

# **A Behavioral Science Approach to Driving Positive Outcomes in K-12 Education**

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## Introduction

I am a Managing Director for ideas42, a non-profit design and consulting firm, working with the Ohio Department of Education to develop, implement, and measure a pilot program titled “Engagement First” to improve academic and postsecondary outcomes for students in the Paint Valley School District. The Paint Valley School District has struggled with academic outcomes for decades and has worked with the Ohio Department of Education to approve a pilot program to test a system that addresses student engagement, agency, and identity gaps. The Paint Valley School District will work with ideas42 to produce, implement, and measure a modular learning program to be activated in the high school.

## Context

### *Paint Valley School District*

Established in 1959, Paint Valley High School (PVHS) is a small public high school set against a picturesque Appalachian Mountain backdrop just outside the village of Bainbridge, in rural southern Ohio. The Paint Valley Local Schools district instructs pre-K through 12<sup>th</sup> grade students, houses a Superintendent, an Assistant Superintendent, two District Administrative Assistants, a Treasurer, two Assistants to the Treasurer, and a Nutrition Director (Paint Valley Local Schools, 2023). As of 2022, the high school has a total enrollment of 230 students, with enrollment trending downward in the past 20 years, carries a student to teacher ratio of twenty-nine to one, and a minority enrollment rate of 4.8%, according to U.S. News (US News, 2023).

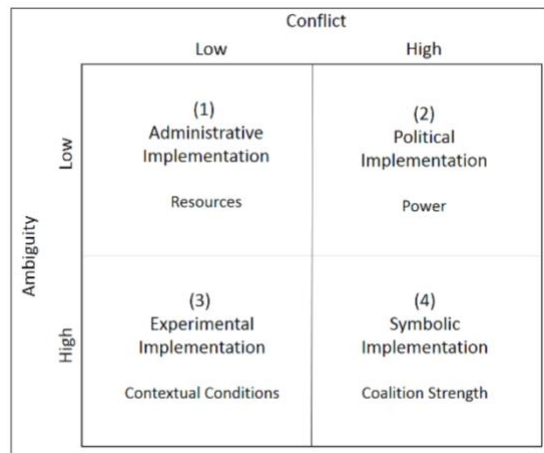
In 2022, U.S. News ranked PVHS in the bottom 25<sup>th</sup> percentile nationally, and among the bottom 30<sup>th</sup> percentile in Ohio. These rankings are based on six ranking indicators that include college readiness, college curriculum breadth, state assessment proficiency, state assessment

performance, underserved student performance, and graduation rate (Morse & Brooks, 2022). and well below expectations. The school scores well below the Ohio average in state graduation tests at 17.5%, and below the state average (50%) in mathematics proficiency at 27% (US News, 2023). Reading and science proficiency data was unavailable for PVHS at the time of this report.

Aside from the strong athletics platform, PVHS is weak on extracurricular opportunities, most notably periphery and elective classes. Despite having a smaller student body, teaching responsibilities are stretched across eight full-time teachers, allowing little time and resources to offer support or course options beyond the core curriculum.

*Policy implementation*

From No Child Left Behind (NCLB) of 2001 to the Every Student Succeeds Act (ESSA) of 2015, top-down policies have had little impact on academic performance at Paint Valley. As education researcher Jonathan A. Supovitz (2021) finds in a report on New Jersey’s 2015 opt-out movement, many public schools fall into a low conflict high ambiguity area of policy implementation, requiring additional guidance as well as resources to implement policy (Supovitz, 2021). With limited resources and few positions to manage the interpretation and implementation of new education programs, Paint Valley requires support via funding and strategic guidance to see successful implementation of polices.



*Figure 1 Ambiguity-conflict model of policy implementation (Matland, 1995)*

### *Behavioral barriers to academic achievement*

Focusing on high school outcomes, we at ideas42 propose a vision to improve instructional quality, student engagement, and as a result, student outcomes. To build this vision, we call attention to three core behavioral barriers that are common in K-12 systems.

First, by leveraging the behavioral concept of identity salience—evoking identities conducive to desired outcomes at the right times—we can encourage students to think of themselves as the types of people who pursue postsecondary education (Ross, White, Wright, & Knapp, 2013). When students view themselves as scholars, engaged citizens, and future leaders, they are more likely to make decisions that are conducive to desired outcomes.

The second barrier to better academic and postsecondary outcomes is our tendency to overemphasize decisions that affect us in the present and underemphasize decisions that affect us in the future. Helping students develop specific, actionable goals can close the gap between their current and future selves—what behavioral science researchers deem future self-continuity (Rutchick, Slepian, Reyes, Pleskus, & Hershfield, 2018). Bringing the future closer to the present allows students to envision a future that is more relevant and more attainable.

The third barrier is availability bias—our tendency to perceive the probability of an occurrence as being higher if it comes to mind more easily (Tversky & Kahneman, 1973)—can alter students' expectations about career opportunities after high school. This is not hard to imagine with the average screen time for teens aged 13-18 exceeding eight hours (Moyer, 2022). Daily

exposure to athletes, artists, influencers, and more can skew what’s possible or probable from a postsecondary or career perspective. Policymakers, citing recent research<sup>1</sup>, can help to correct for skewed expectations by making more attainable career goals more salient in the minds of students. Ideas42 suggests that schools and administrators overcome this barrier by scheduling “career tours” and other educational field trips that provide students with a vivid, memorable experience of what different career paths for them could be like (Ross, White, Wright, & Knapp, 2013). Connecting students with professional leaders with shared identities can help students envision career opportunities and make decisions to proceed down the postsecondary pathways to reach these professional outcomes.

## Vision

We envision an Engagement First program that emphasizes student and teacher agency through identity development and autonomy, thus leading to more engaged students and staff, and better academic, postsecondary, and teacher health outcomes measured through changes in attendance, test scores, graduation rate, postsecondary completion, teacher employment longevity, and student and teacher happiness indexes. See Table 1 Engagement First Theory of Action for more detail.

Citing Mehta and Fine’s 2019 analysis on deeper learning, we’ve identified *mastery*, *identity*, and *creativity* to be reliable objectives to meet our desired outcomes for the district (Mehta & Fine, 2019). In developing our change strategies, we reference Bryk et al.’s (2010) “instructional

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<sup>1</sup> Researchers in one experiment found that students encouraged to have career goals requiring college were more likely to turn in extra credit, which is a promising sign of academic effort (Oyserman & Destin, 2010).

triangle,” linking engagement and interactions between teachers, students, and the environment (Bryk, Allensworth, Sebring, Easton, & Luppescu, 2010).

Using these sources as guidance, we are recommending the following outcomes and measurement strategies:

**Outcome 1: *An engaged student body, an engaged educational staff***

- Key performance indicator/s: attendance rate; test scores; graduation rate, happiness index (survey)
- Objectives:
  - Student participation & peer-to-peer engagement is prioritized during in-class sessions.<sup>2</sup>
  - Students are provided with autonomy & choice through learning modules, different paces, and a culture where failure is accepted as part of learning process.
  - Students take on a problem or objective of their choice, producing material of lasting value through projects they are passionate about.
  - Student/faculty/school leadership exposure to social and emotional learning (SEL) programs that are associated with improved attitudes, behavior, and academic performance, preparing students for professional environments and real-world challenges.<sup>3</sup>

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<sup>2</sup> A 2019 study measuring the link between classroom talk and student achievement found that students who talked and argued more in language arts lessons had better performance results on reading literacy tests (Sedova, et al., 2019).

<sup>3</sup> See the Durlak et al. (2011) meta-analysis titled ‘The Impact of Enhancing Students’ Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions’ that shows an 11-percentile-point gain in academic achievement for students exposed to SEL programs.

- Adoption of a competency-based pedagogy to incentivize mastery of content (Mehta & Fine, 2019, pp. 226-227).



## **Outcome 2: *Postsecondary success***

- Key performance indicator/s: college enrollment, employment 5 years post-graduation, happiness index (survey) 5 years post-graduation
- Objectives:
  - Students take on a problem or objective of their choice, producing material of lasting value through projects they are passionate about.
  - Student/faculty/school leadership exposure to social and emotional learning (SEL) programs that are associated with improved attitudes, behavior, and academic performance, preparing students for professional environments and real-world challenges.<sup>4</sup>
  - A staff, pedagogy, curriculum, and school setting that encourages engagement & ‘deeper learning,’ connecting core curriculum to real-world issues.
  - Students are self-reflective (Mehta p. 47), prepared for to be “productive citizens” post K-12 (Mehta p. 55)

## **Outcome 3: *Teacher health***

- Key performance indicator: teacher employment longevity, satisfaction survey, VAMs
- Objectives:
  - Teachers have ownership in all levels of the policy actor framework, as defined by Ball et al., 2011, leading to more teacher agency, better instruction, and in turn, better student engagement.<sup>5</sup>

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<sup>4</sup> See the Durlak et al. (2011) meta-analysis titled ‘The Impact of Enhancing Students’ Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions’ that shows an 11-percentile-point gain in academic achievement for students exposed to SEL programs.

<sup>5</sup> Teachers to act as Narrators, Entrepreneurs, Outsiders, Enthusiasts, Translators, Critics, and Receivers to guide & implement policy change (Ball, Maguire, Braun, & Hoskins, 2011).

- Students and teachers together practice educational symmetry by emphasizing autonomy, production, purpose, and passion.
- The district to work with ideas<sup>42</sup> on evaluating value-added models that reflect teacher, IL, principal, and modular learning program success.

## Change Strategies

The Paint Valley school district will leverage a federated educational system that allows for a balanced distribution among central offices and schools (Peurach, Yurkofsky, & Sutherland, 2019). Deviating from the default sorting, resourcing, and delegating approach of the past<sup>6</sup>, teachers are placed in a position of leadership, alongside principals, closer to the top of the educational pyramid, and provided choice and agency on how to interpret overarching educational goals (Evers & Kneyber, 2016; Peurach et al., 2019; Peurach & Yurkofsky, 2018). The district office and instructional leaders (ILs) will be responsible for the environmental relationships of this system, ensuring that the infrastructure components are aligned with policy requirements and community values. The district office and ILs will rely on local knowledge of the schools and the discretion of teachers and school leaders to use, adapt, and extend this infrastructure such that it meets the needs and context of the students, families, and communities.

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<sup>6</sup> In Peurach et al. (2019), the authors detail the historic pattern of central offices sorting students into neighborhood schools, and schools sorting students into classes, academic tracks, and remedial/compensatory programs. Central offices and schools then resourced those instructional venues with teachers, curriculum frameworks, textbooks, and other instructional materials. Individual teachers were delegated primary responsibility for organizing and managing the day-to-day specifics of instruction for the students assigned to them using the resources afforded to them (Peurach, Cohen, Yurkofsky, & Spillane, 2019).

Ideas42 will work with the central district office as an outside agency to establish an educational infrastructure and guide academic leadership in the development, implementation, and measurement of the following four learning modules:

- **Module 1 (Learn):** a required module accompanied by standardized lessons and a testing infrastructure according to state requirements.
- **Module 2 (Apply):** an optional module encompassing a public service and field work component to build student professional skills, encourage student agency, grow student identity, and establish achievable pathways to postsecondary success.
- **Module 3 (Engage):** an optional module to build peer to peer and socio-emotional skills and encourage the integration and engagement of students from different socioeconomic backgrounds.
- **Module 4 (Produce):** a required module to be completed in the final year of high school, supporting student creativity, autonomy, identity, & passion for work.

### *Socio-emotional learning (SEL)*

In addition to the four modules, a holistic approach to socio-emotional learning (SEL) will be included in Module 1 as a graded lesson plan. All teachers, teacher leaders, specialists are required to attend an introductory lesson, and will practice SEL principles as a core belief system throughout the entire educational ecosystem.

### *Instructional Leaders (ILs)*

Ideas42 recommends that the district office designate instructional leaders who are closest to the communities and the schools to provide implementation plans, learning themes, and develop an

accountability system to ensure schools have the resources required for implementation, understand the objectives and desired outcomes of the pilot, and understand the expectations and requirements for measuring these outcomes. These ILs should be leaders who are familiar with the school district and have a responsibility for building a “learning community” consisting of the districts’ principals. The ILs should practice bridging principals to other central office personnel to enhance the instructional support services available to their schools (Honig, 2012). The ILs are responsible for planning and debriefing sessions to coordinate the instructional learning process, planning principal conferences to offer instruction and support, communicate learning themes, and discuss operational issues, and scheduling walk-throughs to build principal capacity (Hubbard, Mehan, & Stein, 2006).

The district office will work with the state to earmark funds for school staff development, ensuring that educational staff within the schools have the skills and motivation to deliver this pilot effectively and efficiently. Teachers, principals, and other academic leaders will be encouraged to choose from a selection of courses at the local university to develop the skills necessary to engage with students in this new capacity.

### *Student engagement*

We believe increasing student engagement is at the crux of reaching the target academic and social outcomes set forth by the Paint Valley School District. To increase engagement, we recommend establishing a pedagogy that minimizes in-class lecture time and maximizes in-class engagement. The Paint Valley School District should invest in learning tools that allow teachers to record and deliver lecture material remotely. All students should have access to a device to

review lecture materials from home and come to class prepared to engage with other students and teachers. Not only will increased outside-class learning resources open up opportunities for further in-class peer to peer and peer to teacher engagement, we believe that this structure will free up valuable time for teachers and staff to build on their professional skills, collaborate with peers and establish cross-discipline course offerings, build on to the school's extracurricular offerings, and more.

### *Teacher & education staff accountability*

The passage of ESSA in 2015 allowed states the freedom to interpret federally mandated concepts such as teacher evaluation systems (Close, Amerein-Beardsley, & Collins, 2020). Whether or not states are using this flexibility to improve accountability measures is a topic of debate. Close et al. (2020) discuss the use of value-added models (VAMs) to assess teacher performance. One example of a VAM and the most common open-source model was the student growth percentiles (SGP) model, in which each student's growth percentile is calculated by estimating the distribution of student test scores in a given year conditioned on prior test scores using quantile regression (Kurtz, 2016). Close et al. conducted surveys of state education personnel from every state and the District of Columbia, finding that VAMs are still in use but losing popularity across state departments of education. While post-ESSA teacher evaluation systems have led to increases in stakeholder input and formative feedback, they are not often used as part of teacher evaluation scores. The authors suggest that the increase in lawsuits between teacher unions and state departments may have contributed to the change in teacher evaluation systems.

We advise the Paint Valley Local School District work with the state to develop a teacher evaluation system that is more feedback-oriented, less punitive, and specifically meets the proposed outcomes and practical nature of this novel education system.

## Considerations

### *Teacher development*

Learning to teach to a new education system, especially one that includes such rigorous training and academic inquiry as SEL, presents a unique challenge to teachers, principals, and staff members. Hubbard et al. (2006), in their book *Reform as Learning*, find that the continuous development of teachers around what concepts and skills need to be taught, and how the concepts and skills should be taught, as core to a successful instructional improvement effort (Hubbard, Mehan, & Stein, 2006). Job-embedded professional development, Hubbard notes, encompasses all faculty at a school, extends over time, incorporates classroom practice, and includes classroom-based coaching.

This learning includes not just teachers, but importantly, the principals, administrative staff, and skills-based professionals as well. As a starting point, we recommend that the Paint Valley School District make arrangements for school principals to travel to external districts to shadow programs that are more aligned with the proposed pedagogy. This would include districts already incorporating SEL into their pedagogy, achieving high student engagement, and showcasing exemplary academic and postsecondary outcomes such as graduation rates and college enrollment. Additionally, principals, responsible for overseeing this new belief system, should build experience in working with teachers as learners. These skills can be gained by attending classroom sessions and interacting with teachers and students but should also incorporate

training programs for principals to attain or build on this unique skillset. The school district should ensure principals have access to these resources.

To assist with SEL instruction, we recommend that the Ohio Board of Education earmark funding for Paint Valley Local School District to offer teachers, principals, and staff the opportunity to attend university courses in SEL instruction, in addition to courses relevant to their continued development. These courses could come in the form of summer programs or autonomous university courses or could be incorporated into the work environment. Not only are these courses useful in improving teaching skills and thus improving student outcomes, they are also known for promoting teacher agency, engagement, well-being, career longevity.

Additionally, we recommend the school district select an outside contractor, such as Second Step (Second Step, 2023), to offer program design and implementation support to ensure SEL is implemented holistically and effectively across the entire district.

In addition to outside instruction, Paint Valley can look to collaboration methods within the school system, such as “joint inquiry”, to adapt to and optimize these new learning strategies. In literature review, education researcher Elizabeth Stosich (2016) finds that teaching to standards requires developing new understandings of familiar ideas, forsaking in previous practices and beliefs to develop alternative ones to meet new goals, and assuming risk to self-concept and teaching identity when accepting logic behind new standards and academic approaches (Stosich, 2016). With these challenges in mind, we recommend pairing teachers with instructional leaders provided by the district office that can encourage collaboration and joint inquiry, promoting a

shared investigation in analyzing and adapting to meet the goals of the new standards and the needs of their students.

### *Cost, Time, and Other Resource Limitations*

Outsourcing SEL training, transporting students to off-site locations for professional learning experiences, providing educational resources for principals, teachers, and staff, all require significant financial investment. Placing decision making responsibilities at the local level, while providing for further contextualization and other qualitative benefits, puts tremendous strain on the teachers, principals, and staff members tasked with implementing the education reform.

While the Ohio State Department of Education has underwritten funds for training and implementation of the pilot, and the district should continue to apply for grants through The Ohio Grants Partnership<sup>7</sup>, we recommend the district look to cost-saving measures that have helped schools like High Tech High in San Diego open financial liquidity for new learning priorities. Restructuring to build a network of peer coaches, cutting costs allocated to teacher aides to grow full-time teaching staff, and reducing the cost burden on standardized test prep<sup>8</sup>, could free resources for the new education system.

### *Incubation versus procreation paradox*

Locally driven initiatives can lead to an incubation versus procreation paradox in which the school requires capacity building at the site level while also requiring capacity at the district

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<sup>7</sup> One relevant grant example includes The Big Yellow School Bus program which offers up to \$500,000 to schools and other educational groups to defray student transportation costs to professional arts and diverse cultural activities (The Ohio Grants Partnership, 2023).

<sup>8</sup> States spend over \$1.7 billion each year on standardized testing (Ujifusa, 2012).



level (Honig, 2004). Honig highlights a case in an Oakland school district in which policy makers work with implementers to make sense of the implementers' goals, strategies, and experiences, and determines the resources, policies, and other supports that can enable implementation. We believe this task is best suited for the ILs to provide a two-way directionality in the flow of information between frontline policy implementers at the local level and policymakers at the district level.

#### *Opt-in to Optional Modules / Surveys*

Modules 2 and 3 (and post-graduation surveys) will require effort from students and their families in the form of deviating from an education system in which they understand and are comfortable. Deviating from a standard lesson plan and test format presents a sort of moral dilemma for students and parents. Moving away from the inertia of a long-standing academic system is challenging, regardless of background, and despite having research to support the program, there is no guarantee that the program will be a success. It is worth noting that the families who are more time and resource taxed (e.g., single parent household, lower socioeconomic status, less educated) are more likely to opt for the standard lesson plan and test format. To counter this, the Paint Valley School District will offer a small incentive in the form of student aid to those choosing to opt-in to Module 2 or Module 3. Families can choose among a list of options that include access to private tutoring, certificates to buy textbooks or other school resources such as athletic gear or equipment for extracurricular activities.

## Index

### *Socio-Emotional Learning (SEL)*

From 1987-1992, an education and research team spearheaded by Timothy Shriver and Dr. Roger P. Weissberg began the New Haven Social Development program, pioneering SEL strategies for K-12 education (CASEL, 2023). CASEL, an organization founded in 1994 whose mission is to establish high-quality, evidence-based SEL as an essential part of preschool through high school education, defines socio-emotional learning (SEL) as “the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions” (CASEL, 2023).

Popular SEL programs include lesson plans encompassing students in CASEL core competencies such as self-awareness, self-management, social awareness, relationship skills, responsible decision-making and more. Students are guided through lessons that have them explore factors crucial to social and emotional well-being, which can include but are not limited to:

- Exploring aspects of identity
- Assessing individual interests and strengths
- Discussing healthy factors in pursuing interests
- Considering the future self and mapping a path forward
- Understanding the social factors behind bullying and methods to disrupt harmful bullying patterns

- Identifying stress and anxiety, and strategies for managing stress
- Identifying core values and the behaviors that demonstrate these values
- Managing relationships and recognizing other perspectives
- Managing unhealthy relationships and conflict resolution

See a full Scope and Sequence lesson plan for middle school students at SecondStep.org (Second Step, 2023).

Grade 6

### Unit 3: Thoughts, Emotions & Decisions

**Program Themes:** Conflicts, Resilience, Staying Calm, Thoughts and Emotions

**CASEL Core Competencies:** Self-Awareness, Self-Management, Social Awareness, Relationship Skills, Responsible Decision-Making

| Lesson Title   | Objectives<br>Students will be able to:  |
|--|--|
| <b>Lesson 14</b><br>What Emotions Tell You                                     | Describe why emotions matter in their lives.   |
| <b>Lesson 15</b><br>Emotions and Your Brain                                    | Describe what happens in their brains when they feel a strong emotion.   |
| <b>Lesson 16</b><br>How Emotions Affect Your Decisions                         | Describe how strong emotions can influence the decisions they make.  |
| <b>Lesson 17</b><br>Managing Your Emotions                                     | Demonstrate and evaluate strategies for managing their emotions.   |
| <b>Lesson 18</b><br>What Works Best for You?                                   | Determine the emotion-management strategies that work best for them and choose the best strategy to use in a situation, given the context. |
| <b>Lesson 19-Performance Task</b><br>Raising Awareness About Managing Emotions | Apply their knowledge from the unit to promote awareness about emotion-management strategies at school.                                    |

Figure 2 Second Step SEL module at SecondStep.org

You don't have to search far to find associations between the social and emotional characteristics and student mental health and academic outcomes. The following are a few recent examples:

- Researchers studying the association between social behaviors and academic achievement found that social behaviors are more strongly correlated to grades than competencies, and that peer problems relate more strongly to achievement than prosocial behavior (DeVries & Rathmann, 2018).
- Researchers studying the association between social and behavior skills and outcomes among kindergarteners found that 5-year-old children entering kindergarten who are not socially-behaviorally ready are at greater risk of being retained in grade, receiving services and supports through an IEP or 504 plan (tools to provide students with accommodations and support for special needs), or being suspended/expelled by the time they reach fourth grade (Bettencourt, Gross, Ho, & Perrin, 2018).
- In 2021, researchers found through a longitudinal study of a Swedish cohort of 3–5-year-old students that stable low social skills increased the risk for poor school performance, while stable high social skills increased the chance for good school performance in primary school (Frogner, et al., 2022).
- In a 2021 study in Aragon, Spain, researchers found a significant association between life skills (a set of psychosocial abilities that allow the individual to act competently and behave adequately in a range of day-to-day situations and scenarios) and academic performance (Sánchez-Hernando, et al., 2021).

SEL programs are associated with improved attitudes, behavior, and academic performance, preparing students for professional environments and real-world challenges.<sup>9</sup> As of 2022, 27

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<sup>9</sup> See the Durlak et al. (2011) meta-analysis titled ‘The Impact of Enhancing Students’ Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions’ that shows an 11-percentile-point gain in academic achievement for students exposed to SEL programs.

states are well underway taking advantage of this promising educational tool. Some recent success stories include:

- **SEL in Tacoma, Washington:** Looking to reverse years of low graduation rates, schools in Tacoma put in place a plan to train teachers, community leaders, and parents in socio-emotional disciplines to increase sharing, develop empathy skills, improve listening skills, and develop more meaningful relationships. Following implementation of the program, Tacoma was gearing up to graduate more than 90 percent of its students, up 55 percent from 2010. Alcohol use among high schools dropped, marijuana use fell, and reports of anxiety, depression and suicide declined, countering trends across the U.S. (Piore, 2022).
- **Collaborating Districts Initiative:** a districtwide initiative spearheaded by CASEL in 2011 studied the implementation of SEL programs and the outcomes of student participants across 8 regions: Anchorage, Austin, Cleveland, Chicago, Nashville, Oakland, Sacramento, and Washoe County, Nevada. The initiative found positive trends in the academic and behavioral growth of students in schools within districts implementing systematic SEL approaches. Included in these findings were consistent improvements in the social and emotional competence of grade 3 students, an improvement in academic performance in four districts, a significant decrease in suspensions across the six districts where data was available, a significant upward trend in GPA, and a significant upward trend in attendance (Kendziora & Yoder, 2016).
- **INSIGHTS Approach:** *INSIGHTS* is a preventative school-based intervention designed to serve low-income primary grade students particularly at-risk for academic and

behavioral difficulties. *INSIGHTS* included a) teacher sessions, b) parent sessions, and c) universal classroom sessions. Results from a 2015 study consistently demonstrated a mediation of math achievement in first grade with improvements in both classroom emotional support and organization. Additionally, findings showed program impacts on reading achievement in first grade mediated through improved classroom organization. Findings reflected recent analysis which suggests emotional support and organization in classroom settings are particularly important for the development of math skills among low-income urban elementary school children (McCormick, Cappella, O'Connor, & McClowry, 2015).

- **RULER Approach: At-risk students engagement and conduct behavior:** a 2017 longitudinal study of at-risk students found that participation in a RULER (recognizing, understanding, labeling, expressing, and regulating) program significantly increased engagement a year later for sixth graders, and improved conduct the following year when those students reached seventh grade (Cipriano, Barnes, Rivers, & Brackett, 2019).
- **Mindfulness and SEL intervention in Southwestern US:** A 2021 analysis of 116 middle school students found significant intervention effects for the treatment group in students' changes in stress tolerance, social curiosity, executive functioning, and academic achievement (English, science, social studies). (Lemberger-Truelove, Ceballos, Molina, & Carbonneau, 2021)
- **The Promoting Alternative Thinking Strategies (PATHS):** The PATHS program is a classroom-based SEL program for elementary school students designed to foster self-awareness, self-management, social awareness, relationship skills, responsible and decision-making (Greenberg & Celene E. Domitrovich, 2017). In PATHS, treated

children become less impulsive, less disruptive, and display less opposition to teachers and parents. In class, treated children become less likely to disturb lessons and more likely to focus on the teaching content (Sorrenti, Zölitz, Ribeaud, & Eisner, 2020).

- **Meta-analyses:** Results from a 2011 meta-analysis including data from more than 270,000 K-12 students found that students participating in SEL programs were significantly more likely to show positive outcomes with respect to enhanced SEL skills, attitudes, positive social behavior, and academic performance, and had significantly lower levels of conduct problems and emotional distress. Students participating in an SEL program realized an 11 percentile-point gain in achievement, suggesting that SEL programs bolster student academic success (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). The major findings in the Durlak et al. study have been replicated three times (Sklad et al., 2012; Taylor et al., 2017; Wiglesworth et al., 2016) since the initial analysis. A 2023 meta-analysis of universal school-based SEL interventions found that students participating in SEL programs realized significantly improved skills, attitudes, behaviors, school climate and safety, peer relationships, school functioning, and academic achievement, compared to control conditions (Cipriano, et al., 2023).

While SEL interventions are proving effective, limitations in existing programmatic application can include insufficient dosage, duration and effectiveness, fragmentation or marginalization, sole focus on classrooms, and limited staff training (Jones & Bouffard, 2012). Proponents of SEL find the educational resource to be most effective when exercised at a whole-school perspective, where learning is not exclusive to students, but for teachers, principals, lunchroom monitors, bus drivers, librarians, and other specialists (Shafer, 2016). Marguerethe Jaede, a

former teacher who now works with Ohio school districts on SEL implementation, was quoted in a 2023 NEA report stating that “if you don’t have self-awareness, you can’t teach it to somebody else” (Walker, 2023).

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| Outcomes   | Key performance indicators   | Student Experience Objectives<br>(changes that lead to the outcome)   | Education Staff Deliverables<br>(principal, teachers, staff, IL objectives)   | Partners<br>(ideas42, Second Step, Businesses, Non-profits, etc.)  |
|--|--|---|---|--|
| <i>An engaged student body, and an engaged educational staff</i> | attendance rate; test scores; graduation rate, happiness index (survey)  | <ul style="list-style-type: none"> <li>• Student participation &amp; peer-to-peer engagement is prioritized during in-class sessions.</li> <li>• Students are provided with autonomy &amp; choice through learning modules, different paces, and a culture where failure is accepted as part of learning process.</li> <li>• Students take on a problem or objective of their choice, producing material of lasting value through projects they are passionate about.</li> <li>• Student/faculty/school leadership exposure to social and emotional learning (SEL) programs that are associated with improved attitudes, behavior, and academic performance, preparing students for professional environments and real-world challenges.</li> </ul>   | <p>Teacher ownership in all levels of the Ball et al. (2011) policy actor framework, acting as Narrators, Entrepreneurs, Outsiders, Enthusiasts, Translators, Critics, and Receivers to guide &amp; implement policy change.</p> <p>Teachers to organize into diverse peer partnerships offering unique, interesting cross-disciplinary opportunities for students.</p> <p>Work with ILs, leadership, students, parents, and university partners to adapt teaching pedagogy to meet the needs of an engagement-based academic environment that fosters deep learning.</p> | <p>Work with the district, ILs, principles, teachers and staff to ensure the pedagogy is designed and implemented effectively.</p> <p>SEL organization such as Second Step to install and support socio-emotional learning as holistic theme to school culture.</p> <p>Local businesses and non-profits to work with school in independent projects, apprenticeships, and other partnership opportunities to build student identity, passion, confidence, and professional experience.</p> |
| <i>Post-secondary success</i>                                    | Post-secondary school completion, employment 5 years post-graduation, happiness index (survey) 5 years post-graduation | <ul style="list-style-type: none"> <li>• Students invited to gain professional/career work skills within a social impact lens, building on skills such as project and financial management, while developing agency and identity.</li> <li>• Student/faculty/school leadership exposure to social and emotional learning (SEL) programs that are associated with improved attitudes, behavior, and academic performance, preparing students for professional environments and real-world challenges.</li> <li>• A staff, pedagogy, curriculum, and school setting that encourages engagement &amp; ‘deeper learning,’ connecting core curriculum to real-world issues.</li> <li>• Students are self-reflective (Mehta p. 47), prepared for to be “productive citizens” post K-12 (Mehta p. 55)</li> </ul> | <p>Work with students to offer electives and periphery courses that provide students &amp; teachers with choice, autonomy, and ownership, with a focus on producing something of lasting and meaningful value.</p> <p>Ensure online learning resources are available for all students to maximize engagement while in classroom settings.</p> <p>District, principals to provide teachers with time and resources necessary to organize &amp; engage with peers, develop curriculums, and offer feedback/direction toward policy deliverables</p>                         |  |
| <i>Teacher health</i>  | teacher employment longevity, satisfaction survey, VAMs  | <ul style="list-style-type: none"> <li>• Teachers have ownership in all levels of the policy actor framework, as defined by Ball et al., 2011, leading to more teacher agency, better instruction, and in turn, better student engagement.</li> <li>• Students and teachers together practice educational symmetry by emphasizing autonomy, production, purpose, and passion.</li> <li>• The district to work with ideas42 on evaluating value-added models that reflect teacher, IL, principal, and modular learning program success.</li> </ul>   | Introduce social and emotional learning (SEL) as holistic belief system, emphasizing social skills, mental health awareness, judgement, and decision-making   |  |

Table 1 Engagement First Theory of Action