Educating the Whole Child: Improving School Climate to Support Student Success

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Executive Summary

New knowledge about human development from neuroscience and the sciences of learning and development demonstrates that effective learning depends on secure attachments; affirming relationships; rich, hands-on learning experiences; and explicit integration of social, emotional, and academic skills. A positive school environment supports students' growth across all the developmental pathways—physical, psychological, cognitive, social, and emotional—while it reduces stress and anxiety that create biological impediments to learning. Such an environment takes a "whole child" approach to education, seeking to address the distinctive strengths, needs, and interests of students as they engage in learning.

Given that emotions and relationships strongly influence learning—and that these are the byproducts of how students are treated at school, as well as at home and in their communities—a positive school climate is at the core of a successful educational experience. School climate creates the physiological and psychological conditions for productive learning. Without secure relationships and supports for development, student engagement and learning are undermined.

In this paper, we examine how schools can use effective, research-based practices to create settings in which students' healthy growth and development are central to the design of classrooms and the school as a whole. We describe key findings from the sciences of learning and development, the school conditions and practices that should derive from this science, and the policy strategies that could support these conditions and practices on a wide scale.

Key Lessons From the Science of Learning and Development

In recent years, a great deal has been learned about how biology and environment interact to produce human learning and development. A summary of the research from neuroscience, developmental science, and the learning sciences points to the following foundational principles:

1. **Development is malleable. The brain never stops growing and changing in response to experiences and relationships. The nature of these experiences and relationships matters greatly to the growth of the brain and the development of skills.**

Optimal brain architecture and effective learning are developed by the presence of warm, consistent relationships; empathetic back-and-forth communications; and modeling of productive behaviors. The brain's capacity develops most fully when children and youth feel emotionally and physically safe; when they feel connected, supported, engaged, and challenged; and when they have robust opportunities to learn—with rich materials and experiences that allow them to inquire into the world around them—and equally robust support for learning.

2. Variability in human development is the norm, not the exception. The pace and profile of each child's development is unique.

Because each child's experiences create a unique trajectory for growth, there are multiple pathways—and no one best pathway—to healthy learning and development. Rather than assuming all children will respond to the same teaching approaches equally well, effective teachers seek to personalize supports for different children. Schools should avoid prescribing learning experiences around a mythical average. When they try to force all children to fit one sequence or pacing guide, they miss the opportunity to nurture the individual potential of every child, and they can cause children (as well as teachers) to adopt counterproductive views about themselves and their own learning potential, which undermine progress.

3. Human relationships are the essential ingredient that catalyzes healthy development and learning.

Supportive, responsive relationships with caring adults are foundational for healthy development and learning. Positive, stable relationships can buffer the potentially negative effects of even serious adversity. A child's best performance, under conditions of high support and low threat, differs from how he or she performs without such support or when he or she feels threatened. When adults have the cultural competence to appreciate and understand children's experiences, needs, and communication, they can offset stereotypes, promote the development of positive attitudes and behaviors, and build confidence to support learning in all students.

4. Adversity affects learning—and the way schools respond matters.

Each year in the United States, 46 million children are exposed to violence, crime, abuse, or psychological trauma, as well as homelessness and food insecurity. Experiencing these types of adverse childhood experiences (ACEs) creates toxic stress that affects attention, learning, and behavior. Poverty and racism, together and separately, make the experience of chronic stress and adversity more likely. Furthermore, in schools where students encounter punitive discipline tactics rather than supports for handling adversity, their stress is magnified. In addition to meeting basic needs for food and health care, schools can buffer the effects of stress by facilitating supportive adult-child relationships that extend over time; building a sense of self-efficacy and control by teaching and reinforcing social and emotional skills that help children handle adversity, such as the ability to calm emotions and manage responses; and creating dependable, supportive routines for both managing classrooms and checking in on student needs.

5. Learning is social, emotional, and academic.

Emotions and social relationships affect learning. Positive relationships, including trust in the teacher, and positive emotions—such as interest and excitement—open up the mind to learning. Negative emotions—such as fear of failure, anxiety, and self-doubt—reduce the capacity of the brain to process information and to learn. Students' interpersonal skills, including their ability to interact positively with peers and adults, to resolve conflicts, and to work in teams, all contribute to effective learning and lifelong behaviors. These skills, which build on the development of empathy, awareness of one's own and others' feelings, and learned skills for communication and problem solving, can be taught.

6. Children actively construct knowledge based on their experiences, relationships, and social contexts.

Students dynamically shape their own learning. Learners compare new information to what they already know in order to learn. This process works best when students engage in active, hands-on learning, and when they can connect new knowledge to personally relevant topics and lived experiences. Effective teachers act as mentors: setting tasks, watching and guiding children's efforts, and offering feedback. Providing opportunities for students to set goals and to assess their own work and that of their peers can encourage them to become increasingly self-aware, confident, and independent learners.

The Connection Between Whole Child Education and a Positive School Climate

Because children learn when they feel safe and supported, and their learning is impaired when they are fearful, traumatized, or overcome with emotion, they need both supportive environments and well-developed abilities to manage stress. Therefore, it is important that schools provide a positive learning environment—also known as school climate—that provides support for learning social and emotional skills as well as academic content.

Two recent reviews of research, incorporating more than 400 studies, have found that a **positive school climate** improves academic achievement overall and reduces the negative effects of poverty on achievement, boosting grades, test scores, and student engagement. The elements of school climate contributing most to increased achievement are associated with teacher-student relationships, including warmth, acceptance, and teacher support. Other features include

- high expectations, organized classroom instruction, effective leadership, and teachers who are efficacious and promote mastery learning goals;
- strong interpersonal relationships, communication, cohesiveness, and belongingness between students and teachers; and
- structural features of the school, such as small school size, physical conditions, and resources, which shape students' daily experiences of personalization and caring.

Implications of the Science of Learning and Development for Schools

To support student achievement, attainment, and behavior, research suggests that schools should attend to four major domains:

1. **Supportive environmental conditions that create a positive school climate and foster strong relationships and community.** These include positive, sustained relationships that foster attachment; physical, emotional, and identity safety; and a sense of belonging and purpose. These can be accomplished through
    - a caring, culturally responsive learning community, in which all students are well-known and valued and are free from social identity or stereotype threats that exacerbate stress and undermine performance;

- structures—such as looping with teachers for more than one year, advisory systems, small schools or learning communities, and teaching teams—that allow for continuity in relationships, consistency in practices, and predictability in routines that reduce anxiety and support engaged learning; and
- relational trust and respect between and among staff, students, and families enabled by collegial supports for staff and proactive outreach to parents through home visits, flexibly scheduled meetings, and frequent positive communications.

2. **Social and emotional learning that fosters skills, habits, and mindsets which enable academic progress and productive behavior.** These include self-regulation, executive function, intrapersonal awareness and interpersonal skills, a growth mindset, and a sense of agency that supports resilience and perseverance. They can be developed through
   - explicit instruction in social, emotional, and cognitive skills, such as intrapersonal awareness, interpersonal skills, conflict resolution, and good decision making;
   - infusion of opportunities to learn and use social-emotional skills, habits, and mindsets throughout all aspects of the school's work in and outside of the classroom; and
   - educative and restorative approaches to classroom management and discipline, so that children learn responsibility for themselves and their community.
3. **Productive instructional strategies that support motivation, competence, self-efficacy, and self-directed learning.** These curriculum, teaching, and assessment strategies feature
   - meaningful work that connects to students' prior knowledge and experiences and actively engages them in rich, engaging, motivating tasks;
   - inquiry as a major learning strategy, thoughtfully interwoven with explicit instruction and well-scaffolded opportunities to practice and apply learning;
   - well-designed collaborative learning opportunities that encourage students to question, explain, and elaborate their thoughts and co-construct solutions;
   - a mastery approach to learning supported by performance assessments with opportunities to receive helpful feedback, develop and exhibit competence, and revise work to improve; and
   - opportunities to develop metacognitive skills through planning and management of complex tasks, self- and peer-assessment, and reflection on learning.
4. **Individualized supports that enable healthy development, respond to student needs, and address learning barriers.** These include
   - access to integrated services (including physical and mental health and social service supports) that enable children's healthy development;
   - extended learning opportunities that nurture positive relationships, support enrichment and mastery learning, and close achievement gaps; and
   - multi-tiered systems of academic, health, and social supports to address learning barriers both in and out of the classroom to address and prevent developmental detours, including conditions of trauma and adversity.

Accomplishing this work clearly requires an intensive focus on adult development and support, so that educators can design for and enact the practices that enable them to put these features into place.

Recommendations

This growing knowledge and practice base suggests that, in order to create schools that support healthy development for young people, our education system needs to:

1. **Focus accountability, guidance, and investments on developmental supports** for young people, including a positive, culturally responsive school climate and supportive instruction and services.
2. **Design schools to provide settings for healthy development**, including secure relationships; coherent, well-designed teaching for 21st century skills; and services that meet the needs of the whole child.
3. **Enable educators to work effectively** to offer successful instruction to diverse students from a wide range of contexts.

Recommendation #1: Focus the System on Developmental Supports for Young People

States guide the focus of schools and professionals through the ways in which accountability systems are established, guidance is offered, and funding is provided. To ensure developmentally healthy school environments, states, districts, and schools can

- Include measures of school climate, social-emotional supports, and school exclusions in **accountability and improvement systems** so that these are a focus of schools' attention and data are regularly available to guide continuous improvement.
- Adopt **standards** or other guidance for social, emotional, and cognitive learning that clarifies the kinds of competencies students should be helped to develop and the kinds of practices that can help them accomplish these goals.
- Replace zero tolerance policies regarding school discipline with **discipline policies** focused on explicit teaching of social-emotional strategies and restorative discipline practices that support young people in learning key skills and developing responsibility for themselves and their community.
- Incorporate educator competencies regarding support for social, emotional, and cognitive development, as well as restorative practices, into **licensing and accreditation requirements** for teachers, administrators, and counseling staff.
- Provide **funding** for school climate surveys, social-emotional learning and restorative justice programs, and revamped licensing practices (including appropriate assessments) to support these reforms. As suggested below, additional investments are needed for multi-tiered systems of support (MTSS), integrated student services, extended learning, and professional learning for educators to enable progress within schools.

Recommendation #2: Design Schools to Provide Settings for Healthy Development

Within a productive policy environment, schools can do more to provide the right kinds of supports for students if they are also designed to foster strong relationships and provide a holistic approach to student supports and family engagement. To provide settings for healthy development, educators and policymakers can:

- Design schools for **strong, personalized relationships** so that students can be well-known and supported by creating small schools or learning communities within schools, looping teachers with students for more than 1 year, creating advisory systems, supporting teaching teams, and organizing schools with longer grade spans—all of which have been found to strengthen relationships and improve student attendance, achievement, and attainment.
- Develop schoolwide norms and supports for **safe, culturally responsive classroom communities** that provide students with a sense of physical and psychological safety, affirmation, and belonging, as well as opportunities to learn social, emotional, and cognitive skills.
- Ensure **integrated student supports (ISS)** are available to support students' health, mental health, and social welfare through community school models or community partnerships, coupled with parent engagement and restorative justice programs.
- Create **multi-tiered systems of support**, beginning with universal designs for learning and personalized teaching, continuing through more intensive academic and non-academic supports, to ensure that students can receive the right kind of assistance when needed, without labeling or delays.
- Provide **extended learning time** to ensure that students do not fall behind, including skillful tutoring and academic supports, such as Reading Recovery; summer programs to avoid summer learning loss; and support for homework, mentoring, and enrichment.
- Design **outreach to families** as part of the core approach to education, including home visits and flexibly scheduled student-teacher-parent conferences to learn from parents about their children; outreach to involve families in school activities; and regular communication through positive phone calls home, emails, and text messages.

Recommendation #3: Ensure Educator Learning for Developmentally Supportive Education

Educators need opportunities to learn how to redesign schools and develop practices that support a positive school climate and healthy, whole child development. To accomplish this critical task, the state, counties, districts, schools, and educator preparation programs can:

- Invest in **educator wellness** through strong preparation and mentoring that improve efficacy and reduce stress, mindfulness and stress management training, social-emotional learning programs that benefit both adults and children, and supportive administration.
- Design **pre-service preparation programs** for both teachers and administrators that provide a strong foundation in child and adolescent development and learning; knowledge of how to create engaging, effective instruction that is culturally responsive; skills for implementing social-emotional learning and restorative justice programs; and an

understanding of how to work with families and community organizations to create a shared developmentally supportive approach. These should provide supervised clinical experiences in schools that are good models of developmentally supportive practices that create a positive school climate for all students. Administrator preparation programs should help leaders learn how to design and foster such school environments.

- Offer widely available **in-service development** that helps educators continually build on and refine student-centered practices, learn to use data about school climate and a wide range of student outcomes to undertake continuous improvement, problem solve around the needs of individual children and engage in schoolwide initiatives in collegial teams and professional learning communities, and learn from other schools through networks, site visits, and documentation of successes.
- Invest in educator **recruitment and retention**, including forgivable loans and service scholarships that support strong preparation, high-retention pathways into the profession—such as residencies—that diversify the educator workforce, high-quality mentoring for beginners, and collegial environments for practice. A strong, stable, diverse, well-prepared teaching and leadership workforce is perhaps the most important ingredient for a positive school climate that supports effective whole child education.

The emerging science of learning and development makes it clear that a whole child approach to education, which begins with a positive school climate that affirms and supports all students, is essential to support academic achievement as well as healthy development. Research and the wisdom of practice offer significant insights for policymakers and educators about how to develop such environments. The challenge ahead is to assemble the whole village—schools, health care organizations, youth- and family-serving agencies, state and local governments, philanthropists, and families—to work together to ensure that every young person receives the benefit of what is known about how to support his or her healthy path to a productive future.

Introduction

New knowledge about human development from neuroscience and the sciences of learning and development demonstrates that effective learning depends on secure attachments; affirming relationships; rich, hands-on learning experiences; and explicit integration of social, emotional, and academic skills. A positive school environment supports students' growth across all the developmental pathways—physical, psychological, cognitive, social, and emotional—while it reduces the stress and anxiety that can create biological impediments to learning. Such an environment enables a "whole child" approach to education that addresses the distinctive strengths, needs, and interests of students as they engage in learning.

The Need for a Whole Child Approach to Education

A whole child approach to education is one that recognizes the interrelationships among all areas of development and designs school policies and practices to support them. These include access to nutritious food, health care, and social supports; secure relationships; educative and restorative disciplinary practices; and learning opportunities that are designed to challenge and engage students while supporting their motivation and self-confidence to persevere and succeed. All aspects of children's well-being are supported to ensure that learning happens in deep, meaningful, and lasting ways.

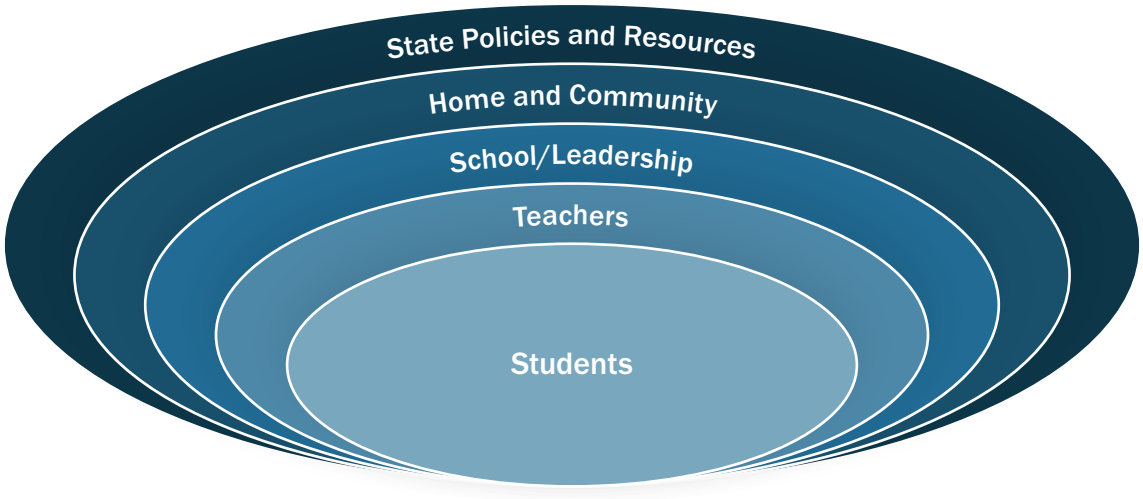
Given that emotions and relationships strongly influence learning—and that these are byproducts of how students are treated at school, as well as at home and in their communities—a positive school climate is at the core of a successful educational experience. School climate—"the quality and character of school life … [shaped by its] interpersonal relationships, teaching and learning practices, and organizational structures"[1]—creates the physiological and psychological conditions for productive learning. When these features of school life are not supportive, student engagement and learning are undermined.

A productive educational system grounded in an understanding of the science of learning and development keeps students in school and promotes academic results by way of meaningful and deep learning, and helps students acquire the social and emotional skills, habits, and mindsets necessary to be successful in school and in life beyond. The greater flexibility that has accompanied the Every Student Succeeds Act (ESSA) allows schools to craft policies aimed at strengthening students' sense of purpose and connection to school, which in turn supports stronger achievement and attainment.

Given that emotions and relationships strongly influence learning—and that these are byproducts of how students are treated at school, as well as at home and in their communities—a positive school climate is at the core of a successful educational experience.

In this report, we examine how schools can use effective, research-based practices to create settings in which students' healthy growth and development are central to the design of classrooms and the school as a whole. We describe key findings from the sciences of learning and development; the school conditions and practices that should derive from this science, including connections to the home and community; and the policy strategies that could support these conditions and practices on a wide scale (see Figure 1).

Figure 1
The Whole Child Ecosystem



The Shifts That Are Needed

One reason for the renewed interest in a whole child approach to learning is that this perspective on education was largely pushed aside during the No Child Left Behind (NCLB) era. For over a decade, U.S. education policies focused on how to raise academic achievement as reflected primarily in student test scores often to the exclusion of other goals, such as student health and welfare; physical, social, emotional, and psychological development; critical and creative thinking; and communication and collaboration abilities. The result was too often a "drill and kill," "test and punish," and "no excuses" agenda through which many of our nation's most vulnerable children experienced a narrowly defined, scripted curriculum and a hostile, compliance-oriented climate that pushed many out of school.[2] Ironically, the students who would benefit most from the engagement and brain development that comes from a rich education are the least likely to experience such schooling.

This narrow approach to education was ultimately unsuccessful in supporting meaningful gains in academic achievement: While state test scores went up in the NCLB era, as schools taught to multiple-choice tests measuring low-level skills under the threat of sanctions, national scores were largely flat, and U.S. performance on international tests measuring higher order skills declined in mathematics, reading, science, and problem solving.[3] Furthermore, racial and economic gaps in achievement and graduation rates are greater in the U.S. than in most industrialized countries.

Meanwhile, during the era of exclusively test-based accountability, many U.S. schools were not focused on enabling students to acquire the broader life skills they need or the sense of self to achieve their full potential. For example, a 2006 study of more than 148,000 6th to 12th graders found that

- only 29% felt their school provided a caring, encouraging environment;
- less than half reported they had social competencies such as empathy, decision making, and conflict resolution skills (from 29% to 45%, depending on the competency); and
- 30% of high school students engaged in multiple high-risk behaviors such as substance abuse, sex, violence, and attempted suicide.[4]

These conditions contribute to school failure and high dropout rates. Research shows that punitive approaches to instruction and student treatment undermine student motivation and learning, and facilitate student disengagement from school. Almost three quarters of a million students—disproportionately students of color, those with disabilities, and those from low-income families—do not complete high school each year.[5] Graduation rates for Latinx and African American students are 15 percentage points lower than those of White and Asian American students.[6]

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The failure to ensure that these students graduate from high school negatively impacts both students and society. High school graduates have better economic and health outcomes, are more likely to participate in a democracy and their community, and are less likely to engage in criminal activity or require social services.[7] Graduation rates reflect more than how many students receive a diploma each year; they are an indication of which students are more likely to earn a living wage and escape from poverty. Further, according to research by UCLA's Civil Rights Project, "every dropout costs society hundreds of thousands of dollars over the student's lifetime in lost income."[8] The consequences of marginalization and the subsequent exclusion of students from educational opportunity are devastating and lasting for individuals and for society as a whole.

The prospect of significantly better outcomes is raised by efforts to incorporate into schools what we have learned from the sciences of learning and development, which confirms the central salience of a whole child approach.

Key Lessons From the Sciences of Learning and Development

In recent years, a great deal has been learned about how biology and environment interact to produce human learning and development. A summary of the research[9] from neuroscience, developmental science, epigenetics, psychology, sociology, adversity science, resilience science, and the learning sciences points to the following foundational principles:

1. Development is malleable. People can always learn new skills from birth through adulthood because the brain never stops growing and changing in response to experiences and relationships. The nature of these experiences and relationships matters greatly to the growth of the brain and the development of skills.

Development is a lifelong process informed by experiences that begins before birth. The brain develops rapidly during the early years, with nearly 1,000 new neural connections forming every second, wiring important neural circuits. These connections are enhanced by good nutrition; positive, affirming interactions and responses; experiences that support a sense of safety and trust that enables healthy attachment; and experiences that allow for exploration of language and the physical world. This wiring of the brain establishes a foundation for building more complex skills and abilities in later years that are important for academics and life more generally.

Another particularly sensitive and intense period of brain construction takes place during adolescence. During puberty, rapid changes occur in brain development, hormone levels, and physical development. The parts of the brain associated with social and emotional functioning mature at a fast pace, while the capacity for decision making and critical thinking emerges over time.

These abilities are most likely to develop fully when children and youth feel emotionally and physically safe, connected, supported, engaged, and challenged, and when they have robust opportunities to learn—with rich materials and experiences that allow them to inquire into the world around them—and equally robust support for learning. Development occurs within concentric circles of influence, beginning with the family and extending to the school, the community, and larger economic and social forces that influence children's development directly and indirectly.

2. Variability in human development is the norm, not the exception. The pace and profile of each child's development is unique.

The hallmark of development is its variability. Although development generally progresses in somewhat predictable stages, children begin at different starting points and learn and acquire skills at different rates and in different ways. Children of precisely the same age are at different developmental levels in different domains. The shape of each child's growth is unique, as a function of biology interacting with experiences and relationships. Furthermore, a child's best performance, under conditions of high support and low threat, differs from how he or she performs without such support or when he or she feels threatened.

Because each child's developmental path is unique, there are multiple possible pathways to healthy learning and development. Rather than assuming all children will respond to the same teaching approaches equally well, effective teachers personalize supports and intervention for different children. Supportive schools avoid attaching labels to children or designing learning experiences around a mythical average. When educators try to force all children to fit one sequence or pacing guide, they miss the opportunity to nurture the individual potential of each child, and they can cause children (as well as teachers) to adopt counterproductive views about themselves and their own learning potential that undermine progress. Today, new advances in science hold promise of better understanding the patterns in children's variation and for creating learning environments that more intentionally nurture each child's potential.

3. Human relationships are the essential ingredient that catalyzes healthy development and learning.

Supportive, responsive relationships with caring adults from birth into adulthood provide the foundation for healthy development and learning. Secure relationships have biological as well as affective significance. Optimal brain architecture is developed by the presence of warm, consistent relationships; positive experiences; and positive perceptions of these experiences.[10]

Children's interactions with other people and their environments are the primary process for development. For example, when an infant reaches out for interaction through eye contact, babble, or gesture, his mother's ability to accurately interpret and respond to her baby's cues affects the wiring of brain circuits that support later skills. The same process can occur when teachers and peers respond in supportive ways.

Cognitive scientists at MIT and Harvard have found that conversation between an adult and a child appears to change the child's brain, and that this back-and-forth conversation is actually more critical to language development than merely hearing a greater number of words.[11] The researchers found that the number of "conversational turns" was more important than the quantity of words in accounting for differences in brain physiology and language skills among children. This finding applied to children regardless of parental income or education.

This means that parents and teachers, as well as peers, can support children's language and brain development by engaging them in conversation. It also suggests that when classroom environments allow children to engage in instructional conversations, they can actually grow more cognitively capable and linguistically adept than when instruction is one-way, with just the teacher talking to the class. Furthermore, teachers can enhance their students' development and learning by being responsive and affirming to the ideas students express.

Supportive, responsive relationships in childhood and adolescence also have an important protective effect. Research has found that a stable relationship with at least one committed adult can buffer the potentially negative effects of even serious adversity. These relationships, which provide emotional security, are characterized by consistency, empathetic communications, modeling of productive social behaviors, and the ability to accurately perceive and respond to a child's needs.

Because sensitivity to children's cues is so important, culture is a critical component of the learning environment. Adults who have the cultural competence to appreciate and understand children's verbal and nonverbal communication are better able to get in sync with the child and respond appropriately. When adults do not respond unconsciously to the negative dominant narratives about the learning capabilities of students from low-income families, students of color, and English learners, they are more able to create classrooms in which all students can feel seen and heard. In this way, cultural competence can help address the impacts of institutionalized racism, discrimination, and inequality; offset stereotypes; promote the development of positive attitudes and behaviors; and build confidence to support learning in all students.

4. Adversity affects learning—and the way schools respond matters.

Stress is a normal part of healthy development and learning, but excessive stress can throw learning and development off track and exert profound effects on children's well-being. School practices can either exacerbate or buffer the effects of childhood adversity. When threatened, our bodies protect us via a stress response system. We experience a surge in hormones (cortisol and adrenaline) that set off a range of physical responses, causing us to be more focused, vigilant, and alert. When capable assistance arrives to help cope with the threat, the body releases another hormone (oxytocin), which helps the body quickly return to baseline.

The stress response system functions well when threats are occasional and short-lived, and when supportive relationships are consistently available to help the system return to a calmer state. But when adversity is severe or prolonged, or when the counteracting effects of stable relationships are missing, the body adapts to the continual activation of the stress response system by going on "high alert" and staying there. This produces excessive levels of cortisol that flood the brain and other vital organs, disrupting their normal functioning. The stress response system increases heart rate, blood pressure, inflammation, and blood sugar levels—explaining why serious adversity in childhood is associated with so many poor health outcomes in adults, such as obesity, heart disease, diabetes, and shortened life spans. It also helps to explain how unbuffered stress can affect educational outcomes: Traumatic or strongly emotional events can simultaneously influence the regulation of affect (for example, feelings of depression or anxiety), physical phenomena (such as heart rate or adrenaline production), attention, and cognition (for example, executive functioning and memory).

Each year in the United States, 46 million children are exposed to violence, crime, abuse, or psychological trauma.[12] Experiencing these types of adverse childhood experiences (ACEs)[13]—which also include the impact of growing up in poverty, such as food and home insecurity, family illness, or the detention or incarceration of a family member—demonstrates a connection to poor health and educational outcomes, such as increased absenteeism in school and changes in school performance.[14] These types of experiences "can affect sustained and focused attention, making

When adversity is severe or prolonged, or when the counteracting effects of stable relationships are missing, the body adapts to the continual activation of the stress response system by going on "high alert" and staying there.

it difficult for a student to remain engaged in school."[15] Further, "chronic stress can have a negative effect on the chemical and physical structures of a child's brain, causing trouble with attention, concentration, memory, and creativity."[16]

Adversity happens in all communities, and healthy development does as well. However, inequality creates increased risks. Poverty and racism, together and separately, make the experience of chronic stress and adversity more likely. In schools where students encounter implicit bias and stereotyping or punitive discipline tactics rather than supports for handling adversity, their stress is magnified. Considerable research shows that exclusionary responses, such as suspensions and expulsions, disproportionately affect students of color from low-income families and students with disabilities, who receive harsher penalties than those received by other students who engage in similar behaviors.[17]

The Center on the Developing Child at Harvard University has identified a common set of actions schools, families, and communities can take to make it more likely that children will experience positive outcomes in the face of significant adversity.[18] These include

- facilitating supportive adult-child relationships that extend over time;
- building a sense of self-efficacy and control by teaching and reinforcing social and emotional skills that help children handle adversity, such as the ability to calm emotions and manage responses; and
- creating strong, dependable, supportive routines for both managing classrooms and checking in on student needs.

5. Learning is social, emotional, and academic.

Emotions and social relationships affect learning. Positive relationships, including trust in the teacher, and positive emotions, such as interest and excitement, open up the mind to learning. Negative emotions, such as fear of failure, anxiety, and self-doubt, reduce the capacity of the brain to process information and to learn.

In addition, children's abilities to manage their emotions influence learning. For example, learning to calm oneself, regulate one's own behaviors, and focus attention provide the foundation for learning and the ability to persist with hard tasks and to pursue interests over a longer period of time. Just as an air traffic control system at a busy airport safely manages the arrivals and departures of many planes simultaneously, the brain needs this set of skills to resist distractions, prioritize tasks, set and achieve goals, and control impulses.

Students' interpersonal skills, including their ability to interact positively with peers and adults, to resolve conflicts, and to work in teams, all contribute to effective learning and lifelong behaviors. These skills, which build on the development of empathy, awareness of one's own and others' feelings, and learned skills for communication and problem solving, can be taught.

Students' motivation and their "metacognitive skills"—the ability to track and assess their own learning and understanding—are also important for effective learning. These enable and encourage students to start and persist at tasks, recognize patterns, evaluate their own learning strategies, evaluate what works, and invest adequate effort to succeed and to transfer knowledge and skills to

increasingly complex problems. Studies have found that adults are more satisfied with their jobs, happier with their lives as a whole, and perform better at work when what they do interests them and matters to people other than themselves. The same is true of students.

Students who have a growth mindset—that is, they believe they can improve through effort, trying new strategies, and seeking help—are less likely to become discouraged and more likely to try harder after encountering difficulties. They are more likely to tackle tasks at the edge of their current skills than students who believe their intelligence is fixed. This can translate into stronger performance in school and in other tasks in life as well.

Engagement and effort are supported in classrooms in which children feel they are not typecast or stereotyped, where they see that they can improve with effort (for example, by revising their work), where they are respected and valued by their teachers and peers, and where they are working on things that matter to themselves and others.

6. Children actively construct knowledge based on their experiences, relationships, and social contexts.

Students dynamically shape their own learning. Learners compare new information to what they already know in order to create mental models. These mental models enable students to connect facts to their past experiences and draw inferences about new situations. This process works best when students actively engage with concepts and knowledge, and when they have multiple opportunities to connect the knowledge to personally relevant topics and lived experiences. When learning experiences invite students to be active participants, they gain skills in producing and working with knowledge to create something useful. Effective teachers act as mentors: setting tasks, watching and guiding children's efforts, and offering feedback.

The model of teachers spoon-feeding information to students is outdated. Curriculum designs and instructional strategies can optimize learning by building on each student's prior knowledge and experiences, connecting those experiences to the big ideas or schema of a discipline, and designing tasks that are engaging and relevant so that they spark each student's interests and build on what they already know. Providing opportunities for students to set goals and to assess their own work and that of their peers can encourage them to become increasingly self-aware, confident, and independent learners. Taken together, such strategies can challenge and support students to perform at the edge of their current abilities; help them transfer knowledge and skills to new content areas; and, ultimately, improve achievement.

When learning experiences invite students to be active participants, they gain skills in producing and working with knowledge to create something useful.

Implications for Schools: The Critical Importance of a Whole Child Framework and a Positive School Climate

While there are many contexts that matter for child development—including families, neighborhood, and peers—schools play a central role, both directly and indirectly. They create a developmental context that can be either supportive or nonsupportive for children, and they can influence how parents and peers engage with children as well. As American schools are becoming more diverse—children of color now comprise the majority of public k–12 students—differences in educational attainment and achievement continue to persist between Black, Latinx, and Native American youth and their White peers. These young people are also more likely to receive punitive discipline for similar infractions in schools than their White counterparts, and to be excluded from schools through suspensions and expulsions, which further widens the achievement gap.[19] Given these demographic trends and racial gaps in performance and discipline, serving these students' educational needs is a matter of public policy importance.

The primary goal of k–12 education should be to empower individual students to reach their full potential. Environments that are relationship-rich and attuned to students' learning and developmental needs can buffer students' stress, foster engagement, and support learning. Clearly, schools and educators, especially those in high-poverty communities, need the resources and training to address the many challenges to school attachment and engagement by creating responsive, supportive, and inclusive learning environments consistent with what we know from the science of learning and development. As described in this report, the features of such an environment include

- a caring, culturally responsive community where students are well-known and appreciated, and can learn in physical and emotional safety;
- positive school conditions and climate, featuring relational trust and respect between and among staff, students, and parents;
- continuity in relationships, consistency in practices, and predictability in routines that reduce cognitive load and anxiety and support engaged learning;
- educative and restorative disciplinary practices that support students' development of personal and social responsibility;
- meaningful and challenging work for students that engages them in active learning experiences that are both individualized and social, as needed;
- opportunities to exercise choice and develop intrinsic motivation for learning;
- clear expectations for achievement for students and teachers that convey ideas of worth and potential, and information about how to meet standards;
- instruction that strategically uses a range of teaching strategies, tools, and technologies to engage students and meet their individual needs;
- schoolwide practices and instruction that systematically develop students' social, emotional, and academic skills, habits, and mindsets;

- inquiry and discovery as major learning strategies, thoughtfully interwoven with explicit instruction and opportunities to practice and apply learning;
- opportunities to receive timely and helpful feedback, develop and exhibit competence, and revise work to improve;
- ongoing diagnostic assessments that are developmentally guided and informed; and
- a capable and stable staff, supported by effective professional development and connected to parents and community health and welfare resources, who work together to support children's healthy development and learning.

In almost every domain, research finds that the presence of these features produces stronger gains in outcomes for those students who typically experience the greatest environmental challenges. This is consistent with developmental science findings that children who experience adversity "may be more malleable—and stand to benefit most—in the context of supportive, enriched environmental supports and interventions."[20]

Why a Whole Child Approach Is Essential

A whole child approach to education is premised on the fact that children's learning depends on the combination of instructional, relational, and environmental factors the child experiences, along with the cognitive, social, and emotional processes that influence one another as they shape the child's growth and development.[21] Although our society and our schools often compartmentalize these processes and treat them as distinct from one another—and treat the child as distinct from the many contexts she or he experiences—the science of learning and development demonstrates how tightly interrelated they are and how they jointly produce the outcomes for which educators are responsible. According to the Association for Supervision and Curriculum Development (ASCD), a whole child approach means that each student

- enters school healthy and learns about and practices a healthy lifestyle;
- learns in an environment that is physically and emotionally safe for students and adults;
- is actively engaged in learning and is connected to the school and broader community;
- has access to personalized learning and is supported by qualified, caring adults; and
- is challenged academically and prepared for success in college or further study and for employment and participation in a global environment.[22]

To achieve these goals, educators must understand how developmental processes interact and unfold over time if they are to design supportive environments for development and learning. Although there are general trends in development, each child develops differently as a function of his unique qualities and his family, community, and classroom contexts. As a result, schools must be designed to attend to the unique needs and trajectories of individual children as well as to support patterns of development, and educators must know how to differentiate instruction and supports to enable optimal growth in competence, confidence, and motivation.

As we examine strategies schools can use, we emphasize the whole child within a whole-school and a whole-community context. A blueprint for healthy development must address the many components needed to enable healthy functioning. From an ecological systems framework perspective, the school serves as an immediate context shaping children's learning and development through instruction, relationships with teachers and peers, and the school culture. The connection between schools, the home, and community settings is an important additional link for providing aligned supports for children.

School Climate and Culture: The Foundation for Development

Children learn when they feel safe and supported, and their learning is impaired when they are fearful, traumatized, or overcome with emotion.[23] Thus, they need both supportive environments and well-developed abilities to manage stress and cope with the inevitable conflicts and frustrations of school and life beyond school. Therefore, it is important that schools provide a positive learning environment that provides a measure of security and support that maximizes students' ability to learn social and emotional skills as well as academic content.

A positive school environment, also referred to as "school climate," greatly affects students' ability to learn social, emotional, and academic skills. The climate sets the tone at a school and can be seen in the physical environment, experienced during the learning process, and felt in how people within the school interact with one another.[24] According to the National School Climate Center,

> School climate is based on patterns of students', parents' and school personnel's experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.[25]

The National School Climate Center outlines 13 dimensions (see Table 1) that cover all aspects of the school environment, ranging from physical and emotional safety and the physical maintenance of the school building and grounds to relationships, engagement, and a sense of belonging. Many of these constructs can also be considered "conditions for learning" which enable the development of students' social-emotional skills. For example, students need social supports from adults and peers that help them feel connected to the school before they are able to develop optimism or a growth mindset. Similarly, students need to feel safe from verbal abuse and bullying in order to develop strong social awareness and relationship skills. As students and school personnel refine their social and emotional competence, school climate improves; likewise, a positive school climate creates the atmosphere within which social and emotional learning can take place.[26]

While a school may have a generally positive climate, it is worth noting that studies have consistently identified differences among White students and students of color in their perceptions of school climate, with youth of color perceiving less positive school climate experiences—for example, less favorable experiences of safety, connectedness, relationships with adults, and opportunities for participation—in comparison to their White peers.[27] As schools become increasingly racially

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Table 1
The National School Climate Center's 13 Dimensions of School Climate

Dimensions	Major Indicators
Safety	
1. Rules and Norms	Clearly communicated rules about physical violence; clearly communicated rules about verbal abuse, harassment, and teasing; clear and consistent enforcement and norms for adult intervention.
2. Sense of Physical Security	Sense that students and adults feel safe from physical harm in the school.
3. Sense of Social-Emotional Security	Sense that students feel safe from verbal abuse, teasing, and exclusion.
Teaching and Learning	
4. Support for Learning	Use of supportive teaching practices, such as: encouragement and constructive feedback; varied opportunities to demonstrate knowledge and skills; support for risk-taking and independent thinking; atmosphere conducive to dialog and questioning; academic challenges; and individual attention.
5. Social and Civil Learning	Support for the development of social and civic knowledge, skills, and dispositions including: effective listening, conflict resolution, self-reflection and emotional regulation, empathy, personal responsibility, and ethical decision making.
Interpersonal Relationships	
6. Respect for Diversity	Mutual respect for individual differences (e.g., gender, race, culture, etc.) at all levels of the school—student-student, adult-student, and adult-adult—and overall norms for tolerance.
7. Social Support—Adults	Pattern of supportive and caring adult relationships for students, including high expectations for students' success, willingness to listen to students and to get to know them as individuals, and personal concern for students' problems.
8. Social Support—Students	Pattern of supportive peer relationships for students, including: friendships for socializing, for problems, for academic help, and for new students.
Institutional Environment	
9. School Connectedness/Engagement	Positive identification with the school and norms for broad participation in school life for students, staff, and families.
10. Physical Surroundings	Cleanliness, order, and appeal of facilities and adequate resources and materials.
Social Media	
11. Social Media	Sense that students feel safe from physical harm, verbal abuse, teasing, gossip, and exclusion when online or on electronic devices (for example, Facebook, Twitter, and other social media platforms; by an email, text messaging, posting photo/video, etc.).
Staff Only	
12. Leadership	Administration that creates and communicates a clear vision, and is accessible to and supportive of school staff and staff development.
13. Professional Relationships	Positive attitudes and relationships among school staff that support effectively working and learning together.

Source: National School Climate Center. https://www.schoolclimate.org/.

diverse, it is vital that we understand what constitutes positive school climate for youth of color—one of the most vulnerable groups in terms of the academic and discipline gaps—as well as how to facilitate improvements in their experiences of school climate.

Schools that effectively support their students create a learning culture and climate that are "both responsive to the changing needs of the individual and offer the kinds of stimulation that will propel continued positive growth."[28]

A recent report reviewed 78 school climate studies published since 2000 and found that a positive school climate can reduce the negative effects of poverty on academic achievement. The authors conclude that "a more positive school climate is related to improved academic achievement, beyond the expected level of achievement based on student and school socioeconomic status backgrounds."[29] The most important elements of school climate contributing to increased achievement were associated with teacher-student relationships, including aspects such as warmth, acceptance, and teacher support.

Another extensive literature review of 327 school climate studies examined research that sought to connect each of the climate domains to three student outcomes: academic, behavioral, and psychological and social.[30] With regard to academic outcomes:

- A strong academic climate enabling student learning and achievement is promoted by high expectations, organized classroom instruction, effective leadership, and teachers who believe in themselves and promote mastery learning goals.[31]
- Support for student psychological needs and academic accomplishment is reflected in higher grades, test scores, and increased motivation to learn and is associated with strong interpersonal relationships, communication, cohesiveness, and belongingness between students and teachers.[32]
- The structural features of the school, such as school size, physical conditions, and resources, can also impact student achievement by shaping students' daily experiences of personalization, a sense of caring, and the curriculum and instruction they experience.[33]

The most successful schools are intentionally organized, with policies and structures in place to facilitate all areas of student learning, thereby empowering educators with the flexibility, support, and opportunities to implement practices and strategies that are tailored to the unique needs of students. In what follows, we discuss in more detail these policies and structures, as well as the practices educators can employ to build positive school climates that will facilitate deep and meaningful learning for students.

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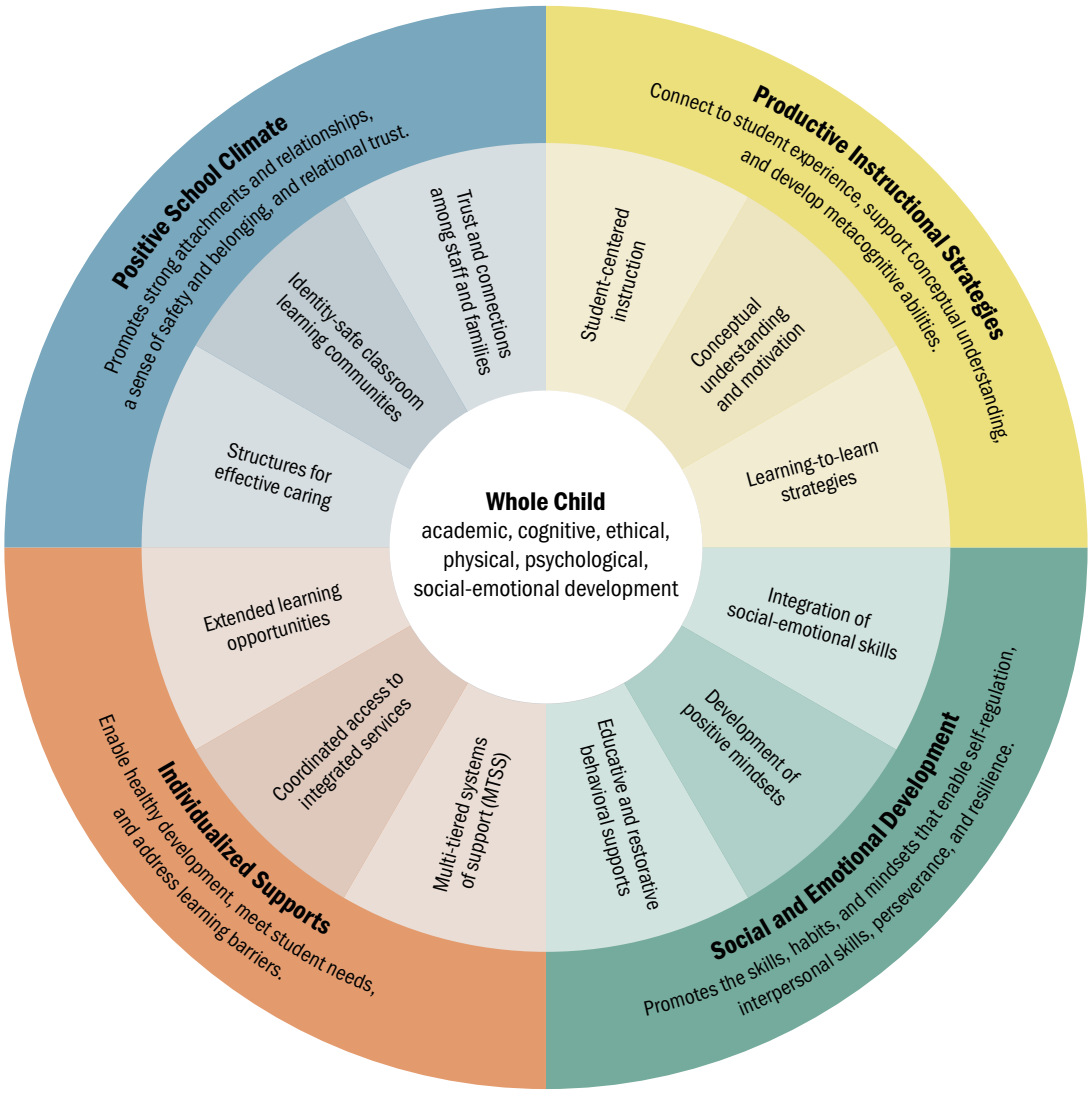
Strategies for Developing Productive School Environments

To support student achievement, attainment, and behavior, research suggests that schools should attend to four major domains, shown in Figure 2 and described below:

1. Building a positive school climate in both classrooms and the school as a whole
2. Shaping positive student behaviors through social and emotional learning
3. Developing productive instructional strategies that support motivation, competence, and self-directed learning
4. Creating individualized supports that address student needs, including the effects of trauma and adversity

Figure 2
A Framework for Whole Child Education



Building Positive Classroom and School Environments

Warm, caring, supportive student-teacher relationships, as well as other child-adult relationships, are linked to better school performance and engagement, greater social competence, and willingness to take on challenges.[34] Students who are at higher levels of risk for poor outcomes can benefit from nurturing relationships with teachers and other adults, which can increase student learning and support their development and wellness,[35] especially when these relationships are culturally sensitive and responsive.[36] Such relationships help develop the emotional, social, behavioral, and cognitive competencies foundational to learning.

In addition, students need a sense of physical and psychological safety for learning to occur because fear and anxiety undermine cognitive capacity and short-circuit the learning process. Students learn best when they can connect what happens in school to their cultural contexts and experiences, when their teachers are responsive to their strengths and needs, and when their environment is "identity safe,"[37] reinforcing their value and belonging. This is especially important given the societal and school-based aggressions many children, especially those living under adverse conditions, experience. For all these reasons, and because children develop through individual trajectories shaped by their unique traits and experiences, teachers need to know them well to create productive learning opportunities.

Creating schools that support strong attachments and relationships

Personalizing the educational setting so that it responds to individual students' interests and needs, as well as their home and community contexts, is one of the most powerful levers to change the trajectories for children's lives. Often, it is because of close adult-student relationships that students who are placed at risk are able to attach to school, problem solve, and gain the academic and other kinds of help they need to succeed, thereby decreasing risk for dropping out. Research suggests that students are more likely to attend and graduate from school, attach to learning, and succeed academically when they have strong, trusting, and supportive connections to adults, including at least one committed relationship with a close advisor or mentor.[38]

Developing these relationships can be difficult in schools where organizational structures minimize opportunities for personalized relationships that extend over time, as is often the case in "factory-model" schools designed a century ago for efficient batch processing of masses of students.[39] Unlike schools in many countries where teachers often stay with their students for 2 or 3 years in primary school (what in the U.S. is referred to as "looping") and have more extended relationships in secondary school, U.S. schools adopted the Prussian age grading model that typically moves students to another teacher each year and to as many as seven or eight teachers daily in secondary schools. Secondary teachers may see 150 to 200 students per day in short 45-minute blocks, and, despite their best efforts, are unable to know all of their students or their families well. This reduces the extent to which teachers can build on personal knowledge in meeting students' needs. Counselors are assigned to attend to the personal needs of hundreds of students, also an unmanageable task, and students who experience adversity may have no one to turn to for support.[40]

The design of most U.S. secondary schools is particularly at odds with the needs of adolescents because it de-emphasizes personal connections with adults and focuses on competitive ranking of students (e.g., in academic tracking and ranking, in tryouts for clubs and activities) just as young people most need to develop a strong sense of belonging, connection, and personal identity.[41] Depersonalized contexts are most damaging when students are also experiencing the effects of poverty, trauma, discrimination, and bias without supports to enable them to cope and become resilient. Unless mediated by strong relationships and support systems, these conditions interfere with learning, undermine connections, and impede opportunities for youth to develop skills to succeed.[42]

Ecological changes that create personalized environments with opportunities for stronger relationships between adults and students can create more productive contexts for learning. For example, small schools or small learning communities with personalizing structures—such as advisory systems in which advisors work with a small group of students over multiple years, teaching teams that share students, or looping with the same teachers over 2 years or more—have been found to improve student achievement, attachment, attendance, attitudes toward school, behavior, motivation, and graduation rates.[43]

These strategies allow educators to create a community within the school where caring is a product of individuals knowing each other in multiple ways. Teachers in such personalized settings report a heightened sense of efficacy, while parents report feeling more comfortable reaching out to the school for assistance. In particular, secondary schools that seek to strengthen relationships—by creating advisory systems, using teams of teachers who work with shared groups of students over time, and reducing the total number of teachers students see through interdisciplinary coursework and block scheduling—mitigate the negative effects of the secondary-school transition and have better outcomes than those that leave students in a maelstrom of pressures and expectations with few opportunities to build relationships.[44]

Structures are important to set the stage for the kinds of coherent, consistent, continuous relationships children need to support their development, but the nature of those relationships and the resulting educational experiences are not a given. They depend on the attitudes, beliefs, skills, and capacity of staff; the school climate, including norms for interactions; and the practices and procedures that are adopted for instruction, classroom management, school discipline, and more. We turn to these important elements next.

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Creating strong classroom communities

Learning is a transactional process in which both students and teachers must learn how to understand and communicate with each other, and in which trust creates conditions for reduced anxiety and greater motivation.[45] Research suggests that "children continue to benefit from readily available relationships with peers and other adults (teachers) to the degree that the relationships continue to be sensitive and attuned to their emotional needs, consistent, trustworthy, and cognitively stimulating."[46]

This can be accomplished when schools develop an intentional community that ensures a sense of belonging and safety, with shared norms represented in all of the school's activities. In addition, a culture of participation encourages student agency and leadership in the context of a culturally responsive curriculum that values diverse experiences and involvement in the community.[47]

In developmentally grounded schools, classroom management is approached as something that is done with students and not to them. Contrary to conventional wisdom, classroom management is not simply the process of arranging desks, rewarding good behavior, and administering consequences for misconduct. Productive classrooms are organized not around a compliance regimen that emphasizes the recognition and punishment of misbehavior, but on the promotion of student responsibility through the development of common norms and routines with the participation of students.[48] Students may help develop the classroom rules and norms—often in a classroom constitution that is posted—and take on specific tasks, ranging from acting as materials manager or librarian to leading activities in the classroom to organizing special events, that allow them to be responsible and contributing members of the community.

An effective classroom learning community develops respectful relationships not only between teachers and students, but also among the students themselves, as students are taught to develop social competencies, such as making friends, managing conflict, and caring for others. Teachers take time to socialize students to their roles as community members.[49] Teachers and students together create common norms for behavior in various situations, so that students can learn how to interact respectfully, take turns, voice their needs and concerns appropriately, and solve problems that may occur. The teacher's active role in co-regulating children's behavior helps scaffold the child's development toward self-regulation by providing the child a repertoire of words and strategies to use to manage different situations.

The development of a learning community helps teachers to manage the classroom, not only because children feel more connected, but because it allows for greater assistance through collaboration among peers, who gain in competence and agency. Developing community practices that strengthen relationships is critical. These practices may include classroom meetings, "check-ins" at the beginning of class about how students are doing, and routines for how to work in groups productively, engage in respectful discussions, or resolve conflicts. They may also include regular student-teacher conferences. In collaborative communities, members feel personally connected to one another and committed to each other's growth and learning.

Building relational trust and family engagement

Relational trust among teachers, parents, and school leaders is another key resource that predicts the likelihood of gains in achievement and other student outcomes in which instructional expertise is also present. Trust derives from an understanding of one another's efforts and goals, along with a sense of obligation toward each other, grounded in a common mission. As Bryk & Schneider put it: "Trust is the connective tissue that holds improving schools together."[50] Relational trust is fostered in stable school communities by skillful school leaders who actively listen to concerns of all parties and avoid arbitrary actions, and who nurture authentic parent engagement, grounded in partnerships with families, to promote student growth.

Schools can nurture strong staff-parent relationships by building in time and supports for teachers and advisors to engage parents as partners with valued expertise. They can do this by planning teacher time for home visits, positive phone calls and text or email messages home, school meetings and student-teacher-parent conferences scheduled flexibly around parents' availability, and regular exchanges between home and school.[51]

Building strong relationships between the school and the family improves academic outcomes for students. The Consortium on Chicago School Research found parent involvement to be a key component of 100 Chicago elementary schools with steep improvements in achievement: Controlling for other variables, students were 10 times more likely to achieve substantial gains in mathematics and have increased student motivation and participation in schools with strong parental involvement.[52]

In a series of meta-analyses designed to determine the impact of parental involvement on the academic outcomes of minority children, researchers consistently found significant positive effects of parental involvement on academic achievement for children in all grades, pre-k through 12th grade.[53] The largest effect sizes were for programs that

- encouraged parents to engage in shared reading with their children, including strategies in which teachers offered questions that parents could ask about the readings;
- involved parents and teachers working together as partners to develop common strategies, rules, guidelines, and expectations for children;
- increased communication between parents and teachers; and
- involved parents in checking students' homework.

Schools that succeed in engaging families from diverse backgrounds embrace a philosophy of partnership in which power and responsibility are shared. It is important to recognize that in some communities in which trust has been violated, it must be rebuilt through a proactive, authentic process that includes extensive listening, relationship-building, and demonstrations that educators are trustworthy.

The efforts are worthwhile. Lasting effects on achievement occur when students feel supported both at home and in school. Students with involved parents have more self-confidence, feel school is more important, earn higher grades, and are more likely to attend college.[54] Higher achievement can be stimulated by teacher outreach to parents through face-to-face meetings, sending materials home, and phone calls home on a routine basis.

Enabling culturally competent classrooms

If students are to feel safe and have a sense of belonging, they must be understood and respected by their teachers.

Lack of relational trust within schools and between schools and families can inhibit learning, especially if it adds to children's stress and anxiety. When children or adults are distracted by concerns that flow from their lives outside the classroom or social dynamics within the classroom, their capacity to focus on learning can suffer.[55] When children feel a lack of safety or belonging, or when they experience inconsistencies, their cognitive load is increased, which negatively affects cognition and working memory and can impede learning.

If students are to feel safe and have a sense of belonging, they must be understood and respected by their teachers. One aspect of this understanding derives from an appreciation of culture; that is, the shared cultural practices, norms, and belief systems that humans construct in a range of communities defined by family, religion, region, activities or interests, ethnic group membership, or other bonds. Each person belongs to multiple cultural communities that enact "repertoires of practice."[56] At its root, culturally sensitive teaching must appreciate the complexity of individuals' multiple contexts for development, as these provide grist for instruction and insights for how to help students make connections among ideas.

Social identity and stereotype threat

Teachers' perceptions about their students shape expectations that often predict student achievement apart from prior ability. Teachers play a key role in shaping student learning through their own beliefs and the feedback they provide to their students.[57] Unfortunately, there is evidence that some teachers attribute inaccurate characterizations of academic ability and behavior to students based on race and ethnicity,[58] and may have lower expectations of Black and Latinx students and interact with them less positively than with White students.[59] Schools foster or impede these beliefs to the extent that they group or track students in ways that convey messages about perceived ability, deliver stereotypic messages associated with group status, and emphasize ability rather than effort (e.g., "smartness" vs. "hard work") in their judgments about students and their attributions of causes of success.

The way students are treated in school can trigger or ameliorate **social identity threat**, which can affect students who are members of groups that have been evaluated negatively in society—for example, racial, ethnic, or linguistic minorities; students with disabilities; those from low-income families; or others.[60] Social identity threat can be triggered when people feel they are at risk of being stigmatized in a given situation by cultural representations that associate a social identity with undesirable characteristics. Social identity threat leads to significant stress, release of cortisol and adrenaline, symptoms of anxiety and depression, and, sometimes, challenging behavior that results from an attempt to protect one's identity from perceived attack.[61]

Students who have received societal or school-delivered messages that they are less capable as a function of race, ethnicity, language background, gender, economic status, or other status will often translate those views into self-perceptions of ability affecting their performance on school tasks or tests.[62] **Stereotype threat**, the "social identity threat that occurs when one fears being judged in terms of a group-based stereotype,"[63] induces stress and reduction in working memory and focus, leading to impaired performance.[64]

Stereotype threat is just one form of social identity threat. Because all people have myriad identities—race, gender identity, sexual preference, ethnicity, job role, and more—there are many different identities that can be under threat at any given time, in any given context. As Claude Steele and colleagues explain:

> The threat posed by this group stereotype becomes a formidable predicament, one that could make it difficult for [a person] to trust that he would be seen objectively and treated with good will in the setting. Such, then is the hypothesized nature of stereotype threat—not an abstract threat, not necessarily a belief or expectation about one's self, but the concrete, real-time threat of being judged and treated poorly in settings where a negative stereotype about one's group applies. … The resulting ruminative conflict, coupled with the threat of devaluation in the setting … can cause enough distraction to undermine a person's performance in the setting.[65]

For many students, because social identity or stereotype threat has been triggered—either within the school or, from other experiences they or their family members may have had, before even entering the school—schools are viewed as inherently unsafe spaces. For students who feel that their identities are threatened, there is often a heightened assumption that they are not cared for or that they are not welcome. These feelings can be exacerbated if they don't see themselves or their identities represented in the curriculum, faculty, staff, policies, practices, or school climate in general. Among the "psychic costs" of social identity threat in school are feelings of marginalization, causing students to "disengage or disidentify with the setting."[66]

If students subjected to social identity threats do not know whether a school is safe and welcoming for them, many will assume it is unsafe. This can result in a state of hypervigilance and defensiveness. The fear of being negatively judged is itself a traumatizing factor that can cause toxic stress. In fact, many of the reactions are the same: elevated cortisol levels, anxiety, low academic performance, or adopting a "fight, flight, or freeze" stance. When a student's sense of being threatened is activated, he or she is more likely to respond to a seemingly innocuous correction or interaction with a disproportionately negative response.

It is important to recognize that many students of color, LGBTQ students, and others who experience intense societal discrimination are keenly aware of the ways they are marginalized by society, with schools often being ground zero for legal battles about their status, such as disputes around segregation and bathroom access. Because society creates conditions that make these populations feel unsafe, schools have an obligation to act affirmatively to make it clear that they will be safe, protected, and valued in this environment.

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Creating identity safety

A growing body of research suggests that cultural pluralism in schools may mitigate many of the educational issues faced by students of color by helping improve their overall school climate perceptions. Cultural pluralism is based on an appreciation for and encouragement of cultural diversity through simultaneously acknowledging cultural differences, promoting cross-cultural relationships, and encouraging the maintenance of the unique cultural identities of groups of students. Rather than being a mere part of a larger assessment of school climate, support for cultural pluralism may be a necessary prerequisite for overall positive school climate, particularly for students of color.[67]

Stereotype threat can also be mitigated in the classroom through teachers' use of affirmations that the student is seen as competent and valued. Many dozens of studies have shown that when students receive such affirmations, performance on tests, grades, and other academic measures improve significantly in ways that are frequently maintained over time.[68] Affirming attitudes, for example, have been shown to support students' achievement.[69] Teachers who respect cultural differences are more apt to believe that students from nondominant groups are capable learners and to offset stereotype threat by conveying their faith in students' abilities.

Finally, stereotype threat can be reduced by the way teachers frame the purpose of assignments and assessments—as diagnosing current skills that can be improved, rather than measuring ability[70]—and by how they give constructive feedback to students about their work, noting that the feedback reflects the teacher's high standards and a conviction that the student can reach them, along with an opportunity to revise the work.[71] When teachers view students' experiences as an asset and intentionally bring students' voices into the classroom, they create an "identity-safe" and engaging atmosphere for learning to take place.

Identity-Safe Classrooms

Identity-safe classrooms promote student achievement and attachments to school.[72] The elements of such classrooms, found to support strong academic performance for all students, include:

- **Teaching** that promotes understanding, student voice, student responsibility for and belonging to the classroom community, and cooperation in learning and classroom tasks.
- **Cultivating diversity as a resource** for teaching through regular use of diverse materials, ideas, and teaching activities along with high expectations for all students.
- **Classroom relationships** based on trusting, encouraging interactions between the teacher and each student, and the creation of positive relationships among the students.
- **Caring, orderly, purposeful classroom environments** in which social skills are proactively taught and practiced to help students respect and care for one another in an emotionally and physically safe classroom, so each student feels attached to the others.

Teachers need to understand how their attitudes toward their students can significantly shape the expectations they hold for student learning, their treatment of students, and what students ultimately learn. In the classroom, teachers should avoid labeling students and provide positive affirmations about individual and group competence, emphasize the importance of effort, and encourage students to understand that through effort they will indeed improve. These fundamental commitments to students not only undergird a positive, culturally responsive school climate, but also productive academic supports in the classroom, and educative and restorative practices with respect to student behavior and discipline systems.

Culturally responsive teaching

All teachers can convey affirming attitudes by exposing students to an intellectually demanding curriculum and supporting them in mastering it, conveying their confidence that students can learn; teaching students strategies they can use to monitor and manage their own learning; encouraging students to excel; and building on the individual and cultural resources they bring to the school. Research suggests that culturally responsive teaching uses "the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them. It teaches *to and through* the strengths of these students."[73]

Strategies that convey respect and concern for students become the basis for meaningful relationships and favorable academic results.[74] These include recognizing students' culturally grounded experiences as a foundation on which to build knowledge, exhibiting cultural competency in interacting with students and families, demonstrating an ethic of deep care, and possessing a sense of efficacy that is consciously transmitted to students.[75] Furthermore, culturally responsive teachers recognize that there are multiple ways of perceiving reality, hold affirming views of students from diverse backgrounds, believe they should and can bring about change to make schools more equitable, know about the lives of their students and incorporate sociocultural experience into the classroom, know how children construct knowledge, and provide situations for promoting knowledge construction.[76]

Teachers can learn about the strengths and needs of students as well as their families' funds of knowledge through regular check-ins and class meetings, conferencing, journaling, close observation of students and their work, and connections to parents. These practices can foster developmentally informed relationships among students, parents, and staff.[77]

Shaping Positive Student Behaviors

Crafting school and classroom environments that support and encourage positive student behavior as well as learning requires recognizing that academic, social, and emotional learning are interconnected—and that they can be explicitly taught. University of Chicago researchers explain that because social and emotional skills are malleable, a "key task for educators becomes the intentional development of these skills, traits, strategies, and attitudes in conjunction with the development of content knowledge and academic skills."[78]

This requires both explicit teaching of social and emotional skills and competencies, and the use of educative and restorative approaches to discipline.

Development of social, emotional, and academic competencies

Educators have long known that students' academic learning and social-emotional learning go hand in hand and that the development of prosocial mindsets, skills, and habits gives students the capacity to persist through challenging work, collaborate with others, take risks while learning, think critically, and communicate effectively. Social, emotional, and other conditions of cognitive engagement influence the affective salience of instruction, how safe students feel, and how students focus their attention and make decisions.[79] Furthermore, these factors affect how the nervous system responds and the degree to which students tap their cognitive and psychological resources.

Social and emotional learning (SEL) is a process that occurs in many contexts—home, community, and school. The Collaborative for Academic, Social, and Emotional Learning (CASEL) identifies five main areas of competence:

1. **Self-awareness** involves identifying emotions and accurate self-perceptions.
2. **Self-management** includes managing stress and controlling impulses, which includes aspects of executive function and draws on mindsets.
3. **Social awareness** entails perspective taking, empathy, and appreciation for diversity.
4. **Relationship skills** involve communication and cooperation to establish and maintain healthy relationships.
5. **Responsible decision making** focuses on skills such as identifying problems, evaluating, reflecting, and acting with consideration for the well-being of oneself and others.

Researchers at the University of Chicago have developed a comprehensive framework that describes how these and related "co-cognitive" factors are interconnected and jointly provide the foundation for academic learning. The social-emotional competencies are reflected in

- **academic behaviors**, such as going to class, completing homework, studying, staying organized, and participating in class;
- **academic perseverance**, which refers to how well a student completes school assignments to the best of his or her ability despite challenges or obstacles;
- **academic mindsets**, or a student's attitudes or beliefs about himself or herself in relation to academic work;
- **learning strategies**, the processes and tactics one employs to aid in the work of thinking, remembering, or learning; and
- **social skills**, those acceptable behaviors that improve social interactions, such as cooperation, assertion, responsibility, and empathy.[80]

Various approaches to fostering students' academic, social, and emotional learning have been developed. Some approaches are delivered through stand-alone instruction, while others focus on integration of skills within standard academic curricula.[81]

Formal programs teaching SEL have shown considerable success. A meta-analysis of 213 controlled studies of SEL programs representing more than 270,000 students from urban, suburban, and rural elementary and secondary schools found that these students showed greater improvements than comparison students in their social and emotional skills; attitudes about themselves, others, and school; social and classroom behavior; and test scores and school grades, including an average 11 percentile point gain in achievement. They also experienced reductions in misbehavior and aggression, as well as in stress and depression.[82] Benefits of SEL interventions on skills, attitudes, behavior, and academic performance have been found to endure and to serve as a protective factor (e.g., preventing conduct problems and drug use) on follow-up measures collected 6 months to 18 years later.[83]

Effective SEL programs provide instruction that is sequential, active, focused, and explicit.[84] Studies have found that SEL programming is stronger when conducted by school personnel who have opportunities to support and deepen their own skills,[85] which highlights the critical need for ongoing professional development around educators' social-emotional skills as a vital element for promoting these capacities in students. Outcomes can also be enhanced when SEL is embedded throughout the school day and integrated into other subject matter.[86] Greater integration allows for transfer of learning by capitalizing on teachable moments and opportunities to reinforce and practice skills throughout the school day.

The use of mindfulness strategies and other techniques for calming oneself, as well as monitoring and redirecting attention, are also beginning to show benefits for learning.[87] Mindfulness practice—which cultivates greater awareness of one's experience infused with kindness[88]—and related contemplative practices have also been linked to more prosocial behavior and reductions in implicit bias.[89] The practice of mindfulness promotes neural integration and may be particularly helpful during the period of adolescent brain remodeling, which contributes to higher capacities for regulation.[90]

In studies of high schools that specifically organize their efforts to develop socially and emotionally aware and skilled students, infusion of SEL opportunities in every aspect of the schools produced positive outcomes for student engagement, achievement, and behavior (being collaborative and supportive of their peers, resilience, employing a growth mindset, and valuing opportunities to help others). SEL infusion ranged from curricula focused on perspective-taking and empathy in history and English language arts and on community and social problem solving in social studies, mathematics, and science to community service projects to the teaching of specific conflict resolution strategies and the use of restorative practices.[91]

A whole-school approach imbued with an equity-focused lens and a social justice orientation enables students to act as agents of change, gaining a sense of efficacy. In such schools, the vision is infused into daily activities by underscoring themes of interdependence and social engagement. By integrating whole child development strategies with instructional practice, such schools increase achievement and attainment, and reduce educational inequality.

Educative and Restorative Approaches to Discipline

A developmentally appropriate approach to schoolwide discipline recognizes students' behaviors as demonstrations of a developmental need and as a set of skills that need to be taught and developed, not demanded. Explicit teaching of self-regulation, conflict resolution, and other skills creates a virtuous circle of responsible behavior. Studies have found, for example, that even in elementary school, when students learn and practice skills of conflict resolution, they become more inclined to work out problems among themselves before the problems escalate.[92]

Students who have been aggressive benefit especially from learning specific skills for managing conflicts peacefully that differ from what they have previously learned at home or from peers.[93] The results of such teaching are increased social support, improved relations, higher self-esteem, increases in personal control, and higher academic performance.[94] Comprehensive programs for children with high levels of aggression and disruption in the early grades can also significantly reduce juvenile delinquency, decrease adult crime and mental health problems, and increase well-being.[95]

Research also finds that coercive discipline, in which teachers manage student behavior largely through punishments, inhibits the students' development of responsibility,[96] ultimately increasing misbehavior, as students increasingly abandon their own self-responsibility for their learning and behavior and develop resistance and opposition to school,[97] while exacerbating discriminatory treatment of students.[98]

A punitive environment undermines learning by heightening anxiety and stress, placing extra demands on working memory and cognitive resources, which drains energy available to address classroom tasks.[99] By contrast, an educative approach supports learning, as teachers' proactive and positive responses create a safe and empowering classroom environment through reinforcing and reminding language (including verbal and nonverbal cues); approaching students in a nonthreatening manner; presenting students with problem-solving options as a means of de-escalating potentially explosive situations; and using nonpunitive, restorative consequences.[100]

Students who learn in such supportive communities have higher levels of self-understanding, commitment, performance, and belongingness, and fewer discipline problems.[101] These settings reduce the likelihood of disruptive behavior occurring in the first place. Authoritative approaches that strengthen interpersonal supports and connections, establish structures for fair processes, and encourage student voice are especially responsive to the developmental needs of adolescents and in line with a style that is known to be beneficial for parenting as well as teaching.[102]

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One example of such a developmentally grounded approach is **Consistency Management and Cooperative Discipline**, which builds shared responsibility for learning and classroom organization between teachers and students. The teacher creates a consistent learning environment by working with students in establishing a cooperative plan for classroom rules, procedures, use of time, and academic learning that governs the classroom. Students shift from being "tourists" to being "citizens" as they create a classroom constitution and take responsibility for dozens of activities in the classroom that teachers might otherwise take on themselves. As they are taught citizenship skills and given multiple chances for leadership in small and large ways, students gain the experiences necessary to become self-disciplined. All adults in the school learn to work with children in consistent ways, and home/community involvement is encouraged. In a set of evaluations of this Cooperative Discipline approach in urban public schools, researchers found improvements in student and teacher attendance; reductions in discipline referrals; and improvements in classroom climate, time to learn, and long-term student achievement.[103]

Educative approaches such as this one are important for addressing the excessive reliance on exclusionary discipline in many schools, which persists in spite of evidence that punishment and exclusion do not work and often have harmful effects.[104] This is particularly the case for many students of color, who are not only disproportionately removed from class and school, but also are removed for longer terms. The disproportionalities are largest in subjective offenses that are more likely to be affected by implicit as well as explicit bias. Exclusionary discipline does not teach students new strategies they can use to interact and solve problems, nor does it enable teachers to understand how they may unintentionally trigger or escalate problem behavior.[105]

School discipline policies that exclude students through suspension and expulsion create a range of dysfunctional consequences: The more time students spend out of the classroom, the more their sense of connection to the school wanes, both socially and academically. This distance promotes disengaged behaviors, such as truancy, chronic absenteeism, and antisocial behavior,[106] which in turn exacerbate a widening achievement gap. The frequency of student suspensions is linked to academic declines and an increased likelihood of dropping out.[107]

Extensive use of exclusionary discipline also undermines school climate overall, beyond the effects on individual students who are suspended or expelled. It degrades the sense of community in a school and makes everyone feel more threatened. It also exacerbates misbehavior, which affects everyone in the school community, as students who are suspended often return frustrated and angry, further behind academically, and more likely to disrupt others.

Schools have started to turn around their suspension and expulsion rates by adopting social-emotional learning and restorative practices that focus on reflection, communication, community building, relational-based discipline, and making amends instead of relying on punishment.[108] Restorative justice is an approach to dealing with conflict by identifying or naming the wrongdoing, repairing the harm, and restoring relationships. Restorative discipline is built on strong relationships and relational trust, with systems for students to reflect on any mistakes, repair damage to the community, and get counseling when needed. Relationships and trust are supported through **restorative practices**, including universal interventions such as daily classroom meetings, community-building circles, or conflict resolution strategies, which are also part of many social and emotional learning programs.

Effective strategies include various combinations of restorative or peace circles, restorative conferences, peer mediation, and whole-school approaches. These bring together the parties involved in conflict, with the support of a facilitator, to talk about what happened, the impact, and how to repair the harm. Syntheses of research suggest that restorative practices result in fewer and less racially disparate suspensions and expulsions, fewer disciplinary referrals, improved school climate, higher quality teacher-student relationships, and improved academic achievement across elementary and secondary classrooms.[109]

The more comprehensive and well-infused the approach, the stronger the outcomes. For example, a continuum model including proactive restorative exchanges, affirmative statements, informal conferences, large-group circles, and restorative conferences substantially changed school culture and outcomes rapidly in one major district, as disparities in school discipline were reduced every year for each racial group and gains were made in academic achievement across all subjects in nearly every grade level.[110] Creating an environment in which students learn to be responsible and are given the opportunity for agency and contribution can transform social, emotional, and academic behavior and outcomes.

Providing Supports for Student Motivation and Learning

Learning is a function both of teaching—what is taught and how it is taught—and student perceptions about the material being taught and about themselves as learners. Students' beliefs and attitudes have a powerful effect on their learning and achievement.

Four key mindsets have been identified as important for perseverance and academic success for students. They include:

1. Belief that one belongs at school
2. Belief in the value of the work
3. Belief that effort will lead to increased competence
4. A sense of self-efficacy and the ability to succeed[111]

Shaping productive mindsets can set into motion a cascade of effects that accumulate over time to result in more positive school outcomes, such as increasing school affiliation and self-concept, resulting in higher levels of academic engagement that becomes self-reinforcing.[112] For example, a growth mindset—the belief that effort will lead to increased competence—contributes to learning and well-being in terms of student intelligence, emotion, and personality traits.[113] The core principle that skills can always be developed is consistent with evidence that the brain is constantly growing and changing in response to experience. In practical terms, providing feedback focused on effort and process encourages students to adopt a growth mindset, whereas feedback that focuses on traits (e.g., "smarts") has negative consequences for student motivation and achievement.[114] Providing constructive feedback and opportunities for revision are instructional practices that encourage learners to grow.[115]

Closely related to these developmental and cognitive processes is the issue of motivation for learning. Students will work harder to achieve understanding and will make greater progress when they are motivated to learn something. However, motivation is not just inherent in the individual; it can be developed by skillful teaching.

First and foremost, motivation is about the learner's perceptions of the task. As Carol Lee notes, the learner implicitly asks: "What am I being asked to do?" "Am I capable of tackling these tasks?" "Is this task meaningful to me?" "What supports are available to me to wrestle with this task?" "Do I feel safe in attempting to wrestle with this task?" and "How do I weigh any risks or competing goals?"[116]

Researchers have found that student motivation in the classroom is fostered by three major considerations: (1) the nature of the **task** and its value to the student; (2) the nature of the **learner** and his or her expectations of success; and (3) the nature of the **learning environment** and the extent to which it emphasizes learning goals and provides support.[117]

A **learning task** will have more value to students if it is relevant to their lives, can be connected to events they have experienced or care about, or focuses on problems that are interesting and realistic. It is helpful if the task offers choices of topics, research strategies, or modes of presentation that allow students to make a connection to their interests. The task should also be approachable (i.e., within the zone of proximal development), and it should be structured to provide evidence of progress along the way, so that it offers ongoing incentives to continue. Students are more likely to value learning when intrinsic reasons for learning are emphasized, such as when the task potentially benefits others and/or results in products or performances that have an audience beyond the teacher.[118]

In order to be motivated to try, students need to believe they can be successful. Their **expectations for success** influence their willingness to engage in learning. These expectations depend on students' perceptions of the task and their likelihood of success, as well as on their inclinations to undertake new learning, tackle difficult tasks, and take risks. These inclinations, in turn, are related to self-perceptions of ability and mindsets. Students with confidence in their abilities to succeed on a task work harder, persist longer, and perform better than their less efficacious peers.[119] Those who believe that success in a given domain is incremental and can be cultivated through effort tend to be willing to try new things and to work harder when they encounter an obstacle, rather than giving up.[120]

To make challenging tasks motivating and enhance expectancies of success, teachers must actively "structure information, guide student efforts, scaffold instruction, and provide multiple opportunities for students to grapple with the information and represent their understanding a variety of ways."[121] Other strategies for enhancing students' expectations of success include introducing various pathways to learning, recognizing each student's assets and strengths, and treating students equitably.

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The **learning environment** supports motivation when learning and mastery goals are emphasized, rather than grades or performance goals. Learning goals are encouraged when scaffolding and support are provided; effort and improvement are recognized; mistakes are treated as learning opportunities; students have the opportunity to revise their work; evaluation emphasizes learning; individual competition and comparison is minimized; and students are grouped by topic, interest, or choice rather than by their performance.[122]

These classroom features enhance intrinsic motivation, which more often results in high-quality learning and creativity. In contrast, extrinsic motivation based on external rewards that are used to control students' behavior can reduce students' intrinsic motivation for the task as well as the quality of performance on the task.[123] Although extrinsic rewards are sometimes useful to create incentives for a new behavior or practice, their use should be minimal and reduced over time as the desired behavior becomes commonplace.

Student-centered teaching

The expectations that graduates have the problem-solving and interpersonal skills needed for 21st century success require a focus on instruction designed to foster outcomes such as communication, collaborative problem solving, high-level reasoning, and the development of a growth mindset. These abilities cannot be developed through passive, rote-oriented learning focused on the memorization of disconnected facts. They require paths to deeper understanding supporting the transfer of skills and use of knowledge in new situations.[124]

These goals point us to some important insights from the learning sciences. For example, the development of neural pathways is associated with exposure to and generation of language,[125] which implies that students must be active generators of content in a classroom and not just receivers. Furthermore, emotion triggers learning as it affects excitement and attention[126] and thus must be a consideration in designing instruction that is mentally engaging. At the same time, consistent structures that allow the student to know what to expect and how to be successful reduce cognitive load and free up the mind for learning other challenging material.[127]

With these goals and insights in mind, specific pedagogical moves that support this developmental learning process and increase intrinsic motivation include

- choice of tasks that have the right amount of challenge, such as demanding analysis to answer a question or develop a product, with supportive guidance and feedback;
- well-designed questions to stimulate inquiry and engagement as well as to support students putting information together to find answers and consolidate understanding;
- use of multiple and varied representations of concepts that allow students to "hook into" understanding in different ways;
- design of instructional conversations and "joint productive activity"[128] that allow students to discuss their emerging thinking and hear other ideas, developing concepts, language, and further questions in the process;
- encouragement for students to elaborate, question, and self-explain; and
- instruction and curriculum that use apprentice-style relationships in which knowledgeable practitioners or older peers facilitate students' ever-deeper participation in a particular field or domain.[129]

Using these principles, modes of teaching can be adapted to each student's unique background, talents, interests, and needs, supported by clear standards and models, constant feedback, and an emphasis on metacognition and reflection.

The success of these principles has been documented in schools serving large numbers of students of color and students from low-income families by researchers examining schools and teachers with unusually successful outcomes.[130] In these student-centered schools focused on the development of the whole child, the teacher takes on the role of guide or facilitator of learning, helping students develop an understanding of their own learning and how to continually improve, rather than acting as a gatekeeper and judge who allocates rewards and punishments in a competitive context focused on ranking and sorting.

Part of student-centered teaching is learning what students already know and how they can bring that knowledge into the classroom context. As Nailah Nasir and colleagues point out, "Often, people can competently perform complex cognitive tasks outside of school, but may not display these skills on school-type tasks."[131] Or their displays might not be recognized as demonstrating competence according to normative standards based on assumptions that those who differ from middle-class norms operate at a deficit. For example, complex statistical calculations used on the basketball court may not initially carry into the mathematics classroom unless teachers are alert to supporting the transfer by building on this kind of real-world knowledge.

As Carol Lee demonstrated, the bridge between students' experiences and school content can be built using a cultural modeling approach that draws on the familiar to make the structure of a domain visible and explicit to students.[132] Lee illustrated symbolic meanings in literature by beginning with rap songs and texts the students knew and carried their insights into study of more formal canonic texts.

Similarly, Jo Boaler's study of the outcomes of inquiry-based instructional practices in mathematics classrooms serving students from low-income families found that linguistic, ethnic, and class inequalities were reduced when teachers contextualized problems and made them relevant to students' lives, introducing new concepts through discussion and asking students to explain and discuss their thinking.[133] These teachers achieved stronger outcomes by addressing students' difficulties by seeking to understand and support students' thinking and inquiry in the context of rich learning experiences, rather than narrowing the curriculum and reducing it to rote learning experiences, as often happens for students who have had less experience with the content and with inquiry approaches.

Such inquiry-based learning typically takes place in collaborative groups. A developmentally rich context for learning provides opportunities to collaborate with peers in ways that support the development of self-regulation, executive function, and social skills.[134] Collaborative learning can provide students with learning assistance from peers within their zone of proximal development, opportunities to articulate their ideas—which can strengthen their learning—and opportunities to strengthen metacognitive skills.

Extensive research identifies developmental benefits of social learning in well-managed groups.[135] Hundreds of studies and several meta-analyses find significant achievement benefits for students when they work together on learning activities compared to when they work on their own.[136]

Researchers have identified a number of social processes that help to explain why small-group work supports individual learning. These include opportunities to share original insights, resolve differing perspectives through argument, explain one's thinking about a phenomenon, provide critique, observe the strategies of others, and listen to explanations.[137] There is evidence that collaborators can generate strategies and abstract problem representations that are extremely unlikely to be observed when individuals work alone, suggesting that there are unique benefits of joint thinking.[138] In addition to cognitive gains, studies find positive outcomes of collaborative learning on measures such as student self-concept, social interaction, time on task, and interpersonal attraction or liking of one's peers, as well as academic outcomes.[139]

While well-managed group work can enhance student learning, teachers must know how to structure this work. In successful use of cooperative approaches, teachers often help students structure roles within the group and provide questions and tasks that guide the group's discussion.[140] Teachers create group-worthy tasks in which all must engage for the work to be successfully accomplished, support for students to learn to work together, and scaffolding of the material to be learned. They play an active role in constructing the tasks and questions that help students learn to coordinate their work and frame their ideas in terms that reflect the modes of inquiry in the discipline. These efforts produce strong learning gains and reduce achievement gaps among student groups.[141] They also support the development of social, cognitive, and academic skills while developing student agency and the ability to reflect on and evaluate ideas.

Mastery-oriented assessment

Finally, a mastery-focused approach to assessment that emphasizes learning goals has been found to help sustain achievement-directed behavior over time and to orient learners toward a focus on improving competence and deeply understanding the work they produce.[142] In addition, assessments that place value on growth rather than on scores earned at one discrete moment have been found to create higher motivation and higher levels of cognitive engagement.[143] In contrast, researchers have found that evaluative, comparison-oriented testing focused on judgments about students leads to students' decreased interest in school, distancing from the learning environment, and a lowered sense of self-confidence and personal efficacy.[144]

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Schools that have been particularly successful in reducing opportunity and achievement gaps for traditionally marginalized students have adopted mastery-oriented performance-based assessments that build higher order thinking and performance skills; collaboration and communication skills; motivation and engagement; and a host of co-cognitive skills such as self-regulation, executive function, resilience, perseverance, and growth mindset.[145]

In these schools, projects, papers, portfolios, and other products are evaluated through rubrics that clearly describe dimensions of quality. When these are coupled with opportunities for feedback and revision, the assessments promote learning and mastery rather than seeking to separate students from one another and rank them against each other. These practices are consistent with research indicating it is important that expectations and belief in students are explicitly expressed and enacted through meaningful challenges that each student experiences, with opportunities to develop competence, so that students know they are capable of a high level of achievement.[146]

Performance assessments encourage higher order thinking, evaluation, synthesis, and deductive and inductive reasoning while requiring students to demonstrate understanding.[147] The assessments themselves are learning tools that also build students' co-cognitive skills such as planning, organizing, and other aspects of executive functioning; resilience and perseverance in the face of challenges; and a growth mindset. Furthermore, performance assessments can provide multiple entry points for diverse learners, including English language learners and students with special needs, to access content and display learning.[148]

Creating Multi-Tiered Systems of Support to Address Student Needs

Effective school environments take a systematic approach to promoting children's development in all facets of the school and its connections to the community. Adversity and trauma occur in all communities, as does healthy development. Science has found that stress is a normal part of healthy development, but excessive stress in any of these contexts—at home, at school, or in other aspects of the community—can undermine learning and development and have profound effects on children's well-being. Well-designed supports, including specific programs and interventions that buffer children against excessive stress, can enable resilience and success even for children who have faced serious adversity and trauma.

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Environments that are trauma-sensitive provide children with structure, psychological safety, adult alertness and responsiveness, and opportunities for young people to demonstrate agency with guidance. They also incorporate a personalized approach to identifying and addressing each child's developmental needs, including their physical and mental health needs, as well as their social-emotional and academic needs. Adults working in education need to be specifically trained for this experience and supported in the development of their skills and the management of their own stress so that their actions can be experienced by students as being helpful and compassionate.[149]

A key aspect of creating a supportive environment is a shared developmental framework among all of the adults in the school, coupled with procedures for ensuring that students receive additional help for social, emotional, or academic needs when they need them, without costly and elaborate labeling procedures standing in the way. Multi-tiered systems of support include multidisciplinary

student support teams—on-site pupil services personnel (e.g., social workers, school psychologists, counselors, and nurses) who are skilled in culturally competent academic and behavioral assessment, care coordination, and family engagement with support teams.

While there can be many tiers of support, most systems include three tiers.[150] The first tier is universal—everyone experiences it. Ideally, it uses teaching strategies grounded in universal designs for learning that are broadly successful with children who learn in different ways, and explicit social-emotional learning models and positive behavioral support strategies that are culturally and linguistically competent.[151] Tier 2 services and supports address the needs of students who are at some elevated level of risk or who need some additional support in particular areas. The risk may be demonstrated by behavior (e.g., number of absences) or may be due to having experienced a known risk factor (e.g., the loss of a parent). These services may include academic supports (e.g., Reading Recovery, mathematics tutoring, extended learning time) or family outreach, counseling, and behavioral supports. Schools may operate counseling groups to support students who have experienced loss or violence, who are managing traumatic events, and who need mental health supports. They may use social workers to help students—and sometimes their families—access supports and services. Tier 3 services involve intensive interventions for students who are at particularly high levels of risk or whose needs are not sufficiently met by tier 2 interventions. Tier 3 services might include wraparound services, one-on-one mental health supports, and effective special education.[152]

Interventions, not students, are tiered, and supports can and should be provided in normative environments. Students are not "tier 2 or 3 students"; they receive services as needed for as long as needed, but no longer. Providers should recognize that students have strengths in many areas, building upon student assets and not just focusing on deficits. Because tier 2 and 3 services demand more of students and families, it is particularly important that they be implemented in a child- and family-driven manner that is culturally competent. This can maximize engagement and minimize errors that occur when students, families, or teachers are not asked about their context and needs. Interventions should minimize removal from the normative classroom or extracurricular environments and learning. These supports often benefit from collaboration with local service agencies and community-based organizations with communication feedback loops to school-based staff. Key is that a whole child approach is taken: Students are dealt with in connected rather than fragmented ways, and care is personalized to the needs of individuals.

Helping staff and parents better understand child development is critical so that they can use information about children in productive ways to foster their deeper attachment and growth.[153] When staff and parents work together from a developmentally informed framework, substantial improvements occur for children. The School Development Program (SDP) is an example of this approach. Building upon relationships and school culture to address six developmental pathways—social-interactive, psycho-emotional, ethical, cognitive, linguistic, and physical—the program establishes collaborative working relationships among principals, parents, teachers, community leaders, superintendents, and health care workers, teaching them about child development and grounding collective action in a shared developmental framework for multi-tiered supports.[154] Research on the SDP shows that it helps reduce absenteeism and suspension, improves school climate and relationships among students and teachers, increases student self-competence and self-concept, and strengthens achievement.[155]

Integrated student services

Awareness of the pervasiveness of student toxic stress across the income spectrum and the growth of child poverty in economically traumatized communities have created additional demands for health, mental health, and social service supports that are needed for children's healthy development and to address barriers to learning.

A number of approaches have emerged to creating integrated student services, also called wraparound services, which link schools to a range of academic, health, and social services. Integrated student support (ISS) programs address the reality that children whose families are struggling with poverty—and the housing, health, and safety concerns that often go with it—cannot learn most effectively unless their nonacademic needs are also met. The goal is to remove barriers to school success by connecting students and families to service providers in the community, or bringing those services into the school.

Successful examples include Schools of the 21st Century in New Haven, CT; the Children's Aid Society in New York City; the West Philadelphia Improvement Corps; and Communities in Schools programs in 25 states, all of which have brought social services to schools through community partnerships for over 30 years. These and newer models are similar in their provision of on-site child care and early childhood development; job training, transportation, and housing assistance for parents; health care and mental health services; and child nutrition and food assistance programs. A social worker or community school coordinator conducts needs assessments, partners with agencies outside the school, and tracks program data.[156]

A research synthesis that examined 11 experimental and quasi-experimental studies of ISS models found significant positive effects on student progress in school, attendance, mathematics and reading achievement, and overall grade point averages. These studies also found measurable decreases in grade retention, dropout rates, and absenteeism.[157] A study of the Massachusetts Department of Elementary and Secondary Education Wraparound Zones program, which set up partnerships with community groups to improve school climate and address students' nonacademic needs, found that student outcomes on state English language arts and mathematics assessments in wraparound schools were significantly better than those in matched schools.[158]

Many of these features come together in community school models. Community schools represent a place-based school improvement strategy in which "schools partner with community agencies and resources to provide an integrated focus on academics, health and social services, youth and community development, and community engagement."[159] Many operate year-round, from morning to evening, serving both children and adults. A recent review of 125 studies of community schools and their components found significant evidence for the benefits of these approaches for a wide range of student outcomes, ranging from attendance and behavior to learning and educational attainment.[160]

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In these models, schools often draw on a wide range of community and cultural resources, including partnerships with families, to strengthen trust and build resilience as children have more support systems and people work collaboratively to help address the stresses of poverty and associated adversities they may face.

Extended learning time

Given the plasticity of the brain and its experience dependency, the amount and consistency of cognitive stimulation matters. According to one set of studies, by high school, as much as two thirds of the difference in achievement between students from affluent and low-income families may be the cumulative result of summer learning loss for those who lack year-round enrichment and learning opportunities.[161] September to June progress is similar across socioeconomic groups, but many children from low-income families lose achievement during the summer.

Extending learning time is one way to address these gaps. Before- and after-school and summer programs can provide expanded learning opportunities for students. Examples of the array of out-of-school time (OST) enrichment activities include additional academic instruction; mentoring; and hands-on, engaging learning experiences in music, art, and athletics. Research consistently documents the benefits of OST enrichment. Students attending OST programs show greater academic gains when they attend more frequently and over a longer duration in programs with high-quality instruction.[162]

In a meta-analysis of 93 summer programs, researchers found positive impacts on knowledge and skills for students from middle-income and low-income families from programs focused on both remediation and enrichment.[163] The strongest effects were found for smaller programs and those that provided more individualized and small-group instruction. However, even the largest programs showed positive effects. Other reviews show similar effects,[164] and a review of effects for at-risk students found stronger outcomes for programs of longer duration and those with both social and academic foci than for those that were academic alone.[165] Furthermore, as in other contexts, programs featuring tutoring in a content field such as reading had very substantial effects.

Policy Strategies

The knowledge provided by the sciences of learning and development, coupled with insights from educational research, provides a framework for supporting children's health and welfare across the wide range of contexts they experience. This knowledge base indicates the importance of rethinking schools and social institutions designed a century ago based on factory-model conceptions of organizations that privileged standardization and minimized relationships. Research indicates that schools and child-caring services must be organized around strong, developmentally supportive relationships; coherent and well-integrated approaches to supports, including home and school connections; well-scaffolded instruction that intentionally supports the development of social, emotional, and academic skills, habits, and mindsets; and culturally competent, personalized responses to the assets and needs that each individual child presents.

To achieve these goals at scale, a holistic vision for youth development is needed in which all the elements that impact students are designed in ways that make sense and are science-based. Also needed are policies that enable and encourage schools to personalize instruction within supportive school environments that help students grow along all of the developmental pathways, thereby ensuring their success.

Knowledge provided by the sciences of learning and development, coupled with insights from educational research, indicates the importance of rethinking schools and social institutions designed a century ago based on factory-model conceptions of organizations that privileged standardization and minimized relationships.

As states are in the process of revising and implementing new accountability plans under ESSA, there are new opportunities for them to both focus attention on these imperatives and support schools and districts in achieving them. Four key levers have the potential to leverage change and create the momentum needed to redesign school experiences for students:

1. Assessing **school climate** in order to develop positive learning environments that enable students to be well-supported in all aspects of their development.
2. Providing **educative and restorative approaches to discipline** that keep students in school and integrate social, emotional, and academic learning.
3. Creating **multi-tiered systems of support**, including health and mental health services and extended learning time focused on students' needs.
4. Strengthening **educator preparation and development** to enact these programs and practices grounded in the principles of learning and development.

Developing and Assessing Positive Learning Environments

Under ESSA, Title I local educational agency plans must be designed to "strengthen academic programs and improve school conditions for student learning."[166] ESSA's requirement that states adopt an accountability indicator of "school quality or student success"[167] is important for school improvement: It opens the door to measures of school quality that reveal students' experiences and opportunities to learn.

Assessing school climate

To encourage a focus on supportive learning environments, states can establish a measure of school climate in the accountability system. Measuring school climate through student, parent, and teacher surveys can shine a light on important school practices that are often overlooked and signal that school climate is a priority. This attention may encourage teaching strategies and schoolwide initiatives that create an environment in which students are supported socially, emotionally, and academically and families are welcomed and involved in the education process. Analysis of disaggregated results may help identify gaps in opportunities to learn and belong that can be addressed by educators.

Surveys typically measure students' sense of safety and belonging, supports for teaching and learning, interpersonal relationships, and physical environment. They can also measure levels of staff collaboration, working conditions, and leadership, which are key predictors of teacher turnover and, thus, student success.[168] School climate surveys have long been used in districtwide accountability systems, such as those in Chicago, New York City, and California's CORE district. For years, many states have administered student health surveys that address aspects of school climate, since surveys were required under the federal Title IV Safe and Drug-Free Communities Program.[169]

Most ask respondents how strongly they agree or disagree with statements on a 5-point scale. The California Healthy Kids School Climate Module, for example, asks students and staff their level of agreement with statements regarding:

1. **Academic expectations:** This school is a supportive and inviting place for students to learn.
2. **Relationships:** At my school, there is a teacher or some other adult who really cares about me.
3. **Opportunities for meaningful participation:** Teachers give students a chance to take part in classroom discussions or activities.
4. **Connectedness:** I feel like I am part of this school.
5. **School supports for SEL:** This school helps students solve conflicts with one another.

These kinds of items measure how students feel about the environment and provide information about school practices that may enable SEL. For example, the questions above reveal whether the school proactively teaches conflict resolution and whether teachers support class participation that provides an opportunity to learn communication and collaboration skills.

Under ESSA, 10 states have committed to incorporating measures of school climate into their accountability systems for purposes of school identification, and another six states are using the measures for diagnostic purposes. Diagnostic uses of the survey are typically intended to help identify school improvement needs for all schools and to guide interventions for schools identified for comprehensive or targeted intervention. Thirteen additional states and the District of Columbia have indicated that they plan to incorporate such measures in the near future.

There are compelling reasons to survey teachers, too, about school climate. Research shows that the way teachers perceive a school's climate—the working conditions and supports put in place for them, their trust in leadership, and their collaboration with one another—matters tremendously for teacher retention, especially in schools with low-income, diverse student bodies.[170] These factors, in turn, affect student achievement. Teacher-specific constructs may be measured by items that examine whether

- teachers have time available to collaborate with their colleagues;
- teachers have been given learning opportunities to strengthen their practice, including teaching of social-emotional skills, habits, and mindsets; and
- the faculty has an effective process for making group decisions to solve problems.

California is among the states using school climate assessments for diagnostic purposes: It requires districts to use a student survey of their choice at least once every 2 years to inform their planning and decision making. It does not, however, currently require the results to be reported as part of the state accountability system or used in any particular way in the process of supporting schools identified for intervention and support. The development of this part of the accountability and improvement system is still under consideration.

Using School Climate Data to Diagnose School Needs

In addition to sponsoring surveys, states and districts can also support educators in using measures of school climate to improve school environments by providing time and training to use data from surveys and other sources to inform school improvement initiatives and the use of professional development resources. Washoe County, NV, taught its leadership teams to debrief survey data with students and staff in order to collect additional insights about how to address areas of concern. This process developed useful recommendations for reform as well as buy-in for the survey process.

In addition to surveys, a promising tool for guiding local improvement is the school quality review (SQR), a formal process for evaluating and supporting teaching and learning that can be used to identify schools' areas of strength and need. A review of school quality brings together robust quantitative and qualitative data from observations and interviews.[171] Findings from the SQR provide educators and administrators with actionable information to prioritize areas for improvement, develop school improvement plans, and build local capacity.

Ensuring That Survey Data Do Not Just Sit on a Shelf:

Spotlight on Washoe County School District

With the help of a federal grant, Washoe County School District has developed a robust survey of school climate, including students' social and emotional skills, habits, and mindsets such as self-awareness and responsible decision making. It analyzes this survey data along with its Early Warning Indicator, which identifies students as at-risk based on their grades, attendance, and suspensions. The district uses these data to connect the dots between students' social-emotional competencies and school climate, as measured by surveys and outcomes such as attendance, as well as to inform staff practices in the school and classroom.

Despite focused efforts on SEL at the district level, some students and teachers did not know what was being done with the results and thus were unsure whether the surveys were worth their time. Laura Davidson, director of research and evaluation, explained, "We started doing focus groups with students about the school climate survey and these SEL measures we were developing, and a lot of them were saying, 'It's the 4th year I've taken the survey, I've never seen the results, why should I put any more time or effort into it if I don't see anything change at my school?' … That was a real 'aha' moment for us that we need to do a better job."

Washoe decided to focus on training its SEL lead teams, composed of school staff, on how to debrief survey data with teachers, staff, and, most importantly, students. These debriefs dig into what might be causing trends in the data, as well as what to do about them. For example, recent survey data showed that students scored themselves poorly on managing and expressing their emotions (self-management and relationship skills), which some thought might be connected to behaviors that led to suspensions. In a student data summit, students noted that teachers don't actually teach them how to express themselves in the way that they teach students how to get along with others. In their strategic plans, many schools in the district began addressing this aspect of SEL, focusing on investments in SEL curriculum and professional development.

Student data summits have been a success in the district, and district leaders believe they have led to greater student engagement and empowerment. The district's student voice coordinator is currently working with WestEd on a toolkit for student engagement strategies such as this one.

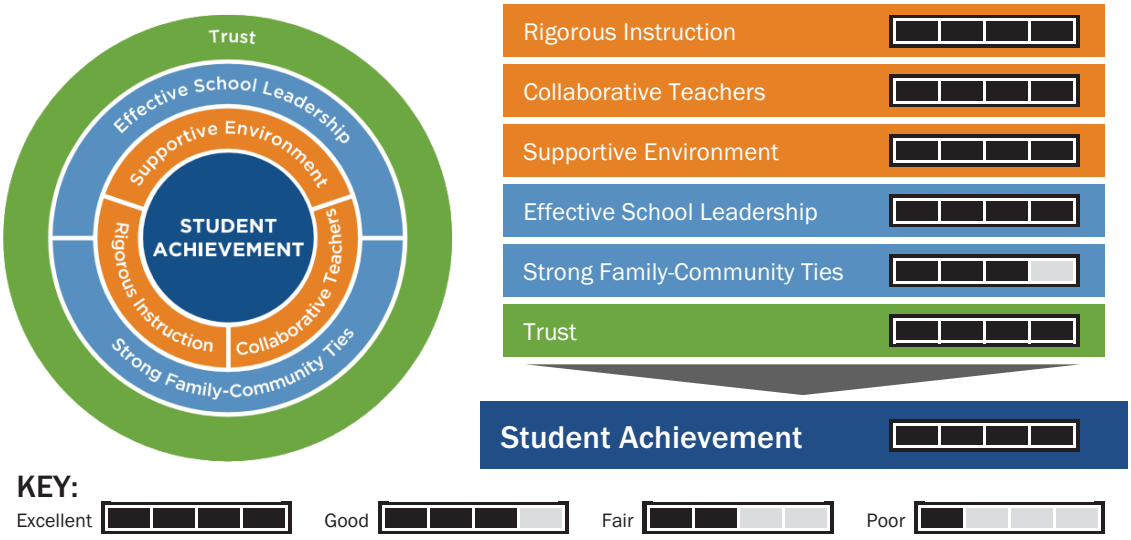
Source: Interview with Ben Hayes, Chief Accountability Officer, and Laura Davidson, Director of Research and Evaluation, Washoe County School District, on October 18, 2017.

Several states, including Connecticut and Massachusetts, have been using this approach for schools identified as in need of improvement.[172] Vermont uses a statewide SQR, which consists of an annual snapshot review and an in-depth integrated field review, which occurs once every 3 years. During the integrated field review, educators observe classrooms, review student work, and conduct panel discussions and interviews with parents, students, and staff to assess a school's quality.[173] Such vehicles can examine how schools are supporting students, as well as whether they provide a safe school climate that is socially and emotionally supportive.

Both the CORE districts and New York City include SQR data in their assessment of schools. Data from the New York City SQR on rigor of instruction, collaborative teachers, and a supportive environment are aggregated with survey data to form an overall measure of school climate and quality. The first construct on the rubric, for example, is that the school "maintains a culture of mutual trust and positive attitudes that supports the academic and personal growth of students and adults."[174] As the report card for P.S. 15 shows, this attention to school climate and practices can demonstrate areas of strength and areas for development, thereby guiding ongoing improvement efforts (see Figure 3).

Figure 3
Sample NYC Department of Education School Quality Snapshot Summary

Framework for Great Schools
Research shows that schools strong in the six areas are far more likely to improve student learning.



Source: NYC Department of Education. (2018). School Quality Reports. https://www.nycenet.edu/PublicApps/SchoolQualityReports.aspx.

Helping Schools Improve Climate and Culture

States and districts can also play a role in helping schools improve school climate. Under ESSA, eight states are using school surveys to measure school climate as one of their indicators of school quality, and 12 more states will make school climate data available so that schools can evaluate how they are doing and work to strengthen their supports for students. Sixteen additional states are working to improve school climate in schools identified for support and improvement or as part of a broader statewide effort. Eleven states explicitly mention providing resources and support to schools to improve students' social and emotional learning.[175]

In one example, Maryland is using school climate surveys of students and educators as an accountability indicator in all grades. The state is currently collaborating with REL-Mid Atlantic and Mathematica to develop survey instruments that include items in the same domains for student

and educator surveys, including safety, engagement, and environment, from the Maryland Safe and Supportive Schools Survey and Climate Profile.[176] To respond to the data provided by school climate and other indicators, the Maryland Department of Education will develop and implement a multi-tiered system of support that will include partnerships between schools and community members to further sustainable conflict resolution programs, reduce and eliminate disproportionality in discipline, provide a Youth Mental Health First Aid curriculum for staff, and implement wraparound services for students dealing with substance abuse and other issues.

Resources for helping schools create inclusive and positive climates include the U.S. Department of Education and American Institutes for Research's Safe and Supportive Learning,[177] CASEL, Engaging Schools, and the National School Climate Center. Seven strategies commonly pursued are:

1. Creating a site-based climate team composed of students, teachers, administrators, other staff, and parents that meets regularly to identify and address school climate issues.

2. Working with students and teachers to create consensual norms for respectful behaviors that are known and supported by all members, along with conflict resolution training and restorative justice practices that strengthen individual success and a sense of a community.

3. Improving the physical environment to make it comfortable and student-friendly, clean, and well-lit; displaying student art, projects, and papers that convey that students are at the center of the school's mission; and including multicultural images and texts.

4. Increasing student voice and participation in all aspects of the school, ranging from academic input and engagement in projects to leadership of clubs and social events to training for conflict resolution and peer mediation in disputes.

5. Implementing ongoing activities that support diversity and promote tolerance, deepen understanding, and increase respect for differences. These activities have greater impact when they do not stand alone but rather reinforce themes woven into the curriculum.

6. Creating opportunities for the least engaged youth beyond traditional athletics and academics, which are often competitive and include few students. Reach out to invite students to join clubs and extracurricular activities, support students in starting their own clubs or groups, and initiate dialogue opportunities and surveys that ask students what they want to become involved in and how they want to become involved.

7. Supporting social skills curriculum and instruction that actively teach the social-emotional skills that equip students to communicate effectively, establish solid friendships, and resolve their differences nonviolently. This can be accomplished directly through lessons that teach these skills, and it can also happen more indirectly through class meetings or strategies such as cooperative learning that teachers use in their classrooms. Success requires that students experience consistent messages in all social-emotional curricula and in all classes.[178]

Reducing Rates of Exclusionary Discipline

A second area for policy leverage is reducing rates of student suspension and expulsion, which typically begin a process of successive failures for students. When students are regularly removed from the classroom, they fall behind in their classwork and they experience a social and emotional distancing and disengagement from school.[179] The more time students spend out of the classroom, the more their sense of connection to the school wanes,[180] along with their ability to succeed academically. This distance promotes disengaged behaviors, such as truancy, chronic absenteeism, and antisocial behavior,[181] which in turn contributes to the widening achievement and opportunity gap.

Research shows that the frequency of student suspensions also increases the likelihood of dropping out,[182] and the overuse of suspensions and expulsions, particularly for students of color, contributes to the "school-to-prison pipeline."[183] Research also shows that students of color and those with disabilities are disproportionately suspended for the same behaviors their White and nondisabled peers engage in.[184]

Using indicators of suspension and expulsion under ESSA

Recognizing the need to reduce the use of exclusionary disciplinary practices and to improve student engagement, 29 states are including a measure of suspension and/or expulsion in their statewide accountability and improvement systems for either identification or diagnostic purposes.[185] The intention is to incentivize interventions such as replacing zero-tolerance strategies with effective strategies, including restorative justice, to address student misbehavior.[186]

Under ESSA, school quality and student support (SQSS) indicators used for accountability purposes must be disaggregated by race and other student characteristics. Research indicates that tracking suspension and expulsion data by student groups can help highlight racially disparate practices and promote positive behavioral interventions that can improve student engagement and academic success.[187]

Some states have designed approaches that both provide data to local districts and help them use the data productively. For example, Rhode Island is using student suspension rates as part of its SQSS indicator under ESSA, in combination with chronic absenteeism rates. The suspension rate will measure the number of out-of-school suspensions per 100 students, pre-k through 12th grade.[188] Rhode Island will report student suspensions annually for all subgroups at the state and school level. The Rhode Island Department of Education (RIDE) also uses a statewide data repository called InfoWorks to track improvements in school climate by collecting school survey data on academic engagement, bullying, personalization, resources, and student well-being, as well as data on suspension rates. InfoWorks allows users to compare schools on multiple related measures, including the types of infractions that resulted in suspensions, the types of disciplinary responses, the relationship between the number of students enrolled and the number of suspensions, and rates of suspensions per 100 students by race.[189]

Tracking suspension and expulsion data by student groups can help highlight racially disparate practices and promote positive behavioral interventions that can improve student engagement and academic success.

RIDE will support the use of the student suspension indicator with state-developed resources for schools to reduce the need for disciplinary actions that exclude students from school. These resources will be funded through competitive state grants using ESSA Title IV(A) funds and include school-based mental health services, mentoring, and school counseling; schoolwide positive behavioral interventions and supports; and programs to reduce exclusionary discipline practices. In addition, RIDE will identify models of best practices to improve school climate by convening three meetings a year with an open SEL Community of Practice that hosts presentations and discussions among educators.

Helping schools and districts learn to implement effective alternatives

There is still a steep learning curve for many schools and districts to learn how to create stronger learning environments and social-emotional supports for students, yet many have shown it can be done. The U.S. Department of Education and the U.S. Department of Justice have issued joint guidance on rethinking school discipline through evidence-based district- and school-level action steps to create safe and supportive school climate and discipline systems.[190] Proven options for replacing zero-tolerance policies, such as targeted behavioral supports for at-risk students and promoting student-school bonds, character education, and social and emotional learning programs, are included in the National Education Association's report *Multiple Responses, Promising Results: Evidence-Based, Nonpunitive Alternatives to Zero Tolerance*.[191] States, districts, and schools can also provide training on implicit bias[192] for teachers and administrators, school resource officers, police, juvenile judges, and others dealing with juveniles, which has been shown to reduce disproportionalities.

Restorative justice is one widely used approach that emphasizes repairing the harm caused by problematic behavior and teaching new behavioral strategies to young people. It is generally accomplished through cooperative processes that include all stakeholders, leading to transformation of people, relationships, and communities. In schools, restorative justice programs bring the affected parties together to evaluate the situation, determine how to make amends, and reintegrate students into the classroom and school community.[193] Resources include:

- *Implementing Restorative Justice: A Guide for Schools*: Produced by the Illinois Criminal Justice Authority, this comprehensive guide focuses on ways that schools can integrate restorative justice practices. The guide looks at challenges to implementation, defines the subject, and provides three approaches to using restorative justice in school.
- *Restorative Justice—A Working Guide for Our Schools*: This guide from California's Alameda County Schools Health Coalition covers a range of topics, including an in-depth introduction, examples of restorative practices, and the impact these programs can have.
- *Restorative Practices—Fostering Healthy Relationships & Promoting Positive Discipline in Schools*: This guide from the National Opportunity to Learn Campaign provides examples of restorative practices, along with implementation tips and strategies, as well as examples from school districts.
- *Restorative Practices Whole-School Implementation Guide*: The San Francisco Unified School District uses restorative practices throughout the district. This guide provides a framework for planning, implementing, and using restorative practices across a school or district. There are many useful insights into the unique considerations associated with implementing a program. The district also offers useful curriculum-planning resources.

In addition, states and districts can support the development and implementation of model school discipline policies and agreements that clarify the distinction between educator discipline and law enforcement discipline, eliminating referrals to law enforcement for all nonviolent, noncriminal offenses.

The Dignity in Schools Campaign provides several resources for policies that remove police from schools and replace them with effective staff-led strategies for classroom management, conflict resolution, and mediation.[194] When staff lack strategies for managing behavior, focused supports may be needed. Using classroom-level data to provide targeted professional development for teachers may also be effective.

Providing a Multi-Tiered System of Student Support

In order to provide a multi-tiered system of student support, states need to ensure that there is an adequate supply of qualified teachers for all districts, including learning specialists, who are well-prepared to teach diverse students. They must also ensure an adequate supply of counselors and social workers to provide intensive supports where they are needed. States and districts must provide high-quality training for all staff in diagnostic and responsive approaches if multi-tiered strategies are to work.

In addition, states and local communities need to make it possible for schools and community-based health, mental health, and social service organizations to work productively together. In addition to adequately funding these services, particularly in high-poverty communities, this can be accomplished by coordinating and aligning services and funding streams, as well as streamlining eligibility for children and families, so that schools can help ensure that students are served as needed.

This integration of education and supports can also be accomplished by creating community schools, which integrate health and social services into the school itself. Community schools represent a place-based strategy in which "schools partner with community agencies and resources to provide an integrated focus on academics, health and social services, youth and community development, and community engagement."[195] Many operate year-round, from morning to evening, and serve both children and adults. They typically offer integrated student supports, expanded learning time and opportunities, family and community engagement, and collaborative leadership and practices.

A recent review of research on such initiatives concluded that well-implemented community schools improve student and school outcomes ranging from tested achievement and grades to behavior and graduation rates.[196] The research meets the ESSA standard that qualifies community schools as an "evidence-based" intervention, so that federal Title I funds can be spent to enact this approach in low-performing schools.

In California, the Learning Communities for School Success Program provides grant funding to support evidence-based, nonpunitive programs and practices to keep the state's most vulnerable pupils in school. The establishment of a community school is one of several options available to local education agencies that receive grant funding to meet that goal.

In New York, the expectation for this kind of investment is much more extensive and direct. A community schools set-aside in the Foundation Aid portion of the enacted state budget provides formula funding to high-need school districts for creating and operating community schools. In

2017–18, the state set aside $150 million for 233 school districts that were identified as high-need, with an additional allocation for schools with extraordinarily high levels of student need, as defined by the Commissioner of Education. These kinds of policies are fundamental to ensuring that all students can come to school ready and able to learn each day.

Investing in Educator Preparation and Development

All of these shifts require investments in educator development. It is critically important that educators receive comprehensive preparation that enables them to understand students well, develop productive relationships and curriculum in their classrooms, and feel competent and confident so that they communicate a sense of efficacy to their students. Teachers and principals who are better prepared feel more efficacious, experience less stress in their jobs, and are more likely to stay in the profession, providing students with the stability they need.[197]

In addition to providing training for a wide range of knowledge and skills, it is important to attend to educators' stress and well-being, as well as students'. Teachers' and principals' well-being and management of stress affect their relationships with children and families, as well as rates of attrition from the profession. According to a national survey, 46% of teachers report high daily stress during the school year, the highest rate of daily stress among all occupational groups.[198]

Teacher stress is linked to poor teacher performance and poor student outcomes: Teachers who have greater stress and show more symptoms of depression create classroom environments that are less conducive to learning, leading to poor academic performance among students.[199] Teachers who report greater burnout early in the school year have classrooms with more behavior problems. When teachers are highly stressed, children show lower levels of both social adjustment and academic performance,[200] whereas when teachers are more engaged in their jobs, student engagement and achievement are higher.[201]

Educator well-being

In addition to an administration that supports site-based educators and structures a collegial workplace, research has found that educator well-being can be enhanced by

- **supportive administration**, particularly in creating a collegial, supportive school environment, which can reduce teacher stress and support teacher engagement and effectiveness;
- **mentoring and induction programs**, which can improve satisfaction and retention, as well as student academic achievement;
- **workplace wellness programs**, which can result in reduced health risk, health care costs, and absenteeism among staff;
- **social-emotional learning programs**, which can improve behavior and promote social and emotional skills among students, which helps reduce teacher stress and creates more positive engagement with students; and
- **mindfulness and stress management programs**, which can help educators develop coping and awareness skills to reduce anxiety and depression, and improved health.[202]

Educator training

To accomplish the shifts described in this report, educator preparation programs for both teachers and leaders should offer a thoughtful, science-based, and developmentally sound course sequence that centers on understanding child and adolescent development, addressing implicit bias, creating culturally responsive classroom communities, and advancing equity as well as crafting engaging instructional units that connect to students' experiences and move them toward deeper learning outcomes. This training must include a strong clinical component interwoven with this coursework, in which candidates can apply what they are learning with the guidance of experienced and effective educators in schools that model the practices supportive of student development.

Training should include how to support children's social and emotional development as well as their academic success, how to develop classroom communities that enable productive adult and peer relationships, how to use educative and restorative behavior supports, and how to work effectively with families in a diverse community.

Pre-service learning. A starting point for placing this knowledge base at the center of education reform is adopting standards for educator preparation programs that reflect that knowledge. In California, the Commission on Teacher Credentialing has recently adopted standards reflected in the competencies for both teacher and administrator licensing, as well as program accreditation, that reflect an understanding of student social, emotional, and academic development; the skills for creating a positive classroom and school environment; and the use of restorative practices.

Programs are still learning how to put these new standards into effect and developing opportunities to share courses, syllabi, and strategies that will be helpful in propelling the quality of preparation forward. In addition, programs need to create strong relationships with schools that instantiate these ways of working with students. In some states, these necessary professional partner school relationships have been supported with funding from the state, or through teacher or leader residency programs that provide opportunities for carefully guided clinical practice.

It is also essential to solve the problem of teacher shortages, which currently result in a large number of untrained teachers in classrooms, many of whom stay only a short time because they lack the supports to learn to teach. Research indicates that there is a relationship between high suspension rates and a higher than average number of novice teachers or those without preparation.[203] Investments in teacher residencies and forgivable loan programs that expand the pool of well-prepared teachers will help provide schools with a more stable workforce that can transform school climate and culture and support whole child learning and care.

To accomplish the shifts described in this report, educator training must include a strong clinical component in which candidates can apply what they are learning with the guidance of experienced and effective educators in schools that model the practices supportive of student development.

In-service professional development. Once educators are teaching in classrooms or leading schools, strong professional development (PD) is needed to sustain and adapt training received in pre-service programs. Clearly, changing teaching and schooling practices require investments in educators' professional learning, and some schools have shown significant achievement gains by making such investments strategically. However, not all PD is designed in ways that produce these effects.

A key feature of effective PD is having teachers work together on a particular set of practices over a sustained period of time. The greatest improvements in student achievement have been found to be associated with PD approaches that

- focus on deepening teachers' content knowledge and instructional practices;
- function as a coherent part of a school's improvement efforts, aligned with curriculum, assessments, and standards, so that teachers can implement the knowledge and practices they learn in their classrooms;
- occur in collaborative and collegial learning environments in which teachers participate in professional learning and together grapple with issues related to new content and instructional practices;
- provide authentic activities rooted in teachers' inquiry and reflection about practice within the context of the curriculum and students they teach;
- link to analysis of teaching and student learning, including the formative use of assessment data;
- are supported by coaching, modeling, observations, and feedback; and
- are of sufficient duration that the skills can be learned, practiced with support, and refined over time, so that they become part of a teacher's repertoire and a school's routines.[204]

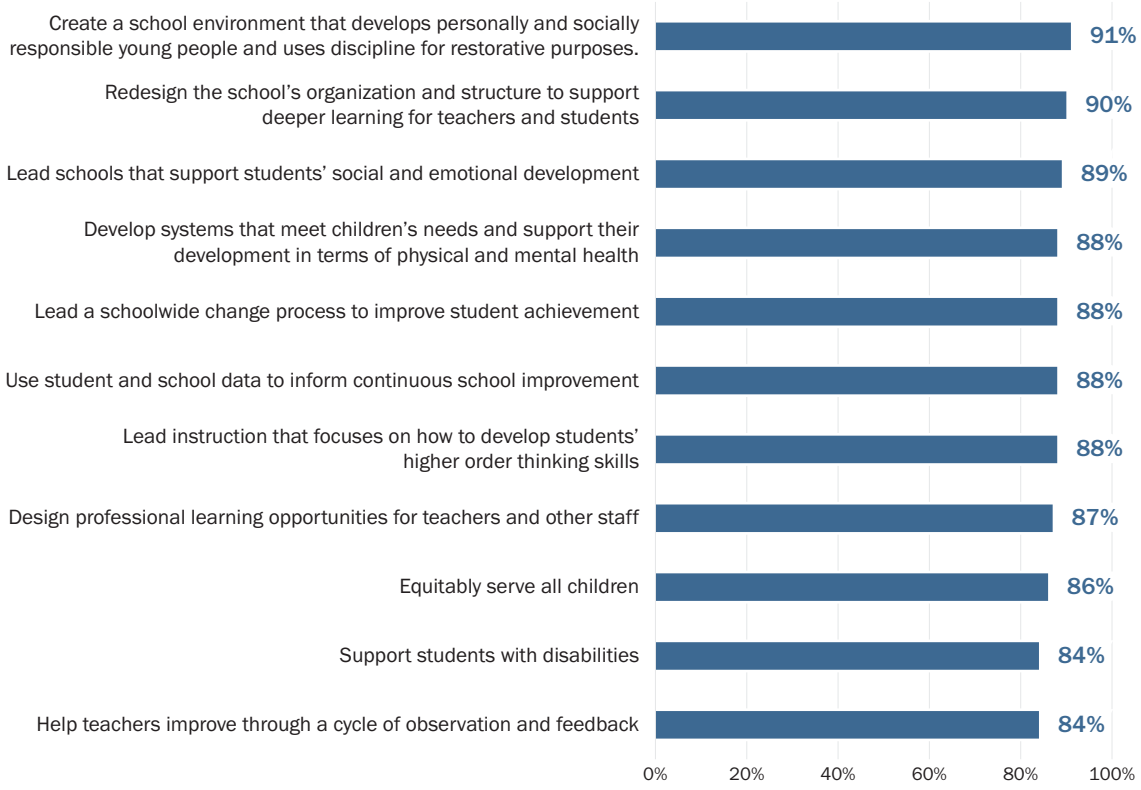
States and districts can organize and fund PD that reflects these features that enable marked improvement in teachers' skills and students' outcomes.

That educators want to be able to create the environments described in this paper is demonstrated by a recent LPI survey of California principals[205] that found that 9 in 10 of them would like to receive more professional development in how to create a supportive whole child environment for students. These desires topped their list, and included learning how to

- create a school environment that develops personally and socially responsible young people and uses discipline for restorative purposes (91%);
- redesign a school's organization and structure to support deeper learning for teachers and students (90%);
- lead schools that support students' social and emotional development (89%); and
- develop systems that meet children's needs and support their physical and mental health (88%) (see Figure 4).

Figure 4
California Principals Report Wanting More Professional Development

By topic



Source: Sutcher, L., Podolsky, A., Kini, T., & Shields, P. M. (2018). *Learning to lead: Understanding California's learning system for school and district leaders*. Stanford, CA: Center for Education Policy Analysis. (Forthcoming)

Educator diversity

Finally, proactive strategies for recruiting underrepresented students to prospective careers in teaching and school leadership can help build the kinds of school environments that feature cultural pluralism and communicate safety and belonging to all students. Growing evidence documents the benefits to students of color of having at least one teacher of the same race, including higher achievement and graduation rates, as well as a greater likelihood of aspiring to higher education.[206] Analysts hypothesize that the affirming messages that these teachers give their students have long-term effects on students' experience of school. A diverse educator workforce also brings more experiences and perspectives to the table, enabling greater mutual exchange among professionals about how to understand and meet the needs of their students.

Although many school districts are beginning to recognize the desirability of having a teaching staff that is more representative of the student body, the lack of teacher diversity is a growing concern in the United States. As of 2012, 51% of public school students in the U.S. were White, while 82% of public school teachers were White.[207] Although California is doing better in diversifying its teaching force, with 30% of teachers and 50% of new entrants identifying as racial/ethnic minorities, there is still a major challenge in retaining teachers of color once they have entered the profession. This is often because they have had less access to high-quality preparation and mentoring, and because they typically teach in the most challenging school environments.[208]

Recruiting candidates of color into teaching is one small but crucial step toward a more equitable educational landscape.

Efforts to recruit and retain racially and socioeconomically underrepresented individuals to become teachers and school leaders can pay great dividends for other educators as well as for students. The most successful strategies offer forgivable loans and scholarships to offset the costs of preparation; high-quality, affordable entry pathways such as teacher and leader residencies that offer excellent preparation for high-need urban and rural schools at little cost to candidates; and supportive mentoring in collegial environments.[209] Recruiting candidates of color into teaching is one small but crucial step toward a more equitable educational landscape.

Recommendations

This growing knowledge and practice base suggests that, in order to create schools that support healthy development for young people, our education system should:

1. Focus accountability, guidance, and investments on developmental supports for young people, including a positive, culturally responsive school climate and supportive instruction and services.
2. Design schools to provide settings for healthy development, including secure relationships; coherent, well-designed teaching for 21st century skills; and services that meet the needs of the whole child.
3. Enable educators to work effectively to offer successful instruction to diverse students from a wide range of contexts.

Recommendation #1: Focus the System on Developmental Supports for Young People

States guide the focus of schools and professionals through the ways in which accountability systems are established, guidance is offered, and funding is provided. To ensure developmentally healthy school environments, states, districts, and schools can:

- Include measures of school climate, social-emotional supports, and school exclusions in **accountability and improvement systems** so that these are a focus of schools' attention and data are regularly available to guide continuous improvement.
- Adopt **standards** or other guidance for social, emotional, and cognitive learning that clarifies the kinds of competencies students should be helped to develop and the kinds of practices that can help them accomplish these goals.
- Replace zero-tolerance policies regarding school discipline with **discipline policies** focused on explicit teaching of social-emotional strategies and restorative discipline practices that support young people in learning key skills and developing responsibility for themselves and their community.
- Incorporate educator competencies regarding support for social, emotional, and cognitive development, as well as restorative practices, into **licensing and accreditation requirements** for teachers, administrators, and counseling staff.
- Provide **funding** for school climate surveys, social-emotional learning and restorative justice programs, and revamped licensing practices (including appropriate assessments) to support these reforms. As suggested below, additional investments are needed for multi-tiered systems of support, integrated student services, extended learning, and professional learning for educators to enable progress within schools.

Recommendation #2:
Design Schools to Provide Settings for Healthy Development

Within a productive policy environment, schools can do more to provide the right kinds of supports for students if they are also designed to foster strong relationships and provide a holistic approach to student supports and family engagement. To provide settings for healthy development, educators and policymakers can:

- Design schools for **strong, personalized relationships** so that students can be well-known and supported, by creating small schools or learning communities within schools, looping teachers with students for more than one year, creating advisory systems, supporting teaching teams, and organizing schools with longer grade spans—all of which have been found to strengthen relationships and improve student attendance, achievement, and attainment.
- Develop schoolwide norms and supports for **safe, culturally responsive classroom communities** that provide students with a sense of physical and psychological safety, affirmation, and belonging, as well as opportunities to learn social, emotional, and cognitive skills.
- Ensure **integrated student supports** are available to promote students' health, mental health, and social welfare through community school models or community partnerships, coupled with parent engagement and restorative justice programs.
- Create **multi-tiered systems of support**, beginning with universal designs for learning and personalized teaching and continuing through more intensive academic and nonacademic supports, to ensure that students can receive the right kind of assistance when needed, without labeling or delays.
- Provide **extended learning time** to ensure that students do not fall behind, including skillful tutoring and academic supports, such as Reading Recovery, and additional support for homework, mentoring, and enrichment.
- Design **outreach to families** as part of the core approach to education, including home visits and flexibly scheduled student-teacher-parent conferences to learn from parents about their children; outreach to involve families in school activities; and regular communication through positive phone calls home, emails, and text messages.

Recommendation #3:
Ensure Educator Learning for Developmentally Supportive Education

Educators need opportunities to learn how to redesign schools and develop practices that support a positive school climate and healthy, whole child development. To accomplish this critical task, the state, counties, districts, schools, and educator preparation programs can:

- Invest in **educator wellness** through strong preparation and mentoring that improve efficacy and reduce stress, mindfulness and stress management training, social-emotional learning programs that benefit both adults and children, and supportive administration.
- Design **pre-service preparation programs** for both teachers and administrators that provide a strong foundation in child and adolescent development and learning; knowledge of how to create engaging, effective instruction that is culturally responsive; skills for implementing social-emotional learning and restorative justice programs; and an understanding of how to work with families and community organizations to create a shared developmentally supportive approach. These should provide supervised clinical experiences in schools that are good models of developmentally supportive practices that create a positive school climate for all students. Administrator preparation programs should help leaders learn how to design and foster such school environments.
- Offer widely available **in-service development** that helps educators continually build on and refine student-centered practices; learn to use data about school climate and a wide range of student outcomes to undertake continuous improvement; problem solve around the needs of individual children and engage in schoolwide initiatives in collegial teams and professional learning communities; and learn from other schools through networks, site visits, and documentation of successes.
- Invest in educator **recruitment and retention**, including forgivable loans and service scholarships that support strong preparation, high-retention pathways into the profession—such as residencies—that diversify the educator workforce, high-quality mentoring for beginners, and collegial environments for practice. A strong, stable, diverse, well-prepared teaching and leadership workforce is perhaps the most important ingredient for a positive school climate that supports effective whole child education.

Conclusion

The emerging science of learning and development makes it clear that a whole child approach to education, which begins with a positive school climate that affirms and supports all students, is essential to support academic achievement as well as healthy development. Research and the wisdom of practice offer significant insights for policymakers and educators about how to develop such environments. The challenge ahead is to assemble the whole village—schools, health care organizations, youth and family serving agencies, state and local governments, philanthropists, and families—to work together to ensure that every young person receives the benefit of what is known about how to support his or her healthy path to a productive future.

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