



Adolescent Learning and Development

Needs Assessment for Science Informed Approach to Learning

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This resource defines the key principles of the science of adolescent learning and development and shows how they relate to district and school practices. Education staff should use the needs assessment portion of the tool to identify existing district or school policies and practices that support the key principles. For areas where existing policies and practices do not adequately or effectively meet adolescent needs, the tool includes reflection questions to help district and school teams identify change priorities.

Defining Adolescent Learning and Development

The period of adolescence, now described as the ages between 10 and 24 years by the National Academy of Sciences, Engineering, and Medicine (NASEM, 2019), presents special opportunities to educators. The period of adolescence is characterized by rapid physical, neurological, cognitive, and socioemotional development. As adolescents move toward adulthood, they undergo a series of neurobiological changes that affect the way they learn and understand the world. Understanding these developmental-specific changes, opportunities, and challenges will help adults support young people, in and out of school, to learn and thrive.

Essential Knowledge of Adolescence

Based on NASEM (2019), adolescents are engaging in four growth activities:

- *Preparing for adulthood*, which includes forming a sense of self and personal identity that encompasses their personal and community contexts (e.g., culture, race, gender) and developing adult decision-making and responsibility skills.
- *Experiencing significant changes in how their brains work*, wherein their brains are becoming more specialized and building more neurological pathways. Biologically, adolescent brains are seeking relevance, looking to develop expertise, and finding interconnections in their learning.
- *Seeking supportive adult and peer relationships*. Adolescents are strongly impacted by social supports and evaluation; relationships are a critical motivating factor for adolescent behavior.
- *Developing resilience to overcome challenge* but also facing disparities, discrimination, and opportunity inequities.

For schools and districts serving adolescents, these key principles have implications for how they design, implement, and evaluate the programs and learning opportunities they provide.

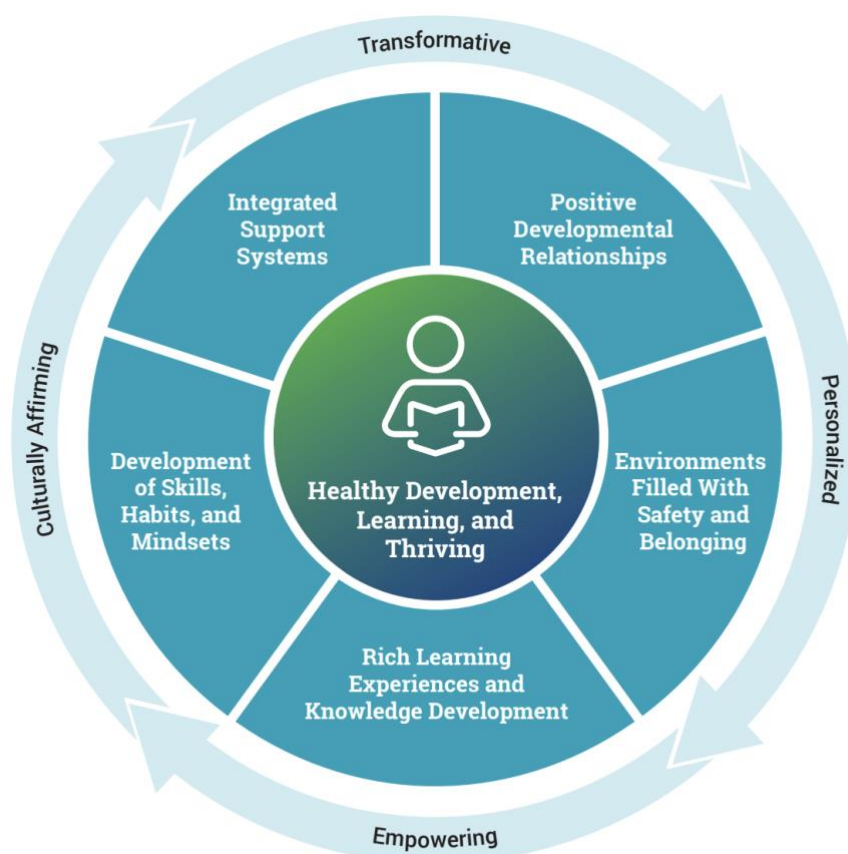


Implications for Practice: What We Do

In our districts and schools, we use overarching structures and policies to shape student experience in and outside the classroom. How we design and manage this “architecture” of our education system has profound implications for how students learn and develop, which students get to thrive, and what communities are connected and valued as part of the education system.

Figure 1 defines a set of guiding principles for educational systems design, whether in a district, school, community program, or other learning environment. These five themes—positive developmental relationships; environments filled with safety and belonging; rich learning experiences; development of critical skills, mindsets, and habits; and integrated support systems—focus on optimizing the development, learning, and long-term thriving outcomes of all young people.

Figure 1. Guiding Principles for Whole Child Equity



Design Principles for Schools: Putting the Science of Learning and Development into Action, SoLD Alliance, 2021



Needs Assessment Instructions

On the following pages, we detail some of the central and practical implications relating to the key principles of the science of adolescent learning and development. These practice elements are divided into thematic categories based on Figure 1 and are adapted from recent research on the science of adolescent learning and development (Alliance for Excellent Education, 2018; Darling Hammond et. al., 2019; NASEM, 2019).

Working with a team of administrators, community stakeholders, and educators, review the design implications listed under each thematic area. Mark the design implications that your district or school already intentionally supports with specific policies or practices (Y). List the specific aligned policies and practices in the space provided. Note the areas where your district or school collects evidence to measure effectiveness.

When you have completed the table under each thematic area, use the reflection guide on the final page of this document to identify areas where your district or school could better align policies and practices with the science of adolescent learning and development.

A. Positive Developmental Relationships

Adolescents need consistent supportive adult and peer relationships to thrive. Positive relationships can be a balancing or mitigating force in helping young people overcome or respond to challenges and stress. In both academic and social contexts, adolescents look to peers for social recognition, validation, and identity formation. These are powerful factors in motivating different types of adolescent behavior.

District/school policies and practices support positive developmental relationships by . . .	Y if yes N if no IP if In Progress	Describe and list specific policies and practices	What data does the district or school collect to measure effectiveness?
1. Providing consistent structured and unstructured opportunities for students to develop and sustain diverse positive relationships with caring adults.			
2. Providing consistent structured and unstructured opportunities for students to develop and sustain diverse positive relationships with peers.			
3. Prioritizing continuity in relationship-building activities (adult-student, student-student, adult-adult) for students in school, those not connected to a formal school, and all the adults within the school and connected to the school.			
4. Developing and sustaining trust, respect, and collaboration between all stakeholders, including school staff (instructional and noninstructional), students, families, and community partners.			



B. Environments Filled with Safety and Belonging

Adolescents are preparing to become adults, but they are still looking to their communities to support them as they develop a sense of belonging, strong positive identities, competencies, and confidence. Learning environments should ensure that all students feel as if they are valued and belong while also offering safe opportunities for them to explore their own identity.

District/school policies and practices support a school culture/climate and learning environment that . . .	Y if yes N if no IP if In Progress	Describe what types of specific policies and practices are in place	What data does the district or school collect to measure effectiveness?
1. Prioritizes the social and emotional wellbeing of every adolescent learner.			
2. Is physically safe and welcoming to all.			
3. Fosters a strong sense of belonging for each person in the school community.			
4. Provides consistency in routines and expectations for all students and adults no matter their backgrounds.			
5. Elevates representations of students' cultural and community contexts as assets to learning.			



C. Rich Learning Experiences

Districts and schools should consider both where and how learning happens for young people, whether in a traditional classroom environment, an out-of-school setting, the home, or in the community. Adolescents are looking for learning experiences that allow them to develop expertise and agency, along with opportunities to connect and apply their learning to real-life contexts. They also are pursuing passions and creating a sense of themselves as learners.

District/school policies and practices support learning in and outside the classroom that . . .	Y if yes N if no IP if In Progress	Describe what types of specific policies and practices are in place	What data does the district or school collect to measure effectiveness?
1. Offers meaningful work that focuses on developing knowledge, skills, and behaviors that are transferable to real-world contexts now and in the future.			
2. Provides a balance of explicit and scaffolded instruction, opportunities for practice, and practical applied learning.			
3. Builds inquiry and agency and fosters independence in learning.			
4. Provides regular and high-quality opportunities for collaboration.			
5. Uses assessments as part of learning to provide ongoing and timely feedback, develop competence, and help students make changes to their work or thinking.			



D. Development of Critical Skills, Mindsets, and Habits

Adolescents are forming a sense of self and meaning in the world. Schools can help adolescents understand their individual assets, develop a broader sense of responsibility and self-awareness, and define their role or purpose within their community/society. As with any skill, adolescents develop competence on a spectrum. They will be at different places at different times in their academic, social, emotional, and cognitive development. This spectrum of development means that individuals need differing levels of support to learn and explore in productive ways.

District/school policies and practices support student social and emotional learning by . . .	Y if yes N if no IP if In Progress	Describe what types of specific policies and practices are in place	What data does the district or school collect to measure effectiveness?
1. Delivering explicit instruction in social and emotional skills, with a focus on responsible decision making, relationship skills, and self-regulation.			
2. Providing structured opportunities to practice social and emotional skills in and outside the classroom.			
3. Embedding regular and open opportunities in and outside the classroom for adolescents to explore their identity.			
4. Structuring learning in ways and times that are personalized and differentiated.			



District/school policies and practices support student social and emotional learning by . . .	Y if yes N if no IP if In Progress	Describe what types of specific policies and practices are in place	What data does the district or school collect to measure effectiveness?
5. Prioritizing behavior management and discipline strategies that are restorative and provide opportunities for learning.			
6. Helping students “learn about learning” with a focus on tasks that require metacognitive thinking (e.g., planning, organizing, self-assessing, peer feedback, reflection).			



E. Integrated Support Systems

School is only one element of support that adolescents rely on, but it can be a convening force for the diverse learning and support environments in students' lives. Districts and schools should consider the holistic needs of young people (both actively engaged or disconnected from traditional schooling) and develop an understanding of what options are available within the full community to meet their needs. Although districts and schools may not provide each of these supports, school structures can help connect the dots across service agencies and community and increase access to whole child supports for every young person.

District/school policies and practices support a strong and holistic system of supports by . . .	Y if yes N if no IP if In Progress	Describe what types of specific policies and practices are in place	What data does the district or school collect to measure effectiveness?
1. Providing access to services that support overall thriving (e.g., mental health, physical health, social services, academic learning, work-based learning, mentoring, postsecondary readiness).			
2. Facilitating partnerships and community connections to offer diverse high-quality learning opportunities during and outside the school day.			
3. Developing an intentional strategy and network of relational supports focused on reaching in-district adolescents who are disconnected from traditional school environments (e.g., regular communication and structured outreach to community organizations, housing and homelessness agencies, juvenile justice sectors, work-based learning)			



District/school policies and practices support a strong and holistic system of supports by . . .	Y if yes N if no IP if In Progress	Describe what types of specific policies and practices are in place	What data does the district or school collect to measure effectiveness?
4. Fostering positive and productive partnerships between academic and nonacademic school staff and a student's community (including families, support providers, and community organizations.)			
5. Leveraging diverse relationships and supports to address learning barriers for any/all students.			



Reflection: Existing Strengths, Gaps, and Change Priorities

1. What policies, practices, programs, and approaches did you identify as strengths in your middle and high school or district system related to the principles of adolescent learning and development?

2. Do the areas of strength you identified currently meet the needs of all adolescents in the school or district? Are there ways that your district or school could do more to effectively scale these practices to serve every young person?



3. What gaps have you identified in your school or district related to the principles of adolescent learning and development? Circle those gaps that are top priority for improving outcomes.

4. For each priority gap identified, brainstorm some of the key district and school programs and staff that would need to be part of your improvement planning and implementation strategies.

Example: A district or school might decide to offer a catalogue of “anytime, anywhere” credit-bearing opportunities through extended community partnerships and flexible virtual learning options to more fully center student inquiry and provide agency and independence in learning environments. This change would require adjustments to both course enrollment and grading/ competence measurement systems. It also would require staffing to coordinate these activities and manage a dual-enrollment system.

References

- Alliance for Excellent Education. (2018). [Science of adolescent learning consensus statements](#).
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