

Middle School Strategy:

Leveraging the Science of Learning and
Development to Inform Education
in Middle School

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“Educating young adolescents is a complex undertaking, and one that deserves our best efforts and total commitment if we are to successfully implement what research, cumulative practice, and common sense tell us is needed.”

–Sue Swaim, National Middle School Association

Middle school is a pivotal time for educators to help prepare students for success. Research suggests that the level of academic achievement attained by eighth grade has a larger impact on college and career readiness than anything that happens academically in high school.¹ Yet, effective strategies for educating students in middle school may be overlooked, as systems place more of an emphasis on elementary school in order to, for example, help students achieve greater fundamental literacy skills by third grade. Likewise, systems may be focused on the later high school years as they support students in navigating the transition to young adulthood.

As school districts continue to grapple with the effects of the COVID-19 pandemic, leaders may need to reconsider their existing strategies. Many systems may also have a significant opportunity to make more of the middle school years. By developing strategies that leverage the

science of learning and human development, system leaders may be able to better address the needs of early adolescents and accelerate both wellness and academic outcomes for middle school students specifically.

This brief seeks to help superintendents and other district leaders think about how to strengthen their middle school-specific strategy by considering the following:

- I. **What is unique about middle school and middle school students?**
- II. **How could districts better support the unique developmental needs of middle school students?**
- III. **Where might a superintendent begin? (case study)**
- IV. **What can districts consider to ensure implementation success?**

¹ “The Forgotten Middle: Ensuring that All Students Are on Target for College and Career Readiness before High School,” American College Test (2008)

WHAT IS UNIQUE ABOUT MIDDLE SCHOOL & MIDDLE SCHOOL STUDENTS?

Performance in middle school is a strong indicator of future success.

Although academic achievement is only one part of what students need to succeed, research shows that student performance in eighth grade is a predictor of college and career readiness by high school graduation.¹

The nature of middle school is different from elementary and high school and the transition years are key.

When they enter sixth grade, students are confronted with a larger and more bureaucratic environment (*e.g.*, more teachers, peers, curricular choices), which may lead to declines in academic performance and other areas.²

The transition to high school is also key:

- The single most predictive indicator of high school completion is the student’s academic standing during ninth grade.³
- Behavioral and mental health issues increase early in ninth grade. Although students are far more likely to seek support at school, they may not always get the help they need due to lack of resources. In addition, due to the academic significance of the transition to high school, teachers and staff may be so focused on academic performance that they may overlook the critical social, emotional, behavioral, and mental health needs of students.⁴

Middle schoolers are a unique and changing student population.

Early adolescents experience a significant number of changes (*e.g.*, neurological, learning, psychological, social) that require tailored structures and supports.

- Early adolescence is one of the most rapid phases of human development—the learning spurt experienced during this period is second only to brain development during the first five years of early childhood.⁵

- The rapid development experienced by early adolescents may influence behaviors in a variety of ways, including pleasure-seeking, reward-processing, emotional responses, and executive functions (*e.g.*, decision making, organization, impulse control, and planning for the future).⁶
- Behavioral health conditions such as anxiety or depression often begin to develop during the middle school years and are present by age 14. If not properly addressed, they can lead to poor short- and long-term outcomes (*e.g.*, low academic achievement, dropping out of school, involvement with the juvenile justice system).⁷

The combination of these environmental and developmental changes during middle school heightens the risk of students not reaching their full potential during a particularly formative phase of their lives, increasing the need to identify—and perhaps intensify—targeted sources of support.



2 “Parental Involvement in Middle School: A Meta-Analytic Assessment of the Strategies That Promote Achievement,” *Developmental Psychology* vol. 45,3 (2009)

3 “Transitions from Middle School to High School,” Education Partnerships, Inc. (April 23, 2010)

4 “Schools Are the Main Source of Student Mental Health Care. Are They Ready?,” *Education Week* (2020)

5 “Why the preteen years are a critical period for brain development,” *Herchinger Report* (March 16, 2020)

6 “Guidelines on mental health promotive and preventive interventions for adolescents,” World Health Organization (September 28, 2010)

7 “Middle School Mental Health,” Association for Middle Level Education (March 25, 2022)

Parent and Caregiver Engagement Matters

“Some parents tend to drop out of the picture in middle school ... and this comes from the student who says, ‘don’t get involved’ ... so we need to reinforce that this isn’t the message. We *want* parents to get involved.”
–District leader

Parents and caregivers can play a key role in supporting student success during middle school. Yet school leaders may find that parents and caregivers often change the ways in which they are involved during this formative period. Disengagement is often driven by a variety of challenges that can be difficult for both students and their families to navigate, especially without support:

- **Middle schools tend to be larger and more complex than elementary schools**, making it more difficult for parents and caregivers to figure out where or how to become involved.
- **Teachers in middle school instruct a larger number of students**, making it more difficult to develop and maintain relationships with parents and caregivers.
- **The number of teachers each student has (across different subjects) increases**, making it difficult for parents and caregivers to know whom to contact for what.

In addition to these challenges, as students mature, they may develop a heightened sense of autonomy and play a more active role in making decisions about their own lives, which may lead them to seek less help from their families.

As leaders build the strategies for their districts, they can consider how they might better support parent and caregiver involvement. One potential approach is to help families be intentional about the ways in which they spend time engaging with their children’s schooling.

A study published by *Developmental Psychology* looked at three different types of parental and caregiver involvement in education and academic achievement—and found that while parent and caregiver involvement, in general, had a positive relation with achievement in middle school, not all types of involvement were seen to be equally effective.⁸ Academic socialization strategies, broadly, were the most effective, while home-based

and school-based activities were less so. Home-based homework assistance was the least effective with middle school students.

- **Academic socialization** includes clearly communicating expectations and the value and utility of being in school, explicitly linking schoolwork to the real world and current events, fostering educational and career goals, and openly discussing plans for the future.
- **School-based involvement** includes participating in school events (e.g., PTA meetings, open houses), volunteering at school, and regularly communicating with teachers and other staff.
- **Home-based involvement** includes helping students with their homework, taking children to events and places that encourage learning (e.g., museums, libraries), and making books and other educational materials accessible at home.

This research suggests that district and school leaders can help drive effective engagement by designing strategies and initiatives that help parents and caregivers of middle school students be more deliberate and intentional about the ways in which they are involved to maximize the benefits for their children.

Some examples of actions that may help drive the most effective forms of involvement include: transition programs (e.g., events at feeder schools, tours of new schools); “family dinners” to bring parents/students/staff together more regularly; workshops for parents and caregivers focused on graduation requirements and support resources to set students up for success; orientation on how to help prepare students for high school in the different grades; liaisons assigned to check in regularly with parents and caregivers (e.g., home visits, phone calls).⁹

8 “Parental involvement in middle school: a meta-analytic assessment of the strategies that promote achievement,” *Developmental psychology* vol. 45,3 (2009)

9 “MiFamily: Michigan’s Family Engagement Framework,” Michigan Department of Education (2020)

HOW COULD DISTRICTS BETTER SUPPORT THE UNIQUE DEVELOPMENTAL NEEDS OF MIDDLE SCHOOL STUDENTS?

As discussed, a student’s middle school years can be key predictors of outcomes in high school and beyond. Yet, as a result of the complex changes students experience during early adolescence—in the context of school, family, and their own development—student achievement often declines just as the long-term implications of performance are increasing. District

leaders could leverage insights from research on adolescent development as a key ingredient in building and refining their middle school strategies.

To do so, consider how student behavior changes across relevant dimensions (*e.g.*, intellectual, emotional, social, and physical) and what potential actions could address student needs at a policy and/or instructional level.

| | How middle school students’ behavior changes | Potential actions to consider (not meant to be exhaustive) |
|--------------|--|--|
| INTELLECTUAL | <p>Students move from concrete to abstract thinking and have a greater capacity for complex thinking.^{7,10}</p> <p>High achievement can come when challenged and engaged, with a general preference for active over passive learning experiences.⁷</p> <p>Individuals begin to form personalities, basic values, and attitudes and are able to be self-reflective.^{7,11}</p> | <p>Provide varied instruction and assessment, embedding different active learning methodologies and assessments that include both formative and summative components.¹²</p> <p>Align curricula with high school readiness standards, in addition to state grade-level academic standards, maintaining an emphasis on core subjects while also bringing in themes such as global education, civic literacy, and technology.¹³</p> <p>Encourage interdisciplinary learning through an integrated curriculum that weaves concepts from different disciplines to cultivate teenagers’ ability to make connections between seemingly disparate information, including materials to help students understand the real-world implications of their education as they begin to think about their futures and career aspirations.¹⁴</p> |

10 “Helping Your Child through Early Adolescence,” U.S. Department of Education (2005)
 11 “The Young Adolescent Learner” includes list of Key Generalizations about Young Adolescents from Lounsbury’s “Understanding and Appreciating the Wonder Years,” National Middle School Association (2000)
 12 “The 16 Characteristics of Successful Schools” from “This We Believe: Keys to Educating Young Adolescents,” Association for Middle Level Education (2010)
 13 “Middle School Redesign,” Information Capsule, Miami-Dade County (2018)
 14 “Implications for Middle Schools from Adolescent Brain Research,” *American Secondary Education* (Summer 2017)

| | How middle school students' behavior changes | Potential actions to consider (not meant to be exhaustive) |
|------------------|--|--|
| EMOTIONAL | <p>Early adolescents tend to be more sensitive and vulnerable, as they start thinking ahead and begin to worry about the future, often experiencing unpredictable mood swings.^{15,16,17}</p> <p>Often, there is a desire to become independent and to search for adult identity and acceptance.¹⁵</p> <p>There is also a decline in self-esteem as students transition from elementary school to a less supportive middle school environment, especially as they become more sensitive to personal criticism.^{15,18}</p> | <p>Create opportunities to engage students' communities, promoting shared decision making so that parents and caregivers and other members of the community are encouraged to be actively involved in the school.¹⁹</p> <p>Emphasize specific types of parent and caregiver involvement that are most important for student success, including socialization around the goals and purposes of education and providing adolescents with useful strategies they can use in semi-autonomous decision making.²⁰</p> <p>Ensure educators are knowledgeable about the age group by attracting and training teachers and leaders who are prepared to work with this specific population; bring in counselors and/or experts to support conversations about students' development.^{7,21}</p> |
| SOCIAL | <p>Middle school students have an intense need to belong and be accepted by peers while, in parallel, exploring questions about their own identity.¹⁵</p> <p>Early adolescence may also be a time when students begin to model their behavior after that of older students.¹⁵</p> <p>Many students may feel intimidated or frightened by the initial middle school experience.¹⁵</p> | <p>Create interdisciplinary teams of teachers who share a set of students and plan instruction together to drive teacher-student relationship-building, form an integrated curriculum, and discuss instructional issues; provide opportunities for the same students to work together to increase social bonding.^{17,22}</p> <p>Focus on the 'whole child' through guidance programs that include teachers as advocates or advisors, providing each student with the opportunity to form a close relationship with at least one adult in the school.^{17,19,23}</p> <p>Cultivate student-led support networks by enabling opportunities for students to create structured groups where they may share their experiences and concerns with peers (e.g., peer support groups).¹⁵</p> |

15 "The Young Adolescent Learner" includes list of Key Generalizations about Young Adolescents from Lounsbury's "Understanding and Appreciating the Wonder Years," National Middle School Association (2000)

16 "Helping Your Child through Early Adolescence," U.S. Department of Education (2005)

17 "At the Turning Point: The Young Adolescent Learner," Center for Collaborative Education (2003)

18 "Turning Points 2000: Educating Adolescents in the 21st Century," Carnegie Corporation of New York (2000)

19 "The Middle School Philosophy: Do We Practice What We Preach or Do We Preach Something Different," *Current Issues in Middle Level Education* (2014); "Middle School Concept Helps High-Poverty Schools Become High-Performing Schools," *Middle School Journal* (September 2004)

20 "Parental involvement in middle school: a meta-analytic assessment of the strategies that promote achievement," *Developmental psychology vol. 45,3* (2009)

21 From "The Status of Middle Schools in the Southeastern United States: Perceptions and Implementation of the Middle School Model," *Middle Grades Review vol. 5,2* (September 2019); based on findings in "Turning Points: Preparing American Youth for the 21st Century," Carnegie Corporation of New York (1989)

22 "Middle School Redesign," Information Capsule, Miami-Dade County (2018)

23 From "The Status of Middle Schools in the Southeastern United States: Perceptions and Implementation of the Middle School Model," *Middle Grades Review vol. 5,2* (September 2019); based on findings in "Turning Points: Preparing American Youth for the 21st Century," Carnegie Corporation of New York (1989)

How middle school students' behavior changes

Potential actions to consider (not meant to be exhaustive)

PHYSICAL

Adolescents **develop more rapidly** than during any other development stage except for infancy, and this process is often marked by great variance in both timing and rate of growth.^{24,25}

Individuals may **experience concern with changes in body size and shape**.²²

Some students may **require physical activity** given the increased energy and may also feel **restlessness and fatigue** due to hormonal changes.²²

Provide highly supportive environments that are inviting, safe, and inclusive by setting classroom norms, establishing advisory programs to enhance students' physical and emotional wellbeing.^{22,26}

Integrate health and wellness as part of curricula, school-wide programs, and related policies to ensure that students can understand their personal growth and maintain health and wellness.^{23,27}

Incorporate flexible scheduling by adjusting instructional methods to allow for opportunities for movement (e.g., stretching, bathroom or snack breaks) during long blocks of time.²²

WHERE MIGHT A SUPERINTENDENT BEGIN?

In 2021, Chiefs for Change and its technical assistance partners worked with Hamilton County Schools (HCS), a district of approximately 45,000 students in Tennessee, to redefine its middle school strategy by understanding the current state of operations and translating existing research and best practices into actionable strategic priorities. The following section introduces examples of key steps a district may consider and describes how HCS approached these steps and their key learnings.

1. Understand your middle school context by reviewing the latest research and engaging a broad range of local stakeholders.

By interviewing principals, community superintendents, and content leads, the team was able to build a deep understanding of the middle school context, the needs of middle school students, and the unique circumstances and strengths within the local community.

2. Develop an initial vision for your middle school strategy, informed by this understanding.

Based on insights from their research, HCS leaders translated their overall system strategies into specifics that spoke directly to the needs of middle schoolers

by mapping middle school-related strategies to their existing district-wide priorities. This informed a set of targeted strategic pillars that could be tied to each of the strategy's broader educational objectives. For example, "Great Teachers" was a system-wide priority. In middle school, this translated to seeking educators with specific middle school experience as well as working to ensure teachers had content-level certifications and were aware of the latest research on adolescent development and its implications within the classroom.

3. Assess the current state of middle school performance to identify focus areas for prioritization.

In this step, the team sought to develop a more comprehensive understanding of the current state of the district's middle schools to prioritize potential strategic initiatives. This analysis required both quantitative (e.g., performance metrics, survey results) and qualitative (e.g., stakeholder interviews, focus groups, survey results) data to establish a baseline and observe trends and patterns across several dimensions. These include time; grades (comparing elementary, middle, and high school); and other systems with similar contexts. The approach helped system leaders identify where bright spots existed within their district (to replicate best practices at a greater scale) and, inversely,

24 "The Young Adolescent Learner" includes list of Key Generalizations about Young Adolescents from Lounsbury's "Understanding and Appreciating the Wonder Years," National Middle School Association (2000)

25 "At the Turning Point: The Young Adolescent Learner," Center for Collaborative Education (2003)

26 "The 16 Characteristics of Successful Schools" from "This We Believe: Keys to Educating Young Adolescents," Association for Middle Level Education (2010)

27 "The Middle School Philosophy: Do We Practice What We Preach or Do We Preach Something Different," *Current Issues in Middle Level Education* (2014); "Middle School Concept Helps High-Poverty Schools Become High-Performing Schools," *Middle School Journal* (September 2004)

where specific gaps or challenges were most pronounced (and required additional resources or support).

Some example metrics the district measured overall and at the school level include:

- **Student achievement:** class enrollment; standardized test scores; GPA; ELA and math proficiency; access to Algebra by eighth grade; access to high-speed internet or mobile devices.
- **Student wellbeing and experience:** chronic absenteeism; disciplinary action; diagnosis of behavioral health conditions; access to behavioral health supports following diagnosis.
- **Human capital:** content- and subject-specific certifications for teachers; student-to-counselor

ratios; counselor certifications; racial and/or ethnic diversity of teachers and staff; teacher ratings; teacher attrition.

- **Community engagement:** parent and caregiver involvement; partnerships with community-based organizations.

4. Develop a middle school strategy that outlines the district's tangible near- and medium-term priorities for middle schools, including specific initiatives at both the system- and school-level.

Below are sample middle school-specific strategies and initiatives, linked to the overall strategic focus areas.

| | Example middle school-specific strategy | Example initiatives |
|---|---|--|
| Drive student achievement | Ensure that middle school is a time of academic growth by setting high expectations, personalizing instructional methods, and enabling flexibility to meet students where they are. | Coach teachers on how to develop individual and dynamic academic and career plans , incorporating this into check-in protocols with managers (e.g., principals, deans) to provide ongoing support and oversight. |
| Prepare students for the future and young adulthood | Prepare students to successfully transition to high school and see the long-term value of education through exploration of personal interests and a focus on overall wellbeing, including early intervention for students who may be off track. | Build partnerships between middle and high schools to identify students who may need additional support when transitioning from eighth to ninth grade. |
| Develop teachers and staff | Develop experienced teachers and staff who are passionate about working with middle school students ; have the relevant content certifications; are aware of the latest research and its implications on instruction; and reflect the diversity of the student body. | Create professional development programs specifically for middle school teachers , filling content knowledge gaps by ensuring teachers have subject- or content-specific certifications. |
| Engage the community | Institute practices and encourage mindsets that focus on the entire student , supporting parents and caregivers to actively engage in their students' journeys, and engaging community partners in support of student learning. | Strengthen the family/student/teacher support triangle by training teachers to maintain effective communications with parents and caregivers , inviting them to be actively involved by emphasizing the importance of their engagement and by offering different strategies for getting involved. |
| Run efficient and effective operations | Enable a safe and healthy environment conducive to learning that encourages innovation and collaboration amongst teachers, students, and staff with clear communication around strategic priorities. | Provide opportunities for students to form strong relationships with a school-based adult by matching students with trained teachers and staff who serve as advisors and mentors. |

5. Consider designing a middle school-specific innovation grant to launch or amplify existing programs and initiatives that could support the district's middle school strategy.

Beyond the overarching strategy and improvements, HCS sought to seed innovation among its middle schools. As such, it developed a rigorous, transparent, and supportive multi-round grant application process to spark ideas aligned with the research and local context, and to fund and support the most promising ideas for implementation.

Underlying each of the steps outlined above was a continuous stakeholder engagement strategy that sought to not only gather feedback from all relevant groups (*e.g.*, teacher workforce, students, families) but to also build cohesion around and commitment to the vision for middle schools and the district more broadly. It's important for superintendents to ensure all stakeholders are engaged and feel heard, with a particular emphasis on incorporating student voices throughout the various stages of design and implementation.

WHAT COULD DISTRICTS DO TO ENSURE IMPLEMENTATION SUCCESS?

Most change initiatives (~70% according to some of the academic research) fail to achieve their goals.²⁸ As outlined above, one of the key steps to the success of any transformation is building a strong foundation based on understanding—using quantitative and qualitative data to evaluate the current state of operations and engaging stakeholders to increase cohesion. In addition, leaders may consider the following four key steps when designing and managing large-scale implementations:

1. **Set the scope for strategic initiatives**, establishing guidelines based on priorities, funding/resource availability, and existing system initiatives.
2. **Establish clear roles and responsibilities** to define who will oversee planning, funding, and monitoring of initiative progress.
3. **Adopt clear initiative approval processes**, defining clear

phases for approvals to ensure investments promote efficiency and are directed toward the most impactful programs.

4. **Plan and launch initiatives**, ensuring key questions are answered at each phase, including plans for stakeholder engagement, theory of change, and budgeting.

Finally, consider what mechanisms are in place for continuous improvement and consistent engagement of relevant stakeholders. For additional guidance on implementing a successful middle school strategy, consider reviewing Chiefs for Change's [Implementation Engine](#) tool.



28 "Cracking the Code of Change," *Harvard Business Review* (2000)