

Design Principles for Schools: Putting the Science of Learning and Development Into Action

Integrating Design Principles in Schools

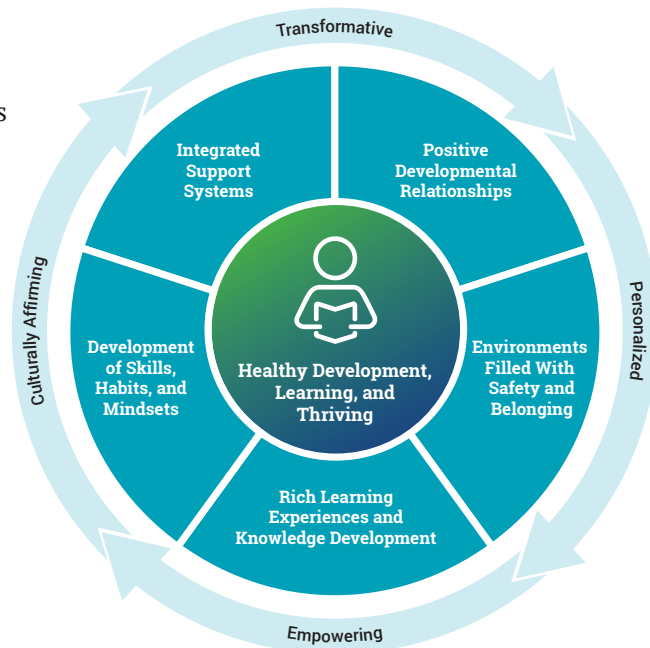
Learning Policy Institute and Turnaround for Children

in partnership with the Forum for Youth Investment
and in association with the SoLD Alliance

Emerging science tells us an optimistic story about the potential of all learners. There is burgeoning knowledge about the biological systems that govern development, including deeper understandings of brain structure and wiring and their connections to other systems and the external world. This research tells us that brain development and life experiences are interdependent and malleable—that is, the settings and conditions individuals are exposed to and immersed in affect how they grow throughout their lives. This knowledge about the brain and development, coupled with a growing knowledge base from educational research, provides us with an opportunity to design systems for educational transformations that advance social justice and enable each and every young person to learn and thrive.

This playbook, *Design Principles for Schools: Putting the Science of Learning and Development Into Action*, seizes this opportunity. It suggests a set of engineering principles that build on the knowledge we have today to nurture innovations, build new models, and enable policies that advance change. It provides an overarching framework—the Guiding Principles for Equitable Whole Child Design—that can guide the transformation of learning settings for children and adolescents and illustrate the ways that practitioners can implement and integrate structures and practices that support learning and development for all students. That framework includes:

- Positive Developmental Relationships
- Environments Filled With Safety and Belonging
- Rich Learning Experiences and Knowledge Development
- Development of Skills, Habits, and Mindsets
- Integrated Support Systems



This section is part of the larger playbook and focuses on how educators, school leaders, and district officials can integrate the Guiding Principles for Equitable Whole Child Design to enable transformative, personalized, empowering, and culturally-affirming developmental experiences. The illustrations of integrated design principles do not suggest a single design or model for doing this. Rather, the desired result is to spur robust innovations, new collaborations aligned with the resources for positive growth found in young people’s communities and cultures, and a commitment to the redesign of our education and learning systems in learning settings. The full playbook [can be found online here](#).

Integrating Design Principles in Schools

Overview

Today we have a tremendous opportunity to reimagine our education system by using what we know from the science of learning and development. Infusing school environments and practice with this knowledge can ensure far better learning experiences and opportunity for students—experiences that are transformative, empowering, personalized, and culturally affirming. In addition, it can support practitioners in identifying and stopping practices that inhibit students’ learning, especially students from marginalized groups who—because of their race, ethnicity, income, language background, dis/ability status, sexual orientation, or other social identity—have often been exposed to ineffective and discriminatory practices that inhibit their full development.

Developmental and learning science provides us with optimism about what all young people are capable of. The contexts and relationships they are exposed to influence what they learn and who they become. Today, we can use the Guiding Principles for Equitable Whole Child Design and its associated design principles to build environments in all of our classrooms, schools, and community learning settings that enable children to develop and thrive.

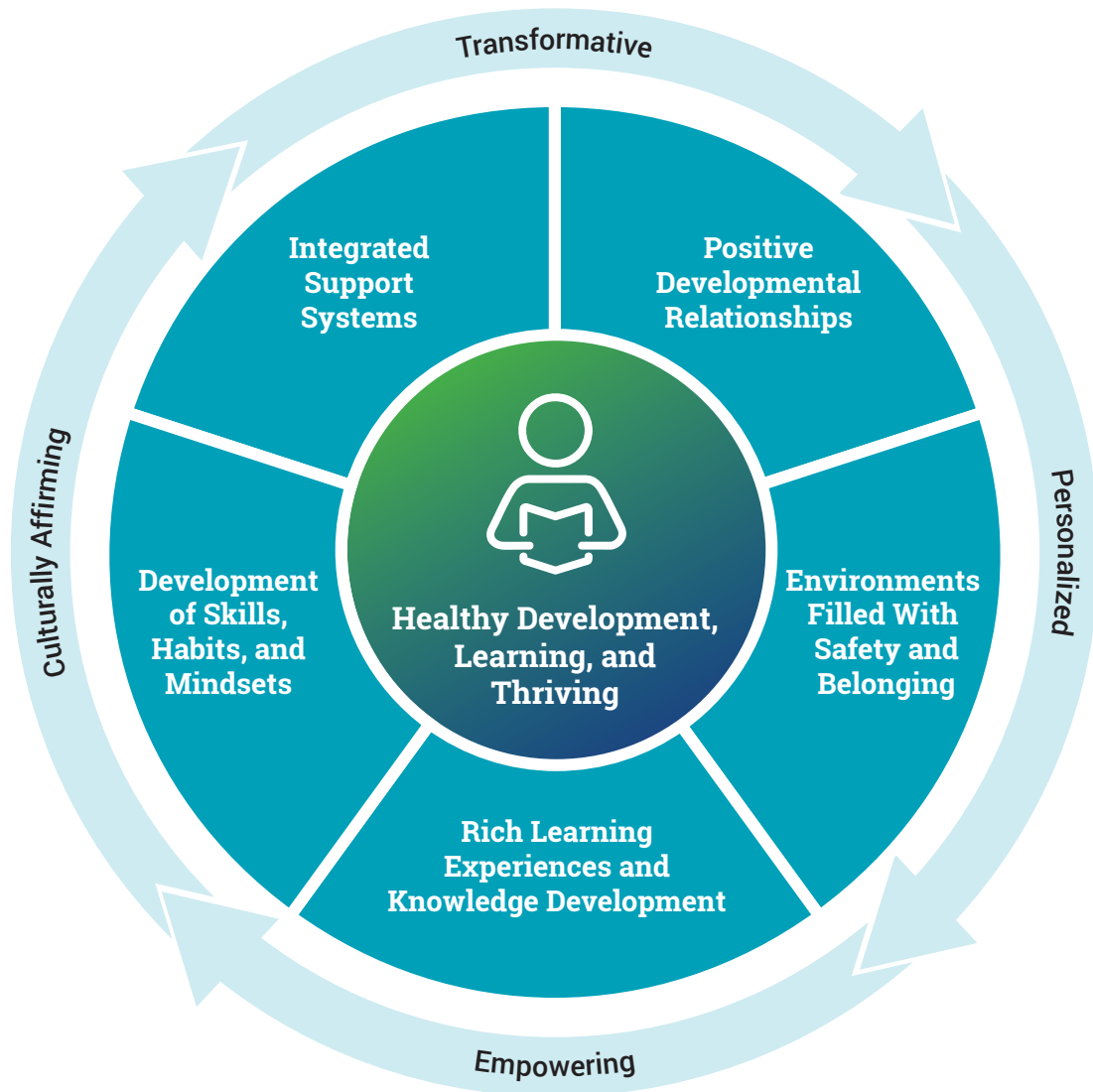
Developmental and learning science provides us with optimism about what all young people are capable of. The contexts and relationships they are exposed to influence what they learn and who they become.

(See Figure 7.1.) By designing schools that integrate the five elements—Positive Developmental Relationships; Environments Filled With Safety and Belonging; Rich Learning Experiences and Knowledge Development; Development of Skills, Habits, and Mindsets; and Integrated Support Systems—we can help youth build resilience and knowledge; develop their full selves; and grow skills, habits, and mindsets they need to live lives of fulfillment. While the Guiding Principles for Equitable Whole Child Design are each critical to supporting youth learning and development, their impact is deeply felt and effective when practitioners integrate all five into a coherent, continuously reinforcing set of practices.

What the Science Says About Integrated Design

The human brain is a dynamic, integrated living system that operates in coordination with other systems. The tissue it is made up of is the most susceptible to change from experience than any other tissue in the human body. Complex skills, whether riding a bike, developing resilience, or learning to read, reflect the integrating properties of our continually developing brains and bodies. Emotional well-being and social competence provide a strong foundation for emerging cognitive abilities, and together they form the bricks and mortar of healthy brain architecture. The human brain grows by integrating all other systems—including those that govern feeling, thinking, acting, cognition, and processing—in ways that are highly sensitive to the physical and sociocultural context of a person’s life.

Figure 7.1
Guiding Principles for Equitable Whole Child Design



The three core principles of human development are: (1) the astounding malleability of the human brain and body, (2) the fact that growth depends on experience, and (3) the importance of contexts in shaping development. Throughout life experiences, relationships and environments activate neural pathways, generating electrical activity that continuously strengthens the connections between brain structures and creates new ones. This is what is meant by the “wiring” of the brain, or the *integration* of the brain. Beginning early in life, more than 1 million connections form between brain structures per second.¹ And the way these connections form matters for what the brain can do. As Hebb’s Law states, “Neurons that fire together, wire together.”² It is these developing circuits that enable the emergence of increasingly complex thoughts, skills, knowledge, learning, and behavior; the expression of our identities, our interests, and our passions; and ultimately the expression of our potential. This is what is meant by the integration of the brain.

Once we understand that environments, experiences, and relationships drive the wiring of our brains, the task and responsibility before us becomes clear: to design settings and experiences for optimal development and learning. This is the purpose and the foundation for the Guiding Principles for Equitable Whole Child Design presented in this playbook. The development of a whole child emerges when we combine the five elements into experiences that connect to one another.

The driving force in development is the movement from simple to complex—through the agency of the child who plays an active role in developing skills. Skills and knowledge do not emerge fully formed but are built through practice—something we see every time we learn a new skill, such as reading, playing a musical instrument, and learning a sport. This process also means that the young person’s agency in building new skills will be based on what they are encouraged to do and the resources and supports available to them. Like a web with many strands, there are different possible pathways in the development of complex skills, and these skills are interdependent, with more complex capabilities emerging as earlier ones are internalized and specific supports become available.

Supporting the learning of a complex skill means that even the most discrete skill, like solving an algebra word problem, needs to take into account the whole person learning that skill: their prior experience, culture, history, foundational skill development (in reading and math), identity (and identity threat), agency, and motivation. Young people are the sum of all these dimensions. If educators teach only to the discrete math skills, some children may learn the skills or content. But if they teach to the whole child, they can support all students in understanding the content and skills being taught, becoming curious to learn more, and being able to apply them to other problems.

What Does an Integrated Whole Child Approach Look Like in Schools?

Given what we know about the interconnectedness of the brain and development, it is important for practitioners to design learning settings that enable young people to develop their whole selves in the learning process. There is not just one way to integrate whole child practices and structures in a school or community

learning setting. Rather, there are a number of ways that educators can nurture students’ assets and address their needs and challenges to create equitable and impactful school settings. The case of the Springfield Renaissance School, a school that serves students in grades 6 through 12 in Springfield, MA, is one illustration of integrated practice, and the San Francisco Community School, serving students in grades kindergarten through 8, is another.

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Whole Child Design at the Springfield Renaissance School

The Springfield Renaissance School, an urban public secondary school in Springfield, MA, graduates 95% of its students and has supported every single graduate to be accepted into college since the school opened more than 15 years ago. Most of those students are first-generation college students.

When people hear about it, they often believe there must be a catch: Perhaps it is a small, selective school; maybe they weed out struggling kids; no doubt they have extra funding and staffing and a fancy facility. None of that is true. It is a regular, nonselective-admission district school with 700 students, most of whom are students of color from low-income families. The school receives typical district funding and has to share its crowded building. So what is going on here to produce these remarkable results?

It is not a gimmick: It is a culture. As a part of the EL Education national network, Renaissance cultivates a learning community that supports, respects, and empowers students in a holistic way. Because students are known and valued as individuals with positive personal and academic identities, they are more confident and resilient in taking on unusually complex and meaningful work.

The challenging work youth undertake at Renaissance connects learning to real-world issues and needs. Building upon a foundation that meets academic standards and fosters deep knowledge, educators at the school invigorate learning through instructional practices like interdisciplinary projects, service learning opportunities, and project-based learning expeditions, which often call upon students to conduct extended research in the field that will culminate in a product, presentation, or performance. Because EL Education focuses on a curriculum that combines in-depth inquiry with character development, these projects are also motivated by purpose, typically designed to contribute to the well-being of the community.

With these learning experiences at the core of the school, Renaissance classrooms are filled with discovery, inquiry, critical thinking, problem-solving, and collaboration. Teachers talk less. Students talk (and think) more. Lessons have explicit purpose, guided by learning targets for which students take ownership and responsibility. Student engagement strategies and activities differentiate instruction and maintain high expectations to bring out the best in all students, cultivating a culture of high achievement.

To empower and support learners through these rich learning experiences, Renaissance uses a constellation of structures to make that student success and a strong school culture possible.

The school staff work together as a team to push themselves to improve in the cultural responsiveness of their curriculum and teaching, in their active work for equity and anti-racism, in the sharpness and efficacy of their lessons, and in building classroom cultures that foster positive relationships and bring out the best in students.

Students meet in small “Crews” (advisories) every day. Crew supports the social and emotional health of students; fosters their academic resilience and growth; affirms their identities (e.g., race, culture, language, gender identity, sexual orientation, physical abilities); and compels them to work on their character: to be responsible, respectful, courageous, and compassionate. Students see their role at school as more than their own success—they are responsible for the success of their Crew and their classmates.

Academic work for students is framed with a noble purpose: to contribute to a better world. Students are gaining knowledge not for personal gain, but to help their families, their friends, their

communities, their country, and the world. They are just not preparing to be contributing citizens someday when they finish college: They are using their skills right now in service of community improvement, with guidance from a range of community organizations and experts.

Students lead their own learning in many ways. They present portfolios of their work multiple times per year in student-led family conferences and at transition points in their academic career to a panel of community members, having revised their work and practiced their presentations to meet a high standard. They hold exhibitions of the work as community events and collaborate with the broader community for positive social change.

The school hosts educators from all over the nation and the world, and often those visitors are looking for the special “thing” that the school is doing differently—the magic strategy. But there is no one factor. Renaissance is focused on whole child design with all its elements. Students are pushed academically with more challenging work than is the norm, and one could assume that the answer is simple: Just provide higher-level academics. However, scientific research makes clear that unless students feel they are capable of accomplishing the work and have supports to do so, feel physically and emotionally safe, feel they belong and are valued, and have positive relationships with peers and adults, they will not feel capable and motivated to show academic courage and apply themselves deeply. If the curriculum and lessons are not engaging and culturally responsive—and if they do not explicitly focus on building skills, habits, and mindsets, rather than just transmitting content—students will not become self-directed and resilient learners. The environment cultivates students who become ready to take on challenging academic work.

It is helpful to understand how the experience of high school students at Renaissance differs from that of students in a more typical school. In a more traditional high school, students often limit their social interactions to a group of similar peers. Many students are anonymous, some are marginalized and slip through the cracks, and the emotional well-being and character development of students are not considered part of school. In a traditional model, students typically move among classes where each of their teachers uses entirely different practices; where teachers know nothing of students’ academic or personal lives outside that classroom; and where students often sit quietly, passively, hoping not to be noticed or called upon.

In contrast, Renaissance 9th-graders meet every day in a small advisory with a Crew Leader and a team of diverse Crewmates who will stay with them as a family for 4 years. They discuss their families, their lives, their physical and emotional health; they discuss challenging issues in their local community and the world; and they share their academic progress and challenges. They feel responsible for each other’s lives—they support and push each other to be their best selves. Their teachers meet regularly to align their work so that interdisciplinary academic projects are supported with skills and content in mathematics, science, history, English, and art. Teachers across all disciplines use common norms, protocols, and instructional practices that build a growth mindset, agency, and work habits; every class uses the same structures to build academic courage, focus, and collaboration.

The traditional walls between school, family, and community are more porous at Renaissance. Access to community services for physical, mental, and financial health, and learning enrichment, are discussed regularly in school and are combined with what the school can provide. Families are in the school often, and not just for sports and performing arts. Students present their learning to their families and communities through individual and class presentations multiple times per year, and students reflect with their families on their personal growth and their emotional, social, and

academic challenges. Parents and community members and organizations assist with the academic projects of students as experts and leaders.

How does learning look when all of that comes together? When the Springfield Renaissance School first opened, students took on a project to help the city. Ninth-graders were trained by city engineers to perform energy audits for buildings (e.g., analyzing HVAC systems, insulation, appliances, lights, and windows), and after their fieldwork, students created a professional report, *Greenprint*, for the city, calling for the renovation of city schools. They recommended that Springfield invest \$156,000 in energy improvements specified in the report and guaranteed that the city would reclaim all its funds within 5 years as cost savings—while also helping the environment. The city took their advice, and within 2 years it had recouped all its investment and was saving taxpayer dollars. City leaders then set aside a quarter of a million dollars to continue this work—with student experts leading the way.

Source: Adapted from a vignette provided by Ron Berger, Senior Advisor on Teaching and Learning at EL Education.

Practitioners at San Francisco (S.F.) Community School have also designed their school in line with the science of learning and development, implementing a unique set of whole child structures and practices that meet the needs of their learners and communities. S.F. Community School is a public k–8 school in San Francisco, CA, that seeks to include English learners and students with disabilities, and the majority of students served by the school are eligible for free or reduced-price lunch. Educators at the site engage youth in hands-on, student-centered learning experiences with ample scaffolds. This learning, which builds students’ knowledge and develops valued skills, habits, and mindsets, is bolstered by structures that allow relationships to flourish, collaboration to ensue, and supports to be identified.

Integrating the Essential Elements of Whole Child Design at S.F. Community School

On a Thursday evening, parents, students, and community members pack into a 2nd- and 3rd-grade classroom at S.F. Community School’s Project Open House. Guests sign in as they enter the room and pick up a list of questions and a rubric about a project recently completed by the students. A roller coaster track designed to accommodate marbles extends from the ceiling, runs across the tops of tables, and spirals downward to the ground. Students stand in line next to the section of track they constructed, each grasping their prepared presentations and trying not to fidget. They make last-minute adjustments to the twists and turns of the track to ensure the structure functions as intended. As the presentation begins, the audience watches as each student describes their portion of the track and explains the scientific concepts, like friction and velocity, that govern how the marble zooms down the track. The teacher climbs up a ladder and releases a marble. As the marble sails through the track, the audience gasps appreciatively. The presentation ends with audience members asking the students questions about their work, and the students readily answering.

The students worked on this roller coaster project for 8 weeks, learning concepts such as acceleration and deceleration, writing summary paragraphs about the process of building their roller coaster, and reading both scientific and fictional accounts of roller coasters. Throughout the project, students worked in groups to build multiple versions of their roller coaster and experiment with the best models. After this, they combined their efforts to construct one large track. The project required them to apply language skills through written and oral explanations of their work, practice interpersonal skills to resolve disagreements, and engage in trial-and-error experimentation to get their model right.

During the project, the teacher presented 10- to 15-minute mini-lessons on key concepts related to physics, group work, and writing. The rest of the time, the teacher let the students take the lead in applying what they learned, getting involved only as needed to set expectations for the work.

Having looped with the 3rd-grade students (i.e., most of them had been in this teacher’s class as 2nd-graders as well), the teacher knew the students well and used these relationships to tailor their learning. For example, the teacher strategically grouped students with different skill levels, providing English learners and students with disabilities with additional attention as needed. The teacher met weekly to plan this project with two other 2nd- and 3rd-grade teachers. Throughout the project, the teacher checked for understanding by using simple formative assessment strategies, such as taking notes on the vocabulary used by the students when discussing the project in their groups. The final product presented at the Project Open House—the roller coaster—was the summative assessment.



Practices like those described above characterize teaching and learning at S.F. Community School and point to the ways that the school creates a safe and inclusive environment for intellectually challenging learning.

Across classrooms, educators engage students in project-based learning, creating interdisciplinary units that help students study topics in engaging, authentic, and immersive ways. With their project-based approach, educators take active steps to help students progress from simple to more complex tasks. They provide personalized support, implement well-managed groups to further learning, and use a range of assessments that help students identify where they need to grow their knowledge and skills. All of this builds deep knowledge while developing young people’s valued skills, habits, and mindsets that reinforce learning.

Educators at S.F. Community School implement their units and lessons based on a deep understanding of their students. Looping with students for 2 years is common practice and helps build stronger relationships and knowledge of a student’s abilities and needs. S.F. Community School also stresses the importance of teachers working closely with families. The school uses a number of strategies to involve families in their children’s academic progress, such as biannual parent, teacher, and student conferences as well as open houses, as in the vignette above, where students are able to demonstrate their learning for parents and other attendees. All these actions work to create an inclusive school environment that prioritizes relationship-building and connection among students, educators, and families.

Teacher leadership and collaboration structures—such as committee and team meetings—also support student learning and well-being. For example, some teachers participate on the professional development team that plans staff retreats and meetings, which help educators improve their abilities to provide universal and personalized support within the school’s rich instructional model. Educators also participate in weekly team planning sessions that help them engage in consistent discussions of practice with their colleagues and identify necessary supports or interventions for students who need additional help. Taken together, these collaborative structures create opportunities for educators to enhance their teaching and create positive collegial relationships while demonstrating how teachers’ knowledge and expertise are valued.

Source: Adapted from Wentworth, L., Kessler, J., & Darling-Hammond, L. (2013). *Elementary schools for equity: Policies and practices that help close the opportunity gap*. Stanford Center for Opportunity Policy in Education (SCOPE).

Barriers and Solutions to Taking Whole Child Design to Scale

Science and research provide us with guidance on how to create more powerful school communities that provide better learning experiences and opportunities for all students, which are transformative, empowering, and culturally affirming. Despite this growing knowledge around how to create powerful learning environments, it remains challenging for districts and schools to create and sustain learning settings that integrate elements of equitable whole child design.

Progress has been impeded by both historical traditions and current policy built on dated assumptions about school design, accountability, assessment, and the nature of teaching and learning. While most industries look very different from how they looked a century ago—think medicine, aviation, and publishing, for example—our education system remains seemingly stuck in another time, reflecting the designs created in the early 20th century to accommodate mass education using assembly-line technologies. Our youth are entering a totally new world—one in which knowledge is rapidly expanding; technology will take over most low-skilled work; and most jobs will require high levels of knowledge, skill, and capacity to constantly learn and apply new ideas to uncharted problems. Yet our education system is still structured to prepare a small minority of students for college and creative careers, and the rest—particularly students of color and students from low-income families—for factory jobs that no longer exist.

The COVID-19 pandemic has created a disruption of the status quo and presents an opportunity to seize this moment for change. District and school leaders can harness this unprecedented time—as school is necessarily being reconceptualized to educate stakeholders on the science summarized here—and begin phasing in structures and practices to create supportive and powerful learning environments, both virtual and in person.

What can we do to create more schools that teach all students the complex skills they actually need for academic and life success while affirming their identities and potential, developing their character, and fostering equity? Evidence suggests that we must:

- redesign schools to support high-quality teaching and strong relationships;
- rethink curriculum, assessment, and accountability structures so that they focus on powerful learning with associated supports;
- improve professional learning opportunities;
- build unified integrated support systems; and
- take a systemic approach that enables change in all schools.

Redesign schools for quality teaching and strong relationships

The organization of schools has been based on a factory model that assumed students' learning could be assembled through standardized transmission of information at different stops along the assembly line (grade levels and separate class periods)—and that, by creating different tracks along the assembly line for students with different “potential,” students could be efficiently prepared for their very different roles in life.⁵ Not only was the model rooted in the eugenics of the time, which proffered that race- and ethnicity-based differences in intelligence should guide tracking decisions, but it also minimized the importance of relationships among people and connections among ideas.

The harms caused by outdated structures that sort and segregate learners and, at the secondary level, leave them without access to caring adults who know them well, are exacerbated by policies that implicitly encourage teacher-centered, transmission pedagogy; curricula that neglect the cultures of most groups; and punitive school discipline practices that exclude students from school rather than drawing them into the school community. The designs that have made it difficult for schools to consistently create space for positive connection and relationship-building with students and families have also made it difficult to create connections between and among practitioners to support their collaboration. Because these designs are the way many school leaders, educators, and parents have experienced school themselves, it is easy to assume that this is the way schools need to be.

To remove these obstacles, states and districts can encourage school redesign by rethinking staffing patterns and master schedules to create consistent time for teacher collaboration and to put in place structures that support the development of long-term, positive relationships between educators, students, and families (e.g., looping, advisories, block scheduling). This can also involve rethinking facilities policies to enable smaller schools or small learning communities within larger buildings. Additionally, state and local policies can provide flexibility and incentives for leaders, with their teacher labor union partners, to adopt new approaches to staffing that favor personalization across grade levels, departments, and other traditional organizing features that have sometimes fragmented schools.

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The elimination of academic tracking may require additional professional development coupled with curriculum strategies that support heterogeneous learning and purposeful use of [expanded learning time and support](#)—during the school day, after school, and during summer and intersessions—to accelerate learning for students who have specific needs. In addition, universal preschool will reduce the gaps that exist before students begin kindergarten.

Rethink curriculum, assessment, and accountability structures

Assessment and accountability systems have also posed barriers to the implementation of equitable whole child designs. To enable school transformation at scale, assessment systems need to incentivize and support structures and practices that further meaningful learning and development and the process of continuous improvement.

In order for current statewide assessment systems to support deeper learning that can inform and improve instruction in schools, the instruments they use would have to move beyond largely multiple-choice items measuring lower-level skills to more open-ended performance tasks that are integrated into a coherent system of curriculum and instruction for students, as well as professional learning for teachers, intentionally supporting a rich vision for student learning. This system would also offer formative information on rich tasks throughout the school year and would be structured

to inform the teaching and learning process, not to deny access to educational opportunities or to administer sanctions to students, teachers, or schools.

Such assessments should be part of accountability systems that explicitly evaluate and support student access and success. Current accountability frameworks do not typically include factors beyond test scores that influence or reflect student success, such as indicators of opportunities to learn (financial, curriculum, and teaching resources), the quality of teaching and learning experiences, and preparation for postsecondary success. Indicators like student suspension rates and survey data from students, educators, and families about school climate can focus the attention of systems on how to create positive, inclusive contexts that offer restorative practices and social and emotional learning and supports.

Improved accountability systems would provide information that leads to a more informed focus on school improvement for whole child education; more equitable access to learning opportunities; and greater student success, broadly conceived. This could include a wide range of academic learning indicators, such as access to and completion of a high-quality career-technical and/or college preparatory curriculum, among others. For example, California includes a Seal of Biliteracy and a Seal of Civic Engagement among the indicators of accomplishment.

Having more balanced accountability systems that incorporate multiple measures can help practitioners and leaders see what is working and what needs to be fixed in educating young people to become productive, engaged citizens who have the knowledge, skills, and dispositions to participate fully in society.⁴ With more comprehensive measures in place, accountability systems could animate the process of continuous improvement and provide important guidance to practitioners around the areas of strength and struggle in their practice.

In addition to creating a more holistic school quality review process, states and districts can also adopt standards that communicate the importance of whole child teaching and learning practices and incentivize the improvement of capacity-building structures that would enable their integration into learning settings. Districts can work with their communities to create graduate profiles that specify the valued skills, habits, and mindsets that students should have when they graduate. This clear visualization can support strategic planning and innovative efforts toward these outcomes. States and districts can adopt standards for academic, social, and emotional learning that can guide practitioners in developing school policies framing everything from curricula and programs to student discipline and family engagement.

Improve professional learning

Putting into place the structures and practices that support equitable whole child design requires robust and embedded systems of professional learning for both teachers and school and district leaders. Historically, most preparation programs and ongoing professional development opportunities have neither effectively built practitioners' knowledge of the elements of equitable whole child design nor built their capacity to integrate them into school practice. Fortunately, we have learned a great deal about how preservice and in-service professional learning opportunities can be restructured to build practitioner knowledge, skill, and investment in these schooling approaches.⁵

The work of the [EdPrepLab](#) shows how preservice preparation programs for both teachers and administrators can be aligned around a coherent vision of teaching and learning that builds on the knowledge base regarding child and adolescent development in all of the domains (cognitive, social, emotional, moral, ethical, physical, and academic, as well as identity development) and learning sciences as they inform curriculum and instruction in and across the content areas. Educators can learn how these ideas comprise the Guiding Principles for Equitable Whole Child Design and how their implementation and integration advances learning, development, and well-being.

Pre- and in-service learning programs are most effective when they understand that what educators and leaders need in order to learn to do their jobs well is tightly aligned to the capacities they are being asked to develop in their students: opportunities to learn experientially, to see and experience equitable and supportive pedagogies in action, and to solve problems of practice collaboratively with others as they apply knowledge to novel situations. Thus, learning *about* pedagogy derived from the science of learning and development also means learning *with* and *through* such pedagogy. Practitioners can acquire a deep, flexible, firsthand understanding of learning and development through extended and well-supported residency placements as well as through the use of student-centered pedagogies that provide opportunities for reflection and feedback in the courses they take. In so doing, programs can take a developmental approach to preparing leaders and educators, consciously supporting them through the stages that help them become increasingly expert.

District and school leaders can help build their own capacity and that of school staff by prioritizing resources, time, and space for professional development focused on how to implement all elements of whole child design. This includes opportunities for educators to learn about the science of learning and development as well as opportunities to help practitioners build positive relationships with students; implement student-centered learning opportunities; and cultivate students' skills, habits, and mindsets to support their academic growth and well-being. In-service learning for leaders must continue to support their work as instructional leaders who are knowledgeable about whole child educational practices as well as support them in thinking structurally to create and sustain schools that integrate the essential elements of whole child design.

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Professional development also needs to support practitioners in developing the kinds of caring, inclusive, and empowering communities that children need to support their development and learning. This includes nurturing assets-based mindsets among educators and leaders. The messages students ultimately receive in learning environments depend greatly upon the attitudes, beliefs, skills, and capacity of staff. Beliefs that certain practices are more successful than they in fact are, and implicit biases that impact expectations and perceptions of students' behavior and performance, can undermine the success of efforts to create a positive learning environment. In turn, professional development for leaders and educators must address stereotype threat and implicit bias and center proactive approaches to anti-racist practice, cultural pluralism, and culturally responsive pedagogies.

Districts and schools that have successfully built capacity in adults for these practices take the long view and a sustained year-over-year approach, consistent with features of [effective professional development for teachers](#) and [for leaders](#), which include providing opportunities for collaboration, modeling, coaching and expert support, and feedback and reflection (see “Where to Go for More Resources” sections throughout the playbook for low- or no-cost professional learning resources).

Build unified integrated support systems

Practitioners committed to whole child school redesign may encounter barriers to creating and sustaining integrated support systems. Bringing different systems together to support children’s health, welfare, and education across bureaucratic boundaries can be challenging at every level. Some states, counties, and cities have created a Children’s Cabinet or other cross-agency council to coordinate and begin to streamline programs across agencies so that they can work together in local communities. Many have begun to fund community schools that are designed and staffed in ways that enable them to integrate services for children more effectively.

Whatever the approach, it is important that the construction of integrated support systems be purposeful and involve training for all stakeholders. Too often, ad hoc mechanisms are set in motion with personnel who have too little training related to systemic change or too little support for formative evaluation. It is common to find individuals and teams operating without clear understanding of functions and major tasks. In addition, other site stakeholders are often underinformed about support systems and the opportunities they provide to enhance learning and well-being. Fortunately, we have research that provides many lessons about how access to integrated systems of support can become a reality. One key lesson relates to ensuring a strong infrastructure for change, including high-level administrative support and well-trained change agents.⁶

This includes establishing a support systems team, designating clear roles and responsibilities for personnel, and institutionalizing procedures so that integrated support systems can be maintained in the face of personnel or leadership transitions. Creating—and sustaining—readiness to implement integrated support systems also requires capacity-building, which can include a specific focus on developing a unified system of support. Professional development must provide on-the-job opportunities and additional time to enhance the capability of those directly involved and support them in their particular roles and responsibilities. Professional development of teachers, administrators, other staff and volunteers, and community partners must also include a shared developmental perspective so that there are common understandings about how best to enhance student learning across the spectrum and how to address barriers to progress.⁷

Sustained system changes involve working with a critical mass of stakeholders—community members, educators, and policymakers—to deepen their understanding of and commitment to integrated support systems. Of particular importance is ensuring that all stakeholders understand the essential elements that must be implemented and sustained if there is to be substantive, rather than cosmetic, change. This collaboration involves the ongoing development of productive working relationships with external and school-based partners as well as others who may be more resistant or skeptical of the importance of integrated support systems and their impact on learning. Cultivating a steering group of influential advocates and champions for change may be valuable in removing barriers to the work and in creating sustainability.⁸

Take a systemic approach that enables change in all schools

With the historic and current barriers to sustaining whole child school design, many believe this work is only possible in niche or independent school settings. Yet research and practice tell us that this work is possible in all settings, particularly when states and districts transform policies to create productive incentives and reduce barriers for the system as a whole. Examples of such approaches are being developed and supported through the [Whole Child Policy Table](#), which brings together a wide range of policymakers and community-focused organizations to design and share policy strategies that:

- create a vision for whole child policy and practice;
- transform learning settings to support students;
- enable productive instruction;
- ensure adult learning; and
- organize and leverage resources.

Among those strategies, for example, is a whole child approach to school improvement that can be supported with funding from the [Every Student Succeeds Act](#). A range of resources for supporting high-leverage policy transformations can be found [here](#).

Learning to design and manage schools in new ways requires opportunities to imagine, build, and support new approaches. To accomplish this, districts and schools can partner with each other for learning and with practitioner-led organizations and networks who can support them in developing new structures and practices that enable stronger relationships, student-centered learning, and equity. (See “Where to Go for More Resources,” below, for some of these.)

Learning to design and manage schools in new ways requires opportunities to imagine, build, and support new approaches.

Recent studies document how networks can partner with districts to redesign schools for student-centered learning models and help them rethink the structures that govern how educators are organized to work with students and with each other to support learning.⁹ This includes creating schools that allow for advisory systems, teacher teaming, and teacher looping, along with schedules that provide ample time for teachers and students to engage in collaborative and applied learning. In addition, these networks help facilitate important professional learning that is fundamental to equipping leaders and educators with the skills and mindsets necessary to teach for deeper understanding; engage in motivating performance assessments; and support equitable learning through academic scaffolds, restorative practices, and integrated support systems. While there is still significant work to be done to extend whole child school design to all schools, districts, and states, turning to schools and networks that have sustained these changes in the face of obstacles can provide insights into how these barriers are faced and overcome.

Conclusion

Education has long been central to the promise of the United States and its democracy. However, our current education system has not been designed to promote the equitable opportunities or outcomes that today's children and families deserve and that our democracy and society need. Our system was designed for a different world—to support mass education preparing students for their presumed places in life. That world believed that talent and skills were scarce; it trusted averages as a measure of individuals; and it was a world in which racist beliefs and stereotypes shaped the system so that only some children were deemed worthy of opportunity.

To achieve the transformation we need today, education systems must be willing to embrace what we know about how children learn and develop. The core message from science is clear: The range of students' academic skills and knowledge—and, ultimately, students' potential as human beings—can be significantly influenced through exposure to learning environments that use whole child design. To create this transformation, the science, structures, and practices highlighted in this playbook can become the foundation for a new approach to learning when integrated and implemented—one that supports equity for all students and the development of the full set of skills, competencies, and mindsets that young people need to live and thrive in their diverse communities.

Where to Go for More Resources

- **Big Picture Learning:** Big Picture Learning works with districts and school leaders to design schools that immerse students in interest-based learning experiences that are grounded in personalized courses of study and workplace learning that typically takes place in internships. To date, Big Picture Learning has worked to create and sustain over 62 schools in the United States and supports more than 100 schools internationally with the goal of advancing equity and deeper learning in personalized and meaningful ways.
- **City Connects:** City Connects partners with schools to transform existing student supports in a school and in the surrounding community into an integrated support system of care that addresses the strengths and needs of each student across all developmental domains. To date, City Connects has implemented its approach in 82 schools across 6 states, helping them to create and execute a tailored plan of resources, opportunities, and relationships, with the goal of supporting each student to be ready to learn and engage in school.
- **Coalition for Community Schools:** The Coalition for Community Schools is an alliance of national, state, and local organizations in k–12 education, youth development, community planning and development, family support, health and human services, government, and philanthropy. It offers a range of tools and resources that can help educational leaders to build and sustain community school models and initiatives in their area, including opportunities to connect with technical assistance providers that can help communities improve their planning and management.
- **CORE Districts:** The CORE Districts are a collective of districts across California that collaborate to build educator capacity and effective data processes that support whole child education. Since 2013, they have established a shared data system that incorporates academic and nonacademic indicators and have facilitated interdistrict professional learning that supports schools and systems in their areas of strength and struggle. Through

their collective work, the CORE Districts have shared the key lessons and takeaways that have emerged in their efforts to support continuous improvement within and across districts and schools, and with state and federal policymakers.

- **EdPrepLab:** EdPrepLab supports a network of preparation programs that aim to develop strong, equity-oriented educators who maintain a robust knowledge of the science of learning and development and its implications for practice. It helps programs develop coherent and well-integrated coursework and field experiences that can prepare their emerging educators to implement and integrate the essential elements of whole child school design.
- **EL Education:** EL Education supports academic, social, and emotional learning and character development across more than 150 schools that serve over 500,000 students. To do so, EL Education offers a range of resources and opportunities that help practitioners build and sustain whole child school design. These include district partnerships in which EL Education works with partners to implement their k–8 curriculum with strategic planning and professional learning support. The network also offers online courses for educators and other forums for educator and leadership development that can enable and sustain school redesign.
- **Envision Learning Partners:** Envision Learning Partners (ELP) helps educators, school leaders, and district officials build high-quality systems of performance assessment to engage students in rich and meaningful learning. ELP facilitates discussions among diverse teams to identify equity challenges and define the skills students need to succeed. ELP then works with practitioners to co-design high-quality performance assessments and build professional capacity to sustain that learning system. To date, the organization has supported work in over 100 districts and 45 schools to transform learning experiences for over 200,00 students.
- **The Internationals Network:** Internationals Network designs, develops, and supports schools and programs for recently arrived immigrants and refugees. To date, it has partnered with 12 districts to develop 28 schools that meet the needs of multilingual learners through an activity-based pedagogical model that features collaborative, inquiry-based learning. In addition to supporting school development, Internationals Network provides professional development, offering practitioners experiential learning opportunities that simulate the effective practices Internationals schools use to support multilingual learners.
- **Institute for Student Achievement:** The Institute for Student Achievement (ISA) assists with whole-school reform efforts around the country using seven evidence-based principles, which focus on college preparatory teaching and learning, relationships and personalization, and continuous improvement. Through this lens, ISA supports school districts in creating and sustaining equitable practices through activities like equity audits, strategic planning support, and professional development.
- **Linked Learning Alliance:** The Linked Learning Alliance is a coalition of educators, educational leaders, and community organizations that promotes the integration of college and career preparation for young people in educational systems. Specifically, it promotes

the implementation of approaches that emphasize strong academics alongside access to comprehensive student supports and real-world learning opportunities that enhance students' skills and job-related knowledge. To advance this work, the Alliance works to grow the field's understanding of the power of linked learning experiences, elevates policies that can enable this pedagogical approach, and facilitates professional development that grows practitioner and community knowledge.

- **New Tech Network:** New Tech Network partners with school districts to support comprehensive school change centered on the implementation of interdisciplinary, project-based learning. To do this, the network engages district officials and practitioners in professional development that helps them build schools that implement project-based learning and consider how to spread this deeper learning model to other schools through a supportive policy and personnel infrastructure. To date, New Tech has worked closely with over 200 districts and schools nationwide and boasts high college persistence rates through its project-based learning approach.
- **Summit Learning:** Summit Learning employs a research-based approach to education designed to drive student engagement, meaningful learning, and strong relationships that prepare students for life beyond the classroom. The Summit Learning program offers schools customizable curriculum, a range of educational resources and technology tools, professional development for educators, and ongoing coaching and support for schools. To date, the program has reached over 80,000 students, 4,000 educators, and nearly 400 schools across the United States.
- **Transcend:** Transcend works with schools and districts to provide design and implementation support as they advance fundamental change to their school models. For practitioners beginning to design or redesign schools, Transcend provides coaching, research-driven tools, and other professional supports that guide practitioners through a research and development process grounded in equity and science. For those already engaged in school design, the organization helps leaders and educators understand and strengthen the conditions for innovation and effective implementation.
- **Turnaround for Children:** Turnaround for Children works to support practitioners in advancing and implementing whole child educational practices. To this end, the organization produces research-based tools for educators, such as a toolkit on how to use a whole child vision to assess and plan for tiered systems of support and resources to accelerate healthy student development and achievement. In addition, Turnaround for Children works with schools, districts, and networks across the country, which, to date, includes training, coaching, and support to over 220 school leaders in 76 schools to help create healthy learning environments that catalyze success and well-being.

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