational research*. RTI Press publication No. BK-0004-1009. Research Triangle Park, NC: RTI International.

A common theme in nearly all of the copious literature we reviewed again comes up here: These skills seem important. These skills are hard to measure.

**The Big 5.** This personality assessment is widely used to measure non-cognitive skills by evaluating individuals' neuroticism, extraversion, openness, agreeableness, and conscientiousness. However, [multiple studies indicate](#) that while these traits may be able to predict future performance in the job market, they're also quite consistent over time and largely dependent upon culture, thus less malleable.<sup>2</sup>

**21st Century Skills.** In 2011, Hanover Press created a [Crosswalk of 21st Century Skills](#), essentially combing the literature and combining six different lists of such skills, noticing areas of overlap and dischord. Only four skills were mentioned in all six lists: collaboration and teamwork, creativity and imagination, critical thinking, and problem-solving.<sup>3</sup> While true consensus does not exist (some lists extended the definition of these skills to include topics like financial literacy and technological savvy), one thing is for certain: the job market is changing, and so too must educators' cultivation of specific skills that have been shown to increase postsecondary success and employability.<sup>4</sup>

**Soft Skills.** Searching for soft skills proves even less fruitful, though one business blog provides a handy list of [87 Soft Skills](#), difficult to measure but helpful for job descriptions or resumes.<sup>5</sup> Lucinda Fickel offers a fresh perspective in her opinion piece, [What's In a Terrible Name?](#), positing, "But can we break free from equating "soft" with "easy," and, by extension, "unworthy of effort or attention"?"<sup>6</sup> (She also describes how she pictures *executive functioning*: "preschoolers in business suits toddling off to a corporate conference room for a marshmallow test." It's worth the quick read.)

**Other traits.** In addition to the skills mentioned above, researchers have recently emphasized traits like perseverance and grit. Angela Duckworth developed a [12-item grit scale](#) that largely predicted success in multiple contexts. She defines grit as, "passion and perseverance for long-term goals," (more [here](#)) and through her research found that grit doesn't correlate to intelligence, talent or luck; rather, grit captures intensity and describes something that intelligence doesn't.<sup>7</sup>

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<sup>2</sup> Zhou, K. (2016). Non-cognitive skills: Definitions, measurement and malleability. Paper commissioned for the Global Education Monitoring Report 2016, Education for people and planet: Creating sustainable futures for all.

<sup>3</sup> Hanover Research. (2011). A crosswalk of 21st century skills. Washington, D.C.: Hanover Research.

<sup>4</sup> Nagoka, J., Farrington, C. A., Roderick, M., Allensworth, E., Keyes, T. S., Johnson, D. W. & Beechum, N. O. (2013). Readiness for college: The role of noncognitive factors and context. VUE Fall 2013 (Chicago Consortium on Chicago School Research).

<sup>5</sup> Mar, Anna. (2016, July 7). 87 soft skills. *Simplicable Business Guide*.

<sup>6</sup> Fickel, Lucinda. (2015, May 1). What's in a terrible name? *U.S. News*.

<sup>7</sup> Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-1101.

Perhaps the most comprehensive synthesis of relevant research into grit and perseverance is Paul Tough's 2012 [How Children Succeed](#), which astutely summarizes substantial studies in the fields of psychology, education, neuroscience and economics to name a few.<sup>8</sup> Tough's constructs touch on nearly everything else we're discussing here, so we'd argue this is a must-read for educators and policymakers, offering a wealth of anecdotes of people, schools and communities that got it right.

**Social-Emotional Learning.** Yet another moniker for the skills we're discussing, social-emotional learning (SEL) describes, "the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions" (the Collaborative for Academic, Social and Emotional Learning - [CASEL](#)).<sup>9</sup> Sensing some overlap? Us too.

In theory, all K-12 schools in Illinois should have adopted the [SEL standards](#) as part of the state's overall learning standards, and should be planning programming accordingly. While this has happened to [varying degrees across the state](#)<sup>10</sup>, by no means is this a consistent practice, nor is it one that schools are held accountable for. Are there schools in IL aligning their practice with these standards? Absolutely. But to what degree? And what kinds of programs are most successful? CASEL provides an abundance of research which attempts to answer these questions, much of which can be found [here](#).

Perhaps the most striking boon to SEL comes from a recent [Columbia University study](#)<sup>11</sup>, which found that for every \$1 invested in SEL, there is an \$11 return on investment in long-term benefits. These aren't just individual benefits; we're talking substantial systemic impact (money saved) on everything from the criminal justice system to unemployment benefits and public health.

Because of these jarring statistics and their alignment with our interest in systemic change, and many schools' progress in the area of SEL, we decided to use these standards as a framework around which to align our programming. We incorporate SEL skills into our summer enrichment experiences, and assess all tutoring clients to determine how we can better tailor their lessons to best support them academically and emotionally.

**Measurement.** Not to belabor the point, but it appears no true consensus exists for measuring these various constructs. The Regional Educational Laboratory (REL) offers abstracts and

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<sup>8</sup> Tough, P. (2013). *How children succeed: Grit, curiosity, and the hidden power of character*. New York: Houghton Mifflin Harcourt Publishing Company.

<sup>9</sup> CASEL. (2017). What is SEL?

<sup>10</sup> Gordon, R., Ji, P., Mulhall, P., Shaw, B., & Weissburg, R. P. (2011). Social and emotional learning for Illinois students: Policy, practice and progress. *The Illinois Report 2011*.

<sup>11</sup> Belfield, C., Bowden, B., Klapp, A., Shand, R., & Zander, S. (2015). The economic value of social and emotional learning. *Center for Benefit-Cost Studies in Education, Teachers College, Columbia University*.

research briefs focusing on measuring non-cognitive skills, so if you're interested in journeying down that rabbit hole, [enjoy](#). We've gotten some useful rubrics, assessments and samples from Laura Greenstein's 2012 book [Assessing 21st Century Skills](#), and find congruence and adaptability when aligning these resources with the SEL standards.

But at the end of the day, there's no magic pill. You can't just say "we're going to focus on (insert skill here)..." because, just like with intelligence or academic aptitude, students' skill levels vary. So, just like with academic skills, the most successful interventions occur when districts, schools and educators can assess need and fine tune their focus to fill whichever gaps emerge, through both individual and universal interventions. Once interventions are in place, one cannot underscore the importance of collecting pre- and post- data to track student self-perception and growth, and through this cycle continue to identify and address emerging trends and equip our students for lifelong success.

*For more information about how BTEC can support your district or school with SEL-related programming, visit: <https://www.bettertogethercollab.com/school-based> or email us: [bettertogethercollab@gmail.com](mailto:bettertogethercollab@gmail.com). If you'd like to see how we've adapted the SEL framework into student pre-assessments or want help doing the same, reach out!*