Science of
Learning &
Development
Alliance

Using ARP Funds to Redesign Schools for Whole Child Equity:

Early State and Local Policy Recommendations from the Science of Learning and Development

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As we approach the beginning of a new school year, our nation must address the effects of overlapping crises, including the ongoing COVID pandemic, longstanding racial injustices, and challenging economic conditions. The major disruption in K-12 education over the last 18 months—combined with significant stress and trauma afflicting a large number of students—creates unprecedented challenges. Education leaders are faced with the challenges to re-engage millions of students, identify gaps as well as strengths they have developed, and provide evidence- based, equitable pathways for their social, emotional, and academic recovery and thriving. Our goal must be not only to respond to current crises and accelerate learning, but to transform our education systems to help all young people achieve their full potential – to choose policies and approaches that plant seeds, not just fill holes. And we must do so in a manner that centers the needs and strengths of young people from marginalized communities, who faced the greatest challenges in the pandemic, and significantly addresses longstanding systemic racial, socioeconomic, and other inequities.

The science of learning and development provides extraordinary, actionable insights regarding what we can and must do both to respond to current crises and to redesign systems such that every young person, particularly those most historically and presently excluded, has the opportunity to thrive. Today, based on the science of learning development, we know that talent and skills exist in all young people, that all young people are greatly malleable and resilient, and that we can design learning settings, both in and out of school, that foster the relationships, conditions, experiences, and supports to enable all young people to succeed.

The American Recovery Plan (ARP) Act provides unprecedented funding to support these efforts – approximately $130 billion in dedicated K12 funding – that builds on billions of prior K12 COVID relief funding, along with hundreds of billions more for early childhood education, higher education, and broader state and local fiscal support. *These funds can be used immediately to build toward a new school year and over the next several years to seed long term change*. As states and school districts develop, implement, and continuously review and improve their ARP plans (in part as required by federal law), they have a great opportunity to avoid a return to the status quo and instead implement strategies and advance shifts that are aligned with the science of learning and development and designed for whole child equity.

This brief paper highlights some initial, highest priority recommendations for state and local actions in leveraging ARP funds towards that goal. **In particular, this paper calls on states and districts to take action in their ARP planning and implementation to prioritize building equitable, whole child school and other learning environments to maximize recovery and redesign. This is based on a new resource released by the Science of Learning and Development (SoLD) Alliance and its partners to help educators and education leaders do this successfully, *Design Principles for Schools: Putting the Science of Learning and Development into Action*.** The recommendations in this paper are closely aligned with many other key resources from SoLD Allies and partners, such as the BELE Framework and "Essential Actions" developed by the Building Equitable Learning Environments (BELE) Network; A Report from the Learning 2025: National Commission on Student-Centered, Equity-Focused Education developed by the School Superintendent Association (AASA), the framework from the Coalition to Advance Student Success, Do Now and Build Toward tools from Education Resource Strategies, and Five Key Questions for Districts from The Education Trust.

Background – The science of learning and development calls for a new education agenda

The science of learning and development has crystalized over the last several years. It offers a series of integrated findings regarding how young people learn and develop and what we can and must do to help all of them thrive – in K-12 education, youth development, and the broader learning and development ecosystem. These findings are greatly significant for the education of all young people, and they are particularly drivers of equity in that they dispel harmful myths and biases that have long limited education opportunity and outcomes for students of color and other marginalized youth, and they illuminate approaches that have the greatest positive impact on all young people and particularly those who are most marginalized and least served by our current systems. Together, these findings call for a transformation in our education and other youth-serving systems. For example:

1. *The science affirms* that every young person has incredible **potential**–billions of neurological pathways to success – including both the ability to master an array of critical knowledge and skills, and numerous areas of specific talent and interest in which they can excel. There is no "bell curve" on potential. Further, the science proves that every young person's brain is highly **malleable** and resilient, in early childhood, adolescence, and throughout their lives.

2. *The science establishes* that **context** – the **environments, experiences, cultures, and particularly relationships** that young people experience – is far and away the most significant variable that determines each person's trajectory in learning and life. Therefore, we can and must design learning environments and create conditions and supports that build strong relationships that enable each and every young people to overcome the effects of adversity and thrive, including in response to current crises.

3. *The science shows* that each young person is **unique and individual** based on their singular lived experience and genetic expression. While each young person learns and develops on a **continuum**, building on what came before, the brain is a complex web, and the learning journey is jagged and nonlinear – more like moving up a climbing wall than a ladder. There is no such thing as an average or "normal" learner. We must and can build more personalized systems, both in and out of school, that are designed to better meet each and every child's individual needs, interests, talents, and pathways, and maximize their range and progress, and not expect all young people to bend to our fixed education systems.

4. *The science demonstrates* that learning and development are deeply **integrated** in terms of social, emotional, cognitive, and academic development. These are not separate or in conflict but rather are mutually reinforcing. It is this kind of integrated learning that builds new, increasingly complex neural connections in the brain, and demands that education be both a learning and development enterprise by design. The science also explains how people learn by continuously **making meaning** – connecting new information and experiences to their prior knowledge, cultures, and contexts.

These findings from the science provide essential insights to inform COVID recovery, and they point the way to a new, long-term national agenda for education and other youth serving systems – with additional, broader pillars for equity and outcomes that build upon and go beyond the current standards-based reform frame. The reality is that our current education systems were not built to be aligned with the science or designed for equity. We are at a critical inflection point in our national education agenda, and the COVID crisis and renewed calls for racial equity create additional need and demand for bigger change. In this next-generation agenda, we must focus more fully on a broader set

of priority shifts, which together could yield far greater opportunity and outcomes. These include, for example:

- Focusing on whole-child development, across an array of knowledge, skills, and dispositions
- Serving children across the full age range, including early childhood, to K-12, to higher education
- Aligning and integrating the learning and development "ecosystem" – in and out of school – to best serve every young person
- Prioritizing efforts to build equitable learning environments
- Personalizing our education systems and approaches to best serve the talents, needs, interests, and pathways of each child
- Building and supporting new, continually improving adult capacity, roles, and well-being, for teachers, leaders, and other adults inside and outside of schools
- Setting high expectations for deeper learning outcomes, supporting meaningful systems of assessment and measurement, and using appropriate accountability approaches to identify challenges and promote continual improvement
- Making our education system function like a learning system, by using data, evidence, stakeholder engagement, and professional judgment to support continuous improvement

Early Recommendations for State and Local ARP Planning Based on the Science and Designed for Equity

In order for states and districts to receive their ARP funds, the U.S. Department of Education is requiring each state and district to develop ARP plans this year, which should be continuously reviewed and improved over the next several years. This includes plans related to both school reopening and expenditure of ARP funds, which must be based on pandemic impact data, evidence of effectiveness, and broad stakeholder engagement. States and districts may also develop broader, deeper plans for COVID recovery and redesign, and ARP implementation, that go beyond the federal requirements. Today, all states and districts are at various stages of developing, implementing, and improving these plans, creating an opportunity to advance education policy aligned with the science of learning and development and designed for equity.

There are several policy priorities and strategies that emerge directly from the science of learning and development on which states and districts should focus in terms of COVID recovery/redesign and in their ARP planning, implementation, and improvement. These concrete priorities and actions can help accelerate recovery for all students and particularly for marginalized youth, and they can seed or accelerate long-term shifts in education and youth development to build systems that are aligned with the science, designed for equity, and better able to help all young people thrive. All of these actions are consistent with insights from interdisciplinary research, have evidence of effectiveness, and can be undertaken with ARP funds. And many can jump start broader changes in systems and culture that can far outlast those funds, regardless of any "funding cliff," though some will require planning for sustainability and a commitment to ongoing support.

In particular, as we approach the beginning of the 2021-22 school year, our primary recommendation is that states and districts focus intentionally on how they design school and other learning

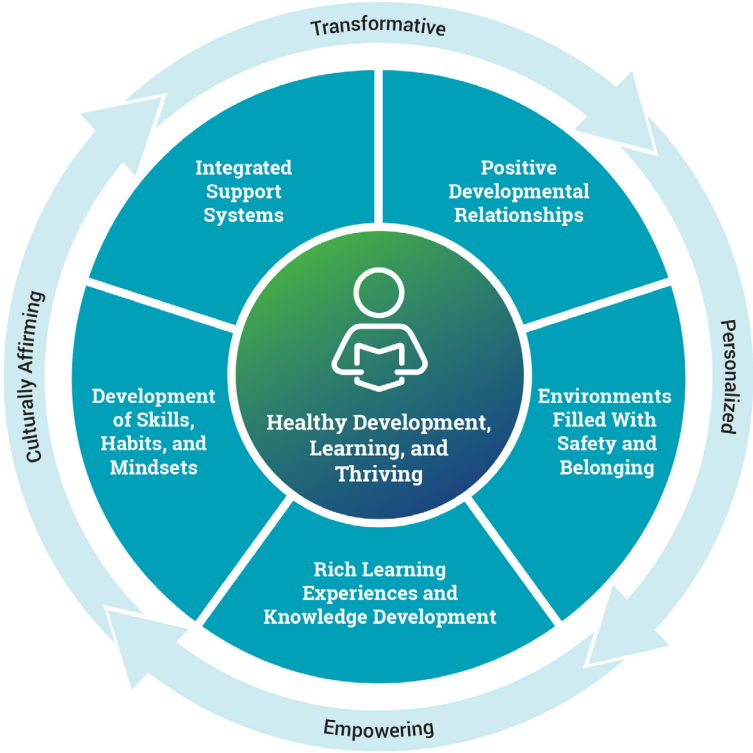
environments to best advance whole-child equity. **This priority should be a specific and transparent part of ARP plans and investments – particularly including in district plans regarding school reopening and/or use of ARP funds.**

Building from the science of learning and development, the SoLD Alliance's recently released playbook, *Design Principles for Schools: Putting the Science of Learning and Development into Action*, presents **five core principles for building effective school and other environments** designed to maximize learning and development. These include a focus on:

(1) Positive Developmental Relationships;
(2) Environments Filled With Safety and Belonging;
(3) Rich Learning Experiences and Knowledge Development;
(4) Development of Skills, Habits, and Mindsets; and
(5) Integrated Support Systems.

These five elements are deeply integrated and overlapping, and they must be pursued in ways that are personalized, transformative, culturally affirming, and empowering. States and districts should ensure that their ARP plans and implementation focus on building learning environments that reflect each of these core elements as described below.

Essential Guiding Principles for Equitable Whole-Child Design



Derived from SoLD Practice Principles: Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., and Osher, D. (2019) Implications for educational practice of the science of learning and development. Applied Developmental Science. 2.

Guiding Principle 1

Build positive developmental relationships with peers, educators and other adults. For the last year and a half, students have experienced unprecedented disruptions in their education and lives. Limited in-person learning has resulted in lesser connections with educators and other adults, as well as peers. However, the science tells us that deep, trusting relationships are not only essential to learning but can also buffer the impact of stress and provide pathways to motivation, self-efficacy, and growth. There are a number of evidence-based strategies that states and districts can advance to prioritize establishment of strong relationships in their COVID recovery and ARP plans. For example:

- Establish policies and use funding to build capacity and support relationships between teachers, staff, students, and families, such as through home visits, advisories, mentoring, and counseling. Also consider increased, regular check-ins with culturally and linguistically responsive communications, including through regular family conferences, positive phone calls, emails, and text messages.

- Structure the day to build in time for advisories, create small learning communities, and smaller class sizes that can facilitate positive connections within a building.
- Wrap "people power" around students by adding new staff where necessary, including teachers, counselors, student success coaches, tutors, mentors, family outreach and student services coordinators. Build, strengthen, and fund partnerships with youth development organizations and other caring adults connected to students, such as by creating a Corps for Student Success.
- Provide professional development and resources to drive key practice changes that can have impacts on relationships, like group work and social activities connected to students' goals in classrooms, expressing care, and sharing power in the classroom with students.

Guiding Principle 2

Establish learning environments that center safety and belonging. Young people learn best when they feel physically, emotionally, and identity safe, including when they and their cultures are represented and valued in their learning communities. As states and districts work to build school and other environments that are COVID-safe, they must also build environments that create connection and a sense of membership through shared values and routines; communicate acceptance as well as high expectations; demonstrate cultural affirmation; create calm; and ignite students' capacity for engagement and creativity. There are a number of research-based strategies that states and districts can advance, including through ARP implementation. For example:

- Support comprehensive diagnostic assessment and develop a deep understanding of where students and schools are – in the fall and on an ongoing basis – by investing in and using evidence-based measures and tools that inform adults about the learning experiences, well-being, and outcomes of young people, such as Turnaround for Children's Toolbox, PERTS Copilot-Elevate, CRE Wellness Indicators, and UChicago Impact-Cultivate.
- Identify and purchase more culturally affirming curricula and materials, and provide professional training on their effective use.
- Invest in professional development and other needed capacity to reduce or eliminate exclusionary discipline policies (in K-12 and early childhood education) and forms of policing in schools that are inequitable and not educationally sound and instead shift toward policies that are restorative, empathic, student-centered, and developmental.

Guiding Principle 3

Foster rich learning experiences that engage and inspire deep learning and development. As students return from the pandemic, it is essential to create learning experiences that are engaging, inspiring, and connected to their personal experiences. Students learn best when they are engaged in authentic activities, and are collaborating with peers to deepen their understanding and transfer knowledge to new problems and settings. Rote learning alone – disconnected from prior knowledge, experiences, relationships, or culture – will not provide a reliable pathway for a young person to discover and achieve their potential. As we build back from the COVID-19 pandemic, when many students experienced gaps in formal education, we must create experiences that are both personally meaningful and intellectually challenging, and that build on students' prior knowledge and experiences. For example:

- Prioritize policies and approaches that build on students' knowledge and interests, and drive acceleration rather than remediation, including through project-based learning and by partnering with and funding community-based organizations that students choose to support their interests and talents.
- Take advantage of innovation authorities, capacities, and opportunities to provide personalized learning, including development and adoption of inquiry and problem-based curricula and related learning progressions; course sequencing; student advancement and credit accumulation opportunities; graduation requirements; and related assessments and tasks that are culturally connected and collaboratively pursued.
- Eliminate policies that promote tracking of students or deny students opportunities based solely on test scores and instead expand opportunities for acceleration and ways of knowing which learning experiences will help each student thrive.
- Invest in tools to support learning about students' experiences, interests, strengths, and readiness, such as learning surveys, student reflections, observation protocols, formative assessments, and exit tickets.

Guiding Principle 4

Support structures that integrate and develop student cognitive, social, emotional, and academic development. The brain is cross-wired and functionally integrated. For students to become engaged and effective learners, educators need to develop students' content-specific knowledge alongside their cognitive, emotional, and social skills. These include skills necessary for success in school, work, and life, and include executive function, growth mindset, social awareness, resilience and perseverance, metacognition, and self-direction. Social and emotional skills can be built by creating a supportive school culture and integrating skill development effectively into curricular and learning experiences. Key skills include the personal and social awareness that support self-regulation; social skills that support organization and self-direction; and habits that support a growth mindset and critical consciousness. These skills work together to help students thrive and produce higher order, 21st century skills like problem solving, collaboration, metacognition, and critical thinking. They can and should be taught, modeled, and practiced just like traditional academic skills, and should be integrated across curriculum areas and across all settings in the school. For example:

- Invest in and implement culturally affirming curricula and learning structures that enable students to develop and practice valued skills, habits, and mindsets (such as, social-emotional learning or conflict resolution curricula) and are embedded throughout the school day.
- Develop and provide funding and training for tiered systems of support and other initiatives that are culturally competent, coordinated, student-driven, and assets-based to improve school climates, promote inclusion, and meet student needs.
- Draw on community assets and partnerships to engage various facets of students' interests, integrate sources of learning and development, and provide diverse opportunities for young people to develop socially, emotionally, academically, and cognitively.

Guiding Principle 5

Establish comprehensive, integrated systems of support.

Learning settings need to be set up with many more protective factors in place, which can help all children feel safe, included, motivated, and engaged.

A healthy context for learning and development requires attention to a young person's safety; health; mental health; social, emotional, and cognitive development; academic skills; identity; and agency. COVID has greatly increased the needs for these supports as a core part of the education system. Integrated support systems build connections between learning in and out of the classroom and provide different levels of supports and opportunities to nurture interests, discover talents, and drive learning and engagement during and beyond the school day. ARP funds can support efforts to align and integrate strengths-based and culturally-competent services for students and build integrated systems of supports to best meet student needs – in COVID recovery and for the long term. For example:

- Invest in in-school supports, such as counselors, social workers, school psychologists, mentors, and establish partnerships with other key agencies and community providers, including with regard to health, mental health, nutrition, and more.
- Expand evidence-based models for tiered systems of supports that integrate services around each child, such as evidence-based community schools models that provide integrated student supports, expanded learning time and opportunities, family and community engagement, and collaborative leadership and practices.
- Strengthen and expand early warning systems and early intervention services, including in the early elementary and adolescent years, such as transition to ninth grade.
- Expand and integrate out of school time learning and development opportunities, including summer learning, afterschool activities, and other rich and relationship-filled experiences that young people value.

Finally, in addition to designing learning environments for recovery, acceleration, and thriving, there are **several other policy priorities** that states and districts should include in their COVID recovery plans, implementation, and improvement that are informed by the science of learning and development and can advance equity and success in COVID recovery and redesign – both immediately and over the longer term. Some of the items are also reflected in the five principles above, but they merit their own prioritization and focus as well:

- **Provide equitable resources in ARP implementation to target needs and reduce systemic inequities.** The science is clear that all students can thrive if we design systems and conditions that meet their needs, talents, and interests. However, our current education systems do not provide equitable access to education resources, and we know that COVID disproportionately impacted students who have historically been underserved. ARP presents an opportunity to change the reality that young people who need the most often get the least, which can interfere with their ability to meet their full potential. ARP targets funds toward students who need it most in a number of ways, including by providing funds to states and districts based on Title I, requiring Maintenance of Effort and Equity, and targeting its set asides toward marginalized youth. States and districts should not only ensure equitable use of ARP funds down to the school and student levels, they should leverage this influx of funds to address systemic inequities in resource distribution, and "build back better" by ensuring that students have both adequate and equitable access to school funding and other education resources going forward.

- **Improve and align the learning and development ecosystem through ARP implementation to best serve every young person**. We know that student learning and development occurs both inside and outside of school. Youth development and other community organizations play a critical role, particularly with regard to marginalized youth. Yet these systems have often been devalued and disconnected from schools. ARP provides a critical opportunity to strengthen and align the education ecosystem, including via set-asides for summer learning and afterschool, broad allowable uses that include outside providers, and USED's focus on broad stakeholder engagement in ARP implementation. States and districts should leverage ARP planning and funding to expand learning opportunities, connect key players, and integrate education, youth development, and other core systems (including health, mental health, nutrition, etc.) to unite around each child, rather than expecting each child to bend to these systems.

- **Increase access, affordability, quality, and alignment in early childhood education through use and integration of ARP funds.** Evidence is clear that investing in early childhood education has great impact on children's learning and development. ARP provides substantial funds that can be used to address systemic inequities and increase the availability and affordability of high-quality early childhood education, birth to eight. These include allowable uses of state and local relief funds, ESSER funds, additional funding for the Child Care and Development Block Grant and Head Start, and new funding for child care stabilization grants. States and districts should use ARP funding to increase access to high-quality early childhood education in all settings (including child care centers, Head Start agencies, family child care homes, and schools), and to align and integrate early childhood and K-12, including supporting effective transitions from early childhood to K-12 education and implementing policies and practices in early elementary classrooms that reflect the developmental needs of young children.

- **Develop with ARP funds specific pathways for adolescent recovery and success.** COVID has had a particularly disruptive impact on many adolescents, whose pathways to and through graduation and postsecondary learning have been profoundly changed. ARP funding can be used to help identify, reengage, and redirect adolescents who have become disconnected from school and/or whose graduation and post-secondary plans were derailed because of COVID. States and districts should consider several strategies, such as specific outreach to adolescents who have not re-enrolled in school; pathways to accelerated credit recovery and dual enrollment that do not require adolescents to be "held back" a year; schedules that accommodate new adolescent responsibilities, such as jobs and family care; and funding for part-time and summer employment (including through payment for adolescents to take summer courses, national service, and employment as tutors and mentors) to provide financial support, agency, and productive engagement for adolescents. This is also a critical time and opportunity to engage youth in their own education and create space for them to inform the policies and practices that are provided for their recovery.

- **Use ARP funds to increase access to diverse, highly skilled educators.** COVID has had a profound impact on educators as well as students, and it is critical to intentionally support the health, readiness, and capacity of teachers and school leaders as we recover and rebuild. In particular, states and districts can use ARP funds to ensure that school leaders have the supports they need to in turn provide supports and professional development for teachers and other adults to address the academic, social, and emotional needs of all students, with particular emphasis on creating equitable, inclusive learning environments that provide a sense of belonging and can accelerate learning and development. ARP funds can also be

used to improve pathways and pipelines to ensure that schools have the pool of diverse, highly skilled educators that they need. All students, and especially students of color, benefit from having teachers of diverse backgrounds. States and districts can use ARP funds to support and incentivize programs and partnerships that intentionally recruit candidates of color, focus on inclusive pedagogy and the science of learning and development, aim to serve specifically-identified shortage subject areas and schools communities, and are structured in ways that lead to higher retention, including high-quality residencies and Grow Your Own (GYO) programs.

- **Ensure periodic review and improvement in ARP implementation, and make education systems function like learning systems**. Effectively recovering from COVID and redesigning education systems to be aligned with the science of learning and development and designed for equity will require significant change over the long-term. To succeed, systems must be ready, willing, and able to learn and adjust along the way in response to lessons from implementation, ongoing stakeholder engagement, and a variety of data and evidence. ARP provides several years of funding, a focus on evidence-based action, and clear opportunities and expectations for periodic review and improvement of ARP plans, which USED refers to as "living documents." States and districts should establish systems of continuous improvement for their ARP implementation, and they should use ARP funds to strengthen key elements of a learning system infrastructure, such as data systems, research capacity, and mechanisms for collaboration and continuous improvement at all levels of the system. In designing ARP plans, they should also use (and build) evidence about what is most likely to work for whom and under what circumstances.

Conclusion

Today, we have an opportunity to design our education and learning settings with a new, equitable purpose – one that is relationship-rich, holistic, rigorous, and profoundly positive and engaging of students' interests and abilities. What would it mean if all the places where children were growing and learning were designed to meet each child, the whole child, where they are, and to help each and every one develop to their fullest potential? This vision constitutes a transformational shift in the purpose and potential of our schools and of all of our learning settings, grounded in what we know today about human development, the development of the brain, and learning science. ARP provides essential resources for all states and districts to establish equitable, whole-child learning environments, and take other actions consistent with the science of learning and development that can accelerate COVID recovery, improve education equity, and redesign education systems such that all students can thrive.

The SoLD Alliance is a growing network of leading researchers, practitioners, advocates, and policymakers who are working together because we see that the science of learning and development holds powerful, positive, unifying lessons for how we can advance equitable opportunity and outcomes for all young people, particularly those least served by the current systems.

Governing partners of the SoLD Alliance include Pamela Cantor, M.D. and Brigid Ahern (Turnaround for Children), Linda Darling Hammond (Learning Policy Institute), David Osher (American Institutes for Research), Bethany Little and Scott Palmer (EducationCounsel), Karen Pittman and Merita Irby (Forum for Youth Investment), and Todd Rose (Populace). To learn more about partners and Allies of the SoLD Alliance, visit https://www.soldalliance.org/national-advisory-committee.

Thank you again for your service and consideration of these recommendations as you work to implement ARP funds. If you would like to discuss these ideas, please feel free to contact Scott Palmer (Scott.Palmer@educationcounsel.com), Samantha Kobbah (samantha.kobbah@educationcounsel.com) and Bethany Little (Bethany.Little@educationcounsel.com) who would be happy to answer any questions or facilitate your engagement with the SoLD Alliance and aligned leaders in the field.