

MindPrint Research Brief

The Learner Variability Project's Preliminary Results of MindPrint Learning

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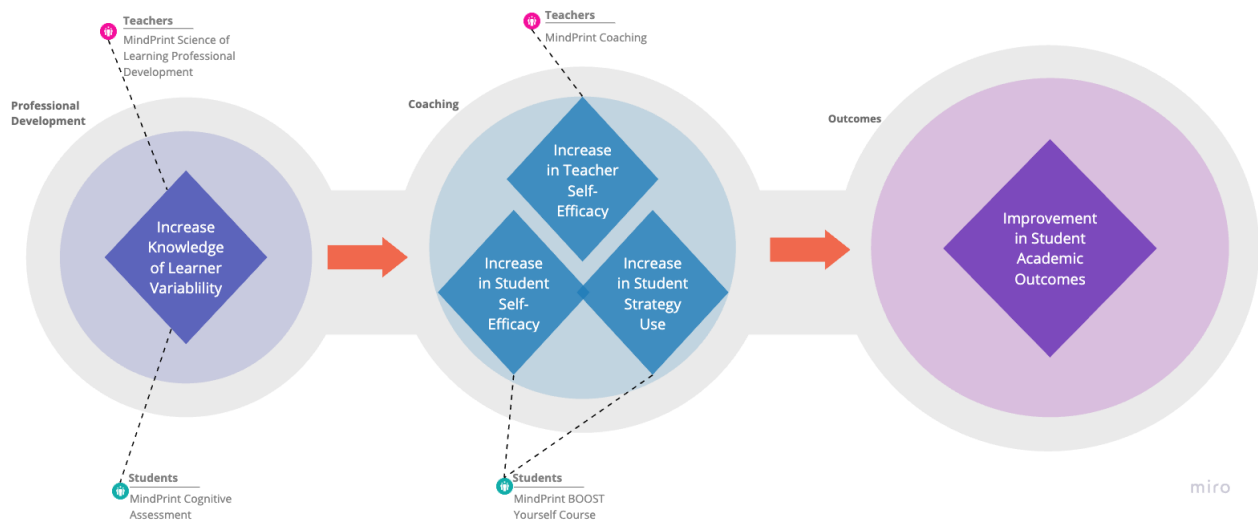


MindPrint
learning

The promise of *MindPrint's* Solution to support teacher practice and student outcomes is the focus of a study currently underway by *The Learner Variability Project* at *Digital Promise*. Funded by the Walton Family Foundation as part of their effort to better understand the power of alternative assessments, this exploratory study is tracking the implementation of MindPrint in a wide variety of education contexts, identifying where MindPrint shows the most promise. Pre and post teacher and student survey data, combined with teacher interviews and robust implementation data, provides the grist for change analysis.

MindPrint's Theory of Change (TOC) holds that understanding student cognitive skills and providing strategies to support these skills will give both teachers and students more information to improve student learning. The TOC posits that cognitive skills, self-efficacy, and academic growth are tied together. However, education systems often try to inform academic outcomes and self-efficacy without an understanding of student cognition. Providing data on the variability of cognitive skills can create a focus on the whole student by filling in important gaps in how students learn and process information. Filling this gap is akin to finding the missing puzzle piece needed to increase student self-efficacy and create academic gains.

This exploratory study focuses on the first two steps of this TOC, mainly whether access to data on student cognitive skills increases awareness of cognitive variability, leading to changes in self-efficacy at two levels. On one level, we investigate whether teachers see an increase in their personal beliefs about their ability to make a difference in student learning through the application of strategies leveraging cognitive strengths at the classroom level. At the second-level we look at how student's self efficacy changes when students have information and strategies to support their personal cognitive strengths and needs skills. This work is especially salient given the research showing an increased sense of self-efficacy is linked to better student outcomes (e.g., Bruce et al., 2010; Caprara et al., 2006; Zee & Koomen, 2016). This Theory of Change (TOC) is illustrated below:



Early findings from the first cohort of 3 schools suggest the TOC is starting to prove itself. In the first of the three steps, providing one professional development session on the science of learning to develop knowledge of learner variability **85% of teachers** hope that their school continues to administer the MindPrint assessment and provide them with student cognitive profiles. The share of teachers hoping for the continuation of the MindPrint Assessment is particularly salient considering that a 2021 teacher morale survey by EAB found that only 28% of teacher respondents were “eager to implement new school or district initiatives.” In addition, **56% of students** agreed that their MindPrint Profile improved the way they think of themselves as learners. These numbers show strong awareness and appreciation of the value cognitive data can provide to both teachers and students.

In Step 2, researchers looked at data for the intermediate outcome of increased self-efficacy using the Teacher Self-Efficacy Beliefs Scale (TSEBS). The TSEBS was administered prior to teacher engagement with MindPrint and a second time after teachers attended a single professional development session and 2 to 3 coaching sessions where they were taught how to use MindPrint data and apply recommended strategies. On two key questions about teacher self-efficacy directly related to the MindPrint intervention, there was positive improvement. Note that the researcher limited the analysis to include only those teachers who had room to grow on the TSEBS, i.e. they weren’t already strong/very strong in their beliefs.

- Teachers’ belief that they could provide students with specific feedback about their learning (n=6 teachers) **67% increased their sense of self-efficacy** on this specific question.

- Teachers' belief that they could provide students with suggestions for improving their learning (n=7 teachers), **71% increased their sense of self-efficacy** on this specific question.

Using *Panorama's* Student Self-Efficacy Scale (SSES), researchers also measured the change in students' sense of self-efficacy before taking the MindPrint Assessment and after a few sessions with MindPrint's BOOST Yourself Course taught by their teacher.

- Of the 138 students (out of 186 with pre and post data) who had room to grow on the SSES, **52% increased their sense of self-efficacy.**

As researchers continue this study with Cohort 2 teachers and students, they will be further evaluating the contexts and pathways where positive mindset shifts seem to be happening.

References

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About the Author



Dr. Jennifer Stillman conducts research for the Learner Variability Project at Digital Promise. She previously worked at New Classrooms Innovation Partners, where she served as the Director of Assessment and Evaluation, delving into better understanding the most effective aspects of Teach to One, a personalized math learning model. Previously, she worked as a researcher for the New York City Department of Education's Office of Innovation, studying early blended learning models and whole school redesign efforts. Jennifer's commitment to school innovation also included many years of service on the board of the International Charter School in Brooklyn. As the author of "Gentrification and Schools," Jennifer is an advocate for making progress where it can be made, even if entire systems cannot easily be changed. Prior to earning her doctorate in Politics and Education at Teachers College, Columbia University, Jennifer taught government and politics to high school students in Brooklyn, the Bronx, and Fairfax County (Virginia), and served as a research, press, and legislative assistant to U.S. Senator Harry Reid.