In the following report, Hanover Research reviews scholarly literature on middle school program design in order to identify best practices in middle school organization, curriculum, and support services.
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EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION

Middle schools are designed to meet the unique learning needs of young adolescents. During this time, students develop a sense of connection or detachment with school that is likely to continue in future years. Best practices in middle school design reflect the findings of research in psychology and education, and address the academic, social, and emotional needs of students as they prepare to transition to high school. As such, this report provides Rockwood School District with a review of scholarly literature on middle school design and best practices in middle school organization, curriculum, and support services. The report is organized into three sections:

- **Section I: Organization and Structure** examines three main themes that receive significant attention in the literature: teaming, scheduling, and extended learning time.
- **Section II: Curriculum and Instruction** focuses on key curricular features, elective course offerings, and response to intervention.
- **Section III: Socio-Emotional Support** provides an overview of the literature on social and emotional development of middle school students and summarizes effective strategies to help students transition into and out of middle school.

KEY FINDINGS

- **Best practice research supports the use of teaming, whereby teachers work across departments with a set group of students.** Experts assert that teaming is uniquely advantageous for middle school students, as it promotes student bonding and fosters closer relationships between teachers and students. Additionally, teaming promotes interdisciplinary instruction and coordination, especially when teacher teams receive common planning time.

- **Highly successful middle schools are more likely to use block scheduling,** a model in which students attend fewer but longer class periods during the school day. This is a departure from traditional middle school schedules that comprise six or more class periods per day, each lasting no more than one hour. Block schedules may promote a greater variety of instructional techniques (e.g., experiments, class discussions, debates). However, the longer class periods that block schedules entail may risk diminishing student focus.

- **The American Academy of Pediatrics recommends a start time of 8:30 a.m. or later for adolescent students.** Research suggests that later school start times enable middle school and high school students to get more sleep. The effect of later start times on academic achievement is not consistently established in the literature. However, research posits that later school times may decrease tardiness and increase attentiveness of students.
Increasing instructional time can be an effective way to support student learning, particularly when coupled with factors like supportive school culture and effective leadership. Best practices for extending instructional time include optimizing time for student learning and dedicating time to improve teacher effectiveness.

Elective coursework is used an effective tool for promoting exploration. Electives supplement the curriculum and help students identify and pursue interests outside of core academic subjects. They also help learners develop career interests. In addition to general exploratory course offerings, a number of exemplary middle schools use electives to build upon and deepen the core curriculum. In these instances, the school may offer electives that support a theme or goal of the school.

Middle school students experience accelerated growth, both physically and mentally, at a rate unparalleled in other developmental stages. Students at this age often struggle with the rapid changes they are experiencing and schools must provide the appropriate supports to help them develop core social and emotional competencies.

Transitions between school levels may negatively impact students’ academic achievement. The transitions from elementary school to middle school and from middle school to high school require students to make many adjustments, including procedural, social, and academic changes. To support students in preparing for these changes, middle level educators should develop transition plans that involve collaboration of schools, teachers, and parents.
SECTION I: ORGANIZATION AND STRUCTURE

Many experts cite organizational structure as a defining feature of the middle school model.\(^1\) There exist several models of comprehensive middle school reform, many of which provide suggestions regarding organizational structures that foster student achievement and teachers’ professional development. These models include:\(^2\)

- AIM at Middle-Grades Results
- Different Ways of Knowing
- Making Middle Grades Work
- Middle Start
- Schools to Watch
- Success for All Middle School Program
- Talent Development Middle Grades Program
- Turning Points

Team-based teaching, flexible schedules, and extended learning time are among the shared themes that emerge from these models. The Carnegie Council framework, for example, highlights the value of organizing middle schools into small learning communities that provide an environment in which “every student is known well by at least one adult.”\(^3\) Similarly, the Center for Collaborative Education recommends smaller learning communities that provide caring learning environments while supporting and challenging students. The organization considers small learning communities as having “structures in place that meet the needs of students, teachers, and consequently, society at large.”\(^4\)

Given the emphasis in scholarly literature, the remainder of this section provides an overview of best practices in teaming, scheduling, and extended learning time.

TEAMING

In a traditional, department-based organizational scheme, teachers are grouped into subject area-specific departments (e.g., social studies, mathematics, science). They may share

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planning periods with others in their department to collaborate on instructional strategies and materials for their subject. Students are assigned to teachers for individual subjects based on the school’s grouping model (e.g., heterogeneous, tracking). Heterogeneous grouping creates mixed-ability classrooms in which teachers differentiate instruction to meet individual student needs. In contrast, tracking places students in a multi-year course sequence based on prior academic performance, test scores, or perceived abilities. Teachers mostly use whole-group instruction in tracked classrooms with homogeneous groups of students.\(^5\)

However, many middle schools are moving away from departmental structures and adopting \textit{teaming}, or small community learning. Teaming of teachers can take many forms ranging from collaboration to team teaching, as Figure 1.1 shows.

\textbf{Figure 1.1: Examples of Teaming Structures}

\begin{itemize}
  \item \textbf{Interdisciplinary Teams}
    \begin{itemize}
      \item Teachers from diverse backgrounds with unique skills share the responsibility of teaching a cohort of students
    \end{itemize}
  \item \textbf{Team Collaboration}
    \begin{itemize}
      \item Teachers meet for professional development activities
      \item Teachers learn together in a collegial fashion
      \item Collaboration allows for mentoring or coaching
    \end{itemize}
  \item \textbf{Team Teaching}
    \begin{itemize}
      \item Two or more instructors teach the same cohort of students
      \item Teams typically share physical space and plan curriculum and instruction as a team
    \end{itemize}
  \item \textbf{Partnering}
    \begin{itemize}
      \item Teachers co-teach certain subjects
      \item Partnering helps integrate the curriculum and develop personal connections among teachers
    \end{itemize}
\end{itemize}

\textbf{Source: Bagwell\(^6\)}

Among these team-based structures, interdisciplinary teams are the most common. According to a 2011 study by the Association for Middle Level Education (AMLE), 72 percent of middle schools report using an interdisciplinary team organization model.\(^7\) This model is


more common among highly successful middle schools (HSMS), which are schools recognized as Schools to Watch by the National Forum to Accelerate Middle Grades Reform or as Breakthrough Middle Schools by the National Association of Secondary School Principals. According to the study, 90 percent of HSMS use interdisciplinary teacher teams.\(^8\)

Teaming involves two or more teachers working together with the same group of students. Teachers’ teaming activities in middle school may include several of the following:\(^9\)

- aligning core academic courses, instructional units, classroom assignments and assessments with high school readiness standards
- integrating mathematics and literacy concepts across the curriculum
- examining student work
- developing common assessments
- discussing students’ strengths and challenges
- identifying seventh- and eighth-graders needing accelerated instruction in mathematics, language arts and reading to be prepared for high school

The configuration of teams depends on the number of students or teaching sections created at a certain grade level. Figure 1.2 on the next page provides examples of common team configurations. Historically, the most prevalent middle school team configuration has included four teachers, with one teacher specialist assigned to each of the four main content areas. In this structure, teachers teach a specific subject and plan corresponding interdisciplinary units.\(^10\) Some researchers specify the ideal team size as a maximum of 120 students with a student-teacher ratio of 25:1.\(^11\)

Research suggests that teaming fosters more integrated instruction and provides flexibility to meet diverse student needs.\(^12\) Moreover, team teaching reduces personal isolation of teachers and helps keep them motivated.\(^13\) However, school leaders must carefully manage team members’ expectations in order to avoid problems stemming from incompatibilities among different personalities or teaching styles.\(^14\) Despite these potential problems, interdisciplinary teaching teams find support in the literature. For example, the Southern Regional Education Board recommends that middle schools “establish cross-disciplinary

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\(^8\) Ibid.


\(^10\) Coffey, H. “Team Teaching.” LEARN NC. http://www.learnnc.org/lp/pages/4754

\(^11\) Ibid.


\(^14\) Ibid.
teams of teachers and provide them with time and support to work together to help students succeed in challenging academic and related arts studies.”

**Figure 1.2: Examples of Interdisciplinary Team Configurations**

<table>
<thead>
<tr>
<th>Two core teachers plus a special education or ELL teacher:</th>
<th>Three core teachers plus a special education or ELL teacher:</th>
<th>Four core teachers plus a special education or ELL teacher:</th>
<th>Five core teachers plus a special education or ELL teacher:</th>
<th>Six core teachers plus a special education or ELL teacher:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language arts, social studies, reading</td>
<td>Language arts-reading, social studies</td>
<td>Language arts</td>
<td>Language arts</td>
<td>Language arts-reading</td>
</tr>
<tr>
<td>Mathematics, science, reading</td>
<td>Language arts-reading, mathematics</td>
<td>Social studies</td>
<td>Social studies</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Special education, ELL</td>
<td>Language arts-reading, science</td>
<td>Mathematics</td>
<td>Mathematics</td>
<td>Social studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Science</td>
<td>Science</td>
<td>Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>World Language</td>
<td>World Language</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mathematics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Special education, ELL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Special education, ELL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Special education, ELL</td>
</tr>
</tbody>
</table>

Source: Merenbloom and Karina

The literature also emphasizes that common planning time is essential for teachers on interdisciplinary teams to plan curriculum and instruction and work together in other important ways to increase student learning. Moreover, AMLE recommends that “interdisciplinary team organization should be implemented in the middle grades of all schools that include young adolescents. All teachers serving on teams should be provided at least one daily common planning period.”

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Other best practices for interdisciplinary teacher teams include encouraging teachers to purposefully collaborate, building time for collaboration into the school day, facilitating shared decision-making within teams, and asking teachers to form a mission statement for their team.\(^\text{19}\)

**SCHEDULING**

A middle school schedule represents the comprehensive organization of the instructional program of the school. It serves to deliver the intended curriculum while becoming the order of the day for teachers and students.\(^\text{20}\) Currently, one major task of middle schools is to satisfy the challenge of meeting both the necessary structure and flexibility requirements of the Common Core State Standards (CCSS).\(^\text{21}\) To meet the requirements of CCSS, middle schools often seek to provide both 45-minute periods and an 80-90 minute extended time period.\(^\text{22}\) Most middle schools continue to use 40-50-minute periods, while a much smaller percentage use 60-90-minute periods.\(^\text{23}\)

There are two approaches to scheduling time periods within the school day: fixed and variable. As Figure 1.3 shows, in the fixed schedule, the entire school is on the same bell schedule. On the variable schedule, teachers are encouraged to alter the timetable to best address students' learning needs.

**Figure 1.3: Approaches to Scheduling Time Periods**

<table>
<thead>
<tr>
<th>Fixed Schedule</th>
<th>Variable Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Entire school on the same bell schedule</td>
<td>• Bell schedule exists, but teachers may alter the timetable</td>
</tr>
<tr>
<td>• All classes start and stop at the same time</td>
<td>• Teams of teachers take responsibility for time</td>
</tr>
<tr>
<td></td>
<td>• Extended time periods are available when desired by teachers</td>
</tr>
<tr>
<td></td>
<td>• Schedule allows for flexibility</td>
</tr>
<tr>
<td></td>
<td>• Common planning time is essential</td>
</tr>
</tbody>
</table>

Source: Merenbloom and Karina\(^\text{24}\)

The variable schedule allows for flexibility in instruction, as well as professional development, for teachers to improve the learning experience of students. These flexibility options include:\(^\text{25}\)

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*\(^\text{19}\) Bagwell, Op. cit.*  
*\(^\text{20}\) Ibid.*  
*\(^\text{22}\) Ibid.*  
*\(^\text{23}\) Ibid.*  
*\(^\text{24}\) Ibid.*  
*\(^\text{25}\) Ibid.*
altering the sequence of classes
- using large group instruction as appropriate
- establishing 45-, 60-, or 90-minute periods
- grouping and regrouping students for various instructional purposes
- coordinating interdisciplinary activities
- providing project time for ongoing assessment of student work on long term projects

AMLE indicates that flexible scheduling is closely related to the successful implementation of interdisciplinary team teaching and common planning time for teachers. Accordingly, AMLE recommends that “all schools with middle level students should adopt some form of flexible scheduling. The highest priorities of the schedule should be providing blocks of instructional time and daily common planning times for teams of core teachers.” This recommendation is based on research which demonstrates that flexible schedules “provide longer instructional times, avoid fragmented instruction, allow for more creative and flexible use of time by teachers, provide varying learning times for students, and increase student engagement and achievement.”

**Flexible Scheduling Options**

A traditional school schedule consists of six to eight periods each day that typically last for an hour or less. The traditional school schedule has been the subject of considerable scrutiny over the past several decades. Critics cite frequent class changes, fragmented instruction due to insufficient class time, and lack of community-building due to fewer quality opportunities to get to know teachers and classmates as key drawbacks of the traditional schedule. As a result, several alternatives to traditional scheduling have been developed over the years. These alternatives include block scheduling, flexible-modular scheduling, year-round schooling, and four-day school weeks. Each of these options is briefly reviewed later in this section.

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25 Bullet points taken verbatim from Ibid.
27 Ibid.
28 Ibid.
Alternative scheduling options have different advantages and disadvantages. When evaluating different scheduling options, administrators are advised to use criteria including total time per course, cost, student course load, teacher course load, and the percentage of time spent on core courses.  

**Block Scheduling**

Block scheduling usually contains three or four longer periods of daily instruction compared to the traditional six to eight shorter class periods. There are many types of block schedules, including the 4x4 semester plan, alternate day schedule (A/B days), combination block schedule, 75-75-30 schedule, intensive block, modified block, and parallel block. Figure 1.4 on the next page describes each type of block scheduling.

Research suggests that block schedules are particularly well-matched for middle schools with team teaching models, as block schedules allow more flexibility for teachers to implement interdisciplinary activities and modify individual student schedules based on learning needs. Moreover, block scheduling allows teachers to use time-intensive instructional techniques such as collaborative group work and debates. These teaching techniques align with many best-practice instructional strategies, facilitating deeper levels of student engagement and learning.

Critics of block scheduling, however, note increased tiredness, boredom, and less attentiveness among students in longer class periods than in shorter class periods. To address this issue, teachers are advised to vary instructional activities throughout the class period and utilize active learning techniques as much as possible.

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36 Ibid.


In support of block scheduling, the 2009 AMLE survey of highly effective middle schools reveals that **highly effective schools are more likely to use a flexible block schedule than their randomly selected counterparts** (30 percent versus 14 percent). In addition, highly effective schools are less likely to use daily uniform periods (72 percent versus 45 percent). Furthermore, a study of nearly 500 middle school students enrolled in English language arts (ELA) and science classes determines that students in both full (4x4) and alternate day (A/B) block scheduling outperform students in traditional scheduling on end-of-course exams.

**Figure 1.4: Types of Block Scheduling**

- **4x4 Semester Plan**
  - Four classes every day in the first semester, completely different four classes in the second semester
  - Classes are about 90 minutes long
  - Teachers teach three classes each semester and use the fourth block for planning

- **Alternate Day (A/B Block) Plan**
  - Four classes meet every other day (“A” days) and completely different set of 4 classes on alternate days (“B” days) for the entire year
  - Each class is about 90 minutes long

- **Combination Block Schedule**
  - A combination of 4x4 schedule and alternate plan

- **75-75-30 Schedule**
  - Four 75-minutes classes every day in the first semester, completely different four classes in the second semester
  - Second semester followed with a 30-day intensive learning-enrichment course or remedial program
  - An alternative variation is 75-15-75-15

- **Intensive Block (Trimester Plan)**
  - Students take two core courses for 60 days and move on to another two core courses
  - Core courses coupled with up to three year-long elective courses
  - School years are organized into trimesters

- **Modified Block**
  - Combination of 4x4 schedule and regular schedule
  - For example, students attend school based on a 4x4 block Monday-Thursday and a regular eight-period schedule on Friday

- **Parallel Block**
  - Primarily used in elementary schools
  - Students in each class are divided into two groups
  - One group receives instruction in core courses while the other group takes courses in physical education or music
  - After a prescribed length of time, the two groups swap

Source: New York City Public Schools and the Glossary of Education Reform

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**FLEXIBLE-MODULAR SCHEDULING**

Flexible-modular (flex-mod) scheduling involves a daily schedule of short learning periods (called “modules” or “mods”) that are typically 20 to 30 minutes long.\(^{43}\) There is not a substantial body of research that focuses on the academic benefits associated with flex-mod scheduling, but the system is noted as a useful tool for individualizing instruction. In addition to group teaching, flex-mod scheduling also provides students with independent learning time built into their schedules, wherein they may study on their own, meet with a teacher one-on-one, or work with classmates in a group setting. There is growing interest among educators regarding the flex-mod system because of its ability to effectively incorporate Response to Intervention (RTI) approaches; the mods provide flexible opportunities for extra instruction that can vary in nature.\(^{44}\)

**YEAR-ROUND SCHOOLING**

Year-round schooling divides the school year into four phases which consist of nine-week instructional cycles that span the full calendar year. Rather than a long summer break, students have shorter breaks between each cycle.\(^ {45}\) Alternatively, some schools have adopted a multi-track schedule, wherein students and teachers are split into three or four groups. While some students and teachers are in school, others are in vacation.\(^ {46}\) Many schools convert to year-round schooling to avoid teacher and student burnout and to make full use of school facilities. However, schools with multi-track schedules face challenges with teacher collaboration and forming social bonds within the school community.\(^ {47}\)

**FOUR-DAY SCHOOL WEEKS**

Four-day school weeks require students to attend school for four days each week for extended periods of time each day. The four-day school week is most common in small and rural districts, and the majority of schools that have implemented this type of schedule do not operate on Mondays or Fridays. Some schools do not close entirely on the fifth day and instead use that day for extracurricular activities, tutoring, special programs, or professional development.\(^ {48}\) A review of the literature suggests that there are three primary shortened school week models: a four-day week in winter months only, a four-day week every other week, and a four-day week throughout the entire school year.\(^ {49}\)

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47 Ibid.


START TIMES

Optimal school start times have been debated for more than a decade. In August 2014, the American Academy of Pediatrics (AAP) released a policy statement that elevated the issue into the national spotlight. In the policy statement, AAP identifies insufficient sleep in adolescents as a public health issue, recognizing early school start times as “a key modifiable contributor” to chronic sleep loss. The AAP recommends that districts delay school start times for adolescents to 8:30 a.m. or later in order to improve students’ health, safety, and academic outcomes. More recently, a supplementary report by the Centers for Disease Control and Prevention (CDC) supported the AAP recommendation for later school start times, reiterating that the widespread lack of sleep among adolescent students is a “substantial public health concern.”

The CDC report provides an estimated national average start time for middle, high, and combined schools of 8:03 a.m. during the 2011-2012 school year based on data from the U.S. Department of Education Schools and Staffing Survey. Moreover, in 42 states, between 75 and 100 percent of public schools serving adolescents have start times earlier than 8:30 a.m. Overall, only 17.7 percent of middle, high, and combined schools comply with the AAP’s recommended start time of 8:30 a.m. or later. At the middle school level, in particular, the average start time is 8:04 a.m., with more than 40 percent of middle schools reporting start times before 8:00 a.m. Figure 1.5 illustrates the distribution of school start times, overall and by level.

Figure 1.5: School Start Times by School Level (Nationwide, 2011-2012)

<table>
<thead>
<tr>
<th>SCHOOL LEVEL</th>
<th>AVERAGE START TIME</th>
<th>DISTRIBUTION OF MIDDLE, HIGH, AND COMBINED SCHOOL START TIMES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7:30 a.m. or earlier</td>
<td>7:30 a.m. – 7:59 a.m.</td>
</tr>
<tr>
<td>Middle</td>
<td>8:04 a.m.</td>
<td>4.8%</td>
</tr>
<tr>
<td>High</td>
<td>7:59 a.m.</td>
<td>9.5%</td>
</tr>
<tr>
<td>Combined</td>
<td>8:08 a.m.</td>
<td>3.5%</td>
</tr>
<tr>
<td>Total</td>
<td>8:03 a.m.</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

Source: Centers for Disease Control and Prevention

Notably, school start times vary across states. The data reveals that Alaska and North Dakota have the highest percentages of schools reporting start times of 8:30 a.m. or later (76.8 percent and 78.5 percent, respectively), and both states also have the latest average school start times. Conversely, Louisiana maintains the earliest average school start time (7:40 a.m.), with 83 percent of middle, high, and combined schools beginning before 8:00

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51 Wheaton, A.G., G. A. Ferro, and J. B. Croft. “School Start Times for Middle School and High School Students- United States, 2011-12 School Year.” Centers for Disease Control and Prevention, August 2015. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a1.htm?s_cid=mm6430a1_w
52 Ibid.
53 Table adapted from: Ibid., pp. 3-4.
a.m. Figure 1.6 below presents school start time information for Missouri, as well as for the notable examples of Alaska, Louisiana, and North Dakota.\(^{54}\)

**Figure 1.6: School Start Times by State (2011-2012)**

<table>
<thead>
<tr>
<th>State</th>
<th>Average Start Time</th>
<th>Percentage Distribution of Middle, High, and Combined School Start Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri</td>
<td>7:54 a.m.</td>
<td>7:30 a.m. or earlier: 6.7% 7:30 a.m. – 7:59 a.m.: 39.0% 8:00 a.m. – 8:29 a.m.: 51.0% 8:30 a.m. or later: 3.2%</td>
</tr>
<tr>
<td>Alaska</td>
<td>8:33 a.m.</td>
<td>7:30 a.m. or earlier: 0.0% 7:30 a.m. – 7:59 a.m.: 11.6% 8:00 a.m. – 8:29 a.m.: 11.6% 8:30 a.m. or later: 76.8%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>7:40 a.m.</td>
<td>7:30 a.m. or earlier: 29.9% 7:30 a.m. – 7:59 a.m.: 53.1% 8:00 a.m. – 8:29 a.m.: 12.1% 8:30 a.m. or later: *</td>
</tr>
<tr>
<td>North Dakota</td>
<td>8:31 a.m.</td>
<td>7:30 a.m. or earlier: 0.0% 7:30 a.m. – 7:59 a.m.: 2.8% 8:00 a.m. – 8:29 a.m.: 18.7% 8:30 a.m. or later: 78.5%</td>
</tr>
</tbody>
</table>

Source: Centers for Disease Control and Prevention\(^{55}\)

*Denotes a reporting standard that was not met (standard error ≥0.5 or a response rate <50%)

**THE EFFECT OF START TIMES ON ACADEMIC ACHIEVEMENT**

Several recent studies suggest that later start times for adolescents can positively impact academic performance. A 2012 study found that later start times improve the performance of middle school students on standardized tests in both reading and mathematics. Specifically, the study concludes that starting school one hour later is associated with increases in standardized test scores equal to 1.8 percentile points in mathematics and 1.0 percentile point in reading. According to the study, the benefits of later start times are more pronounced among low-performing students, as the effects are twice as large for students who scored in the bottom third than for those who scored in the top third of test takers.\(^{56}\)

Additional research has identified positive effects associated with later school start times, along with negative effects associated with earlier start times. A 2005 study by Arlington Public Schools (APS) evaluated the districtwide high school start time change from 7:30 a.m. to 8:15 a.m. To accommodate transportation needs, APS also shifted the middle school start time earlier—from 8:10 a.m. to 7:50 a.m. Overall, the evidence indicates positive effects on the grade point averages of high school students and some academic declines at the middle school level. Ultimately, the district concluded, “this change came at the expense of middle school students (many of whom are also adolescents), and a more effective approach might have been to shift elementary start times.”\(^{57}\)

\(^{54}\) Ibid.

\(^{55}\) Table adapted from: Ibid., pp. 3-4.


Other studies reveal mixed or statistically insignificant effects of school start times on academic achievement. One researcher proposes the following reasons why school start times may not impact adolescent students’ performance on standardized tests:58

- While early start times may cause students to lose sleep and learn less per unit of time, they may learn more outside of school by being awake longer.
- Students may be able to adapt to early start times by re-optimizing sleep patterns, such as catching up on sleep over the weekend.
- Students may adapt to early schedules with environmental and chemical stimulation, such as caffeine.
- Though students’ biological clocks may lead them to perform better later in the day, teachers may perform better earlier in the day, having a counteracting effect.
- Later start times could result in less time spent with parents in the morning, without affecting the amount of time spent with parents in the afternoon or evening.
- Before-school activities might nullify the effects of later start times.
- With later start times, students may miss instructional time in the afternoon due to early dismissal for athletic and extracurricular activities.

**THE EFFECT OF START TIMES ON ATTENTIVENESS**

The aforementioned study by APS also measured the attentiveness of both middle school and high school students before and after the district’s bell schedule changes that delayed high school start times by 45 minutes and moved middle school start times 20 minutes earlier. To measure student attentiveness, APS administered a survey to students and teachers that inquired about students’ readiness to start school, as well as preparedness for, alertness during, and participation in first period. The responses from high school students did not change substantially after the start time delay; however, a larger percentage of high school students reported high levels of participation. In contrast, a notably smaller percentage of middle school students reported preparedness, alertness, and participation, as shown in Figure 1.7 on the next page.59

Meanwhile, after the start time delay, more high school teachers “strongly agreed” and “agreed” that their students were alert during, were prepared for, and participated in first period. Middle school teachers’ responses were less favorable, in line with middle school students’ responses. Middle school teachers reported that students were neither as alert nor as prepared after the school start time delay. Middle school teachers also noticed a decline in participation, as shown in Figure 1.8 on the next page.60

60 Ibid.
**Figure 1.7: Student Survey Responses**

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>ALL OF THE TIME</th>
<th>SOME OF THE TIME</th>
<th>NONE OF THE TIME</th>
<th>NO RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEFORE</td>
<td>AFTER</td>
<td>BEFORE</td>
<td>AFTER</td>
</tr>
<tr>
<td><strong>High School Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ready to start school</td>
<td>20%</td>
<td>18%</td>
<td>52%</td>
<td>63%</td>
</tr>
<tr>
<td>Alert during first period</td>
<td>22%</td>
<td>20%</td>
<td>52%</td>
<td>64%</td>
</tr>
<tr>
<td>Prepared for first period</td>
<td>41%</td>
<td>47%</td>
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<td>49%</td>
</tr>
<tr>
<td>Participated in discussions during first period</td>
<td>31%</td>
<td>42%</td>
<td>52%</td>
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<tr>
<td><strong>Middle School Students</strong></td>
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<tr>
<td>Ready to start school</td>
<td>35%</td>
<td>20%</td>
<td>51%</td>
<td>55%</td>
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<tr>
<td>Alert during first period</td>
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<td>63%</td>
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<tr>
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<td>40%</td>
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<tr>
<td>Participated in discussions during first period</td>
<td>44%</td>
<td>35%</td>
<td>46%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Source: Arlington Public Schools

Note: After the start time change, high schools started later while middle schools started earlier than previous years.

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**Figure 1.8: Teacher Survey Responses**

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
<th>NO OPINION</th>
<th>NO RESPONSE</th>
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<tr>
<td></td>
<td>BEFORE</td>
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<td>BEFORE</td>
<td>AFTER</td>
<td>BEFORE</td>
<td>AFTER</td>
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<tr>
<td><strong>High School Teachers</strong></td>
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</tr>
<tr>
<td>Alert during first period</td>
<td>1%</td>
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<td>25%</td>
<td>41%</td>
<td>38%</td>
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</tr>
<tr>
<td>Prepared for first period</td>
<td>3%</td>
<td>10%</td>
<td>34%</td>
<td>41%</td>
<td>28%</td>
<td>20%</td>
</tr>
<tr>
<td>Participated in discussions during first period</td>
<td>3%</td>
<td>13%</td>
<td>43%</td>
<td>47%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Middle School Teachers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alert during first period</td>
<td>10%</td>
<td>11%</td>
<td>50%</td>
<td>35%</td>
<td>11%</td>
<td>17%</td>
</tr>
<tr>
<td>Prepared for first period</td>
<td>8%</td>
<td>5%</td>
<td>55%</td>
<td>46%</td>
<td>10%</td>
<td>31%</td>
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<tr>
<td>Participated in discussions during first period</td>
<td>10%</td>
<td>10%</td>
<td>58%</td>
<td>50%</td>
<td>7%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Source: Arlington Public Schools

Note: After the start time change, high schools started later while middle schools started earlier than previous years.

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61 Table adapted from: Ibid.
62 Table adapted from: Ibid.
THE EFFECT OF START TIMES ON ATTENDANCE AND TARDINESS

A number of studies have focused on the impact of delayed school start times on other student outcomes, including attendance and tardiness. Many studies hypothesize that later middle school start times will improve attendance and reduce tardiness, but findings in the research literature are somewhat mixed.

A 2007 study analyzed attendance and tardiness at the middle school level. Despite finding no positive impact of later start times on attendance among middle school adolescents, the researchers of the study concluded that tardiness was almost four times more likely in early-starting schools than in late-starting ones.\(^{63}\) Additionally, a 2011 study on middle schools in North Carolina found that students who started school one hour later had 1.3 fewer absences during the school year.\(^{64}\)

START TIME CHANGES AND COMMON DISTRICT CHALLENGES

Many districts acknowledge the benefits of later start times for adolescents, but logistical or financial constraints may prevent districts from making the shift. Indeed, the National Sleep Foundation identifies eight major obstacles faced by districts that attempt to delay high school start times. These challenges range from transportation-related issues to the impact on teachers and family routines, as summarized in Figure 1.9 on the next page.

Other research echoes such findings. In 2014, the Children’s National Medical Center conducted a national survey of districts that had recently enacted changes to bell schedules. Respondents were asked to rank their district’s challenges on a scale from 1 to 5, with 1 being the primary concern within the district. The survey results were weighted to “give more credence to higher-ranked options,” and the most prominent concerns across districts, in order, were:\(^{65}\)

- Traffic flow at school
- Changes in parents’ work schedules
- After-school extracurricular program attendance
- Changes in teachers’ work schedules
- Before-school athletics practices and schedules

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**Figure 1.9: Challenges Associated with Changes to School Start Times**

<table>
<thead>
<tr>
<th>CHALLENGE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>Although transportation challenges vary, districts often cite concerns such as scheduling, costs, recruitment of bus drivers, and routing difficulties when considering changes to school schedules.</td>
</tr>
<tr>
<td>Extracurricular Activities</td>
<td>Students and parents argue that later release times result in fewer opportunities for after-school activities, especially during daylight hours. They also question the availability of school resources (e.g., more teams vying for the same gym or field during the same limited time intervals). In addition, later release times may require students to leave class early to attend extracurricular events or games.</td>
</tr>
<tr>
<td>Impact on Other Students</td>
<td>The majority of districts focus on school start time delays for adolescent students, but many question the impact that changes may have on the younger students whose start times are often also changed as a result.</td>
</tr>
<tr>
<td>Reduced Access to Community Resources</td>
<td>Some argue that following a later release, students will have less time to access community resources, such as the library.</td>
</tr>
<tr>
<td>Effects on Teachers</td>
<td>Many teachers, administrators, and coaches fear a reduction in the amount of time available to spend with their own families.</td>
</tr>
<tr>
<td>Stress on Family Routines</td>
<td>The families of students that will be affected by changes in school start times are resistant because of the effects it will have on their daily routines and schedules.</td>
</tr>
<tr>
<td>Community Opinions</td>
<td>Often, the community is not familiar with the research-based benefits associated with later school start times, and they are resistant to proposed changes.</td>
</tr>
<tr>
<td>Student Resistance</td>
<td>Students also may be accustomed to a specific schedule and resistant to proposed changes.</td>
</tr>
</tbody>
</table>

Source: National Sleep Foundation

**EXTENDED LEARNING TIME**

In a recent report, The National Center on Time and Learning (NCTL) identifies several studies reporting a positive relationship between increased instructional time and student achievement. The 2015 report argues for a review of current school schedules to determine how to adopt new or innovative practices that better align with student learning. In particular, the NCTL report discusses the importance of increased learning time to support student growth. The collective findings of the studies examined in the report indicate that when combined with other factors like supportive school culture and effective leadership, extended instructional time can improve student achievement.

For example, a 2013 study examined 35 New York City charter schools to determine elements within schools that have the greatest impact on student achievement. The study found that an index of five policies explained approximately 45 percent of the overall variation in school effectiveness. These policies included frequent teacher feedback, the use of data to guide instruction, high-dosage tutoring, a strong focus on student achievement, and increased instructional time. When controlling for the other four policies, a 25 percent

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increase in instructional time was associated with an increase of approximately one-half of a standard deviation in annual student gains in scores on mathematics tests.  

In 2011, NCTL conducted a study on the best practices of schools that had implemented extended learning time (ELT), and focused on schools that had considerably longer school days than the average, served a large percentage of low-income students, and demonstrated considerably higher proficiency rates in math and ELA on standardized tests. Eighteen of the 30 schools profiled in the report outperformed district averages in math and ELA by 20 percent or more.  

Through site visits and interviews, NCTL discovered best practices in schools that have effectively implemented ELT. These best practices are depicted in Figure 1.10. It is important to note that the best practices and strategies outlined can be used without extending the school day, but added time makes the strategies easier to facilitate.

**Figure 1.10: Eight Powerful Practices of Successful Extended-Time Schools**

- Use time to continuously strengthen instruction.
- Use time to relentlessly assess, analyze, and respond to student data.
- Make every minute count.
- Prioritize time according to focused learning goals.
- Individualize learning time and instruction based on student needs.
- Use time to build a culture of high expectations and mutual accountability.
- Use time to provide a well-rounded education.
- Use time to prepare students for college and career.
- Use time to help students thrive in school and beyond.

Source: NCTL  

http://pubs.aeaweb.org/doi/abs/10.1257/app.5.4.28


Ibid.
SECTION II: CURRICULUM AND INSTRUCTION

This section reviews best practices in middle school curriculum, focusing on key curricular features, elective course offerings, and response to intervention.

CURRICULAR FEATURES

Curriculum is the primary vehicle for achieving the goals and objectives of a school. Effective middle schools develop curricula that are appropriate for the needs of young adolescents. Recognizing the special needs of middle school students, AMLE identifies four key features of middle school curricula:

- **Challenging** – marshalling their sustained interests and efforts, challenging curriculum actively engages young adolescents. It addresses substantive issues and skills, is geared to their levels of understanding, and increasingly enables them to assume control of their own learning.

- **Exploratory** – the general approach for the entire curriculum at this level should be exploratory. Exploration, in fact, is the aspect of a successful middle school curriculum that most directly and fully reflects the nature and needs of the majority of young adolescents, most of whom are ready for an exploratory process.

- **Integrative** – effective middle grades schools provide experiences, studies, and units, directed either by individual teachers or preferably by teams, that are specifically designed to be integrative; for that is how learning is maximized. Reading, writing, speaking, and listening should be advanced and practiced wherever they apply, rather than taught in isolation.

- **Relevant** – Curriculum is relevant when it allows students to pursue answers to questions they have about themselves, the content, and the world. When teachers help them see the many connections that link various topics and subjects, students recognize the holistic nature of all knowledge.

CORE SUBJECTS

The core subjects of language arts, mathematics, science, and social studies remain a high priority for middle schools across the country. AMLE recommends that:

> All schools that serve young adolescents should place a major emphasis on the core subjects of language arts/reading, science, mathematics, and social studies. Significant portions of each instructional day should be devoted to these subjects while ensuring other developmentally appropriate experiences are included. A rich

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71 Taken verbatim from “This We Believe: Keys to Educating Young Adolescents.” Association for Middle Level Education. http://8461cuttingedgetechteam.wikispaces.com/file/view/22605279-This-We-Believe-Keys-to-Educating-Young-Adolescents.pdf

72 Bulleted text taken verbatim from Ibid.
selection of required non-core and elective subjects should be part of the curriculum.\(^ {73}\)

In line with AMLE’s recommendations, the Southern Regional Education Board’s *Making Middle Grades Work* school improvement design provides detailed achievement targets for the core subjects offered in middle schools.\(^ {74}\) These competency expectations are listed in Figure 2.1 on the next page. Those students who meet these expectations in the fifth and sixth grades are more likely to meet benchmarks on assessments in future grades.\(^ {75}\)

**LITERACY**

A 2012 report from SREB compares the mean scores of schools that participated in both the 2006 and 2008 Middle Grades Assessment and identified 10 best practices for middle schools to improve the high school readiness of their students. One of these best practices is a focus on reading and writing to improve student success in core subjects.\(^ {76}\) SREB identifies five literacy goals that result in significantly higher student achievement:\(^ {77}\)

- Read the equivalent of 25 books per year across the curriculum and demonstrate understanding of the content of materials read.
- Write weekly in all classes as a way to deepen understanding and retention of subject-matter content.
- Use reading and writing strategies to enhance learning in all classes.
- Write research papers in all classes.
- Complete a rigorous language arts curriculum.

These recommendations are consistent with the findings of the National Center for Educational Accountability (NCEA). NCEA identified 16 higher- and average-performing middle schools in New York State and conducted face-to-face interviews with teachers and administrators at each school. The researchers found that literacy is the focal point in the higher-performing schools. In addition to literacy instruction during the ELA class period, these middle schools emphasize literacy skills across the curriculum as an integral part of all subjects.\(^ {78}\)

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### Figure 2.1: Expected Competency of Middle-School Students in Core Subjects

#### English language arts (ELA)
- summarize, paraphrase and categorize information from a variety of nonfiction pieces.
- make inferences and predictions from what he or she reads.
- use context clues and word parts to determine what words and phrases mean.
- write pieces that address a variety of audiences for different purposes.
- revise and edit compositions to improve clarity and correctness.
- combine reading and writing skills to produce a research paper at least once a year.
- make oral presentations that fulfill specific purposes, some of which include technology.
- take notes effectively from what is read and listened to.
- write a major research paper (with footnotes and a bibliography) on a subject he or she chooses once a semester or once a year.
- complete a short writing assignment of one to three pages for a grade weekly.
- make an oral presentation each month or each semester.
- read, both in and out of school, the equivalent of 11 or more books of various types.

#### Mathematics
- develop and analyze tables, charts and graphs in course work often.
- use a scientific calculator weekly.
- solve mathematics problems other than those in the textbook at least weekly.
- work with one or more students on a challenging mathematics assignment monthly or weekly.
- explain to the class — both orally and in writing — how he or she solved a mathematics problem monthly or weekly.
- explain different ways to solve mathematics problems monthly or weekly.
- use mathematics skills to solve problems in other classes monthly or weekly.

#### Science
- complete science projects that last one week or longer.
- complete written lab reports once a semester or monthly.
- use equipment to complete activities in science labs with tables and sinks once a semester or monthly.
- use word processing software to complete an assignment or project often.
- complete short writing assignments of one to three pages for a grade once a semester.
- use a laptop computer, hand-held electronic device, lab book or notebook to keep records, logs and comments.
- write long answers to questions on science assessments monthly.

#### Social Studies
- understand the essential concepts of geography, economics, history and government.
- analyze conflicts and evaluate, debate and defend a position.
- participate in hands-on activities, such as problem-solving and decision-making in real-world situations and service learning.
- describe his or her heritage, government, world and economic principles through the study of key issues of the past, present, and future.

Source: Southern Regional Education Board\(^79\)

GLOBAL EDUCATION

There is growing recognition that middle level students should gain a global perspective through middle school curriculum. A global education curriculum helps middle school students gain global competence and increase their competitiveness in the global economy.

Global competence can be defined as “the capacity and disposition to understand and act on issues of global significance.” Globally competent students are able to:

- Investigate the world beyond their immediate environment, framing significant problems and conducting well-crafted and age-appropriate research.
- Recognize perspectives, others’ and their own, articulating and explaining such perspectives thoughtfully and respectfully.
- Communicate ideas effectively with diverse audiences, bridging geographic, linguistic, ideological, and cultural barriers.
- Take action to improve conditions, viewing themselves as players in the world and participating reflectively.

AMLE surveys of randomly selected middle schools and highly successful middle schools (HSMS) reveal that HSMSs place greater emphasis on global curriculum than randomly selected schools. As a result, AMLE states that “a focus on the components of global education should be infused throughout the curriculum.”

STEM

As the economy increasingly depends on Science, Technology, Engineering, and Math (STEM) subject areas to develop a...
competitive economy and workforce, proponents of STEM education assert the importance of exposing students to these disciplines early. Some researchers assert that early exposure to STEM in middle school can serve as an effective foundation for pursuing more rigorous STEM education in high school and college.

The primary goals of an integrated STEM curriculum are to develop students’ STEM literacy and workforce preparedness, 21st century competencies, engagement and interest in STEM, and ability to make connections across STEM fields.

Middle schools can partially or fully implement STEM as a non-traditional model of education, or they can offer STEM experiences that are not part of the regular school day. Figure 2.2 summarizes a range of options for incorporating STEM education.

**Figure 2.2: Examples of Implementing STEM Curricula**

- **Full Implementation**
  - Non-traditional model of education where whole school or district implements curricula and experiences geared toward STEM careers
  - Classroom resembles a work environment and cross-disciplinary, problem-solving skills are emphasized

- **Partial Implementation**
  - Non-traditional school experience where STEM experiences and skills are integrated into the curriculum
  - School-wide or partial programs that feature interdisciplinary learning

- **Minimal Implementation**
  - Traditional school setting where STEM-related problem-based learning is supplemental to the adopted curriculum
  - Separate STEM units, often done at the end of a unit or school year or short units offered by industry or nonprofits

- **Supplemental Implementation**
  - Offer STEM experiences that are not part of the regular school day
  - Afterschool programs, summer programs, school clubs, academic competitions and fairs, etc.

Source: Indiana Department of Education

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ELECTIVE COURSES

Researchers emphasize the importance of exploratory learning, especially for middle level learners. The AMLE asserts that “young adolescents, by nature, are adventuresome, curious explorers” and, as such, should be offered frequent opportunities to engage with new topics and activities. Elective courses are a clear venue for providing students with such opportunities.

Electives supplement the core curriculum and help students identify and pursue interests outside of core academic subjects. They also allow students to begin to develop a sense of career interests. These courses reveal student strengths and provide outlets for different peer interactions than students may experience in their other academic classes.

A 2009 survey of middle schools by the AMLE notes that commonly offered elective subjects include band, chorus, art, computer, and foreign language courses. Highly successful middle schools are less likely to offer electives in band, chorus, art, and creative writing and more likely to offer electives in orchestra, physical education, industrial arts, health, family and consumer science, and computers than a randomly selected comparison group.

In addition to general exploratory course offerings, a number of exemplary middle schools utilize electives to build upon and deepen the core curriculum. In these instances, the school may offer electives that integrate into a core theme or goal of the school. For instance, Kennett Middle School in Pennsylvania promotes a focus on STEM education through its Automation and Robotics course, in which students study the history and development of automation, energy transfer, structures, machine automation, and computer control systems. Such a course integrates mathematics instruction and demonstrates the real-world implications of mathematics course content.

RESPONSE TO INTERVENTION

Until recently, educators have focused their response to intervention (RTI) implementation in early elementary school grades. However, across the country, there is an expansion of RTI to secondary schools. An RTI approach emphasizes preventing struggling students from being labeled as students with disabilities when the difficulties they face can be resolved by

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89 “This We Believe,” Op. cit.
91 Ibid.
more intense or different instruction. Prevention has been a term that is typically used to address younger children at risk, and at the middle school level, it takes on a different meaning that primarily focuses on literacy. Some researchers maintain that the development of a strong literacy program is an important first step for middle schools implementing RTI.

Early identification and support of at-risk students is essential. In general, at-risk students who struggle with reading fall into one of the following categories:

- Late-emergent reading disabled students
- Instructional casualties (Students who did not receive proper reading instruction in early grades)
- English language learners
- Students requiring ongoing intervention

For schools that plan for and provide appropriate interventions, it is important to determine the nature of the student’s particular reading program. Older students tend to have decoding problems when reading, and often they lack motivation and engagement in school. It is important to address learning difficulties before adolescent students lose interest in school. Prevention, in this case, would be in terms of avoiding negative consequences of poor academic achievement, including dropping out of school and failure to earn a diploma.

Another subject where RTI framework may be useful for struggling middle school students is mathematics. In 2009, the Institute of Education Sciences prepared guidelines for assessing students’ mathematics abilities and implementing math interventions within the RTI framework at elementary and middle school levels. These guidelines include the following recommendations:

- Screen all students to identify those at risk for potential mathematics difficulties and provide interventions to students identified as at risk.
- Instructional materials for students receiving interventions should focus intensely on in-depth treatment of rational numbers in grades 4 through 8.

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97 Ibid.
101 Ibid.
Instruction during the intervention should be explicit and systematic. This includes providing models of proficient problem solving, verbalization of thought processes, guided practice, corrective feedback, and frequent cumulative review.

Interventions should include instruction on solving word problems that is based on common underlying structures.

Intervention materials should include opportunities for students to work with visual representations of mathematical ideas and interventionists should be proficient in the use of visual representations of mathematical ideas.

Interventions at all grade levels should devote about 10 minutes in each session to building fluent retrieval of basic arithmetic facts.

Monitor the progress of students receiving supplemental instruction and other students who are at risk.

Include motivational strategies in tier 2 and tier 3 interventions.

At a broader level, the National Center on Response to Intervention (NCRTI) completed a multi-year investigation to identify and describe current RTI practices in middle schools. At a broader level, the National Center on Response to Intervention (NCRTI) completed a multi-year investigation to identify and describe current RTI practices in middle schools.104 Figure 2.3 on the following page summarizes the findings of this study as they relate to the four essential components of RTI: screening, progress monitoring, data-based decision making, and multi-level prevention system.

### Figure 2.3: Common RTI Practices in Middle Schools

#### Screening
- Most schools screen for both reading and math
- The most commonly used screening tools are AIMSweb, the Measures of Academic Progress (MAP), state assessments, and state-, district-, and school-normed curriculum-based measures
- Many schools use multiple assessment data sources
- Many schools struggle to find appropriate diagnostic assessments for numeracy

#### Progress Monitoring
- Most schools monitor progress in literacy and math
- Commonly used progress assessment tools are nationally published assessments (e.g., AIMSweb), school- or district-created curriculum-based measures, and assessments built into the intervention curricula
- Many schools find selecting progress monitoring tools challenging because few have been validated for use with middle school students
- Many school staff members use a trend line with 3-6 data points to determine effectiveness of instruction

#### Data-based Decision Making
- Many schools establish data teams to facilitate decision making about students’ progress
- Most schools with data teams report that the teams meet weekly for at least an hour
- Each team has an established set of procedures to follow when analyzing student data
- Many schools have a "menu" of instructional programs and strategies they use for each level of intervention

#### Multi-level Prevention System
- Many schools use similar instructional strategies for the primary level of intervention: standardized, scientifically research-based general education curriculum, differentiated instruction, small group instruction, peer tutoring, and extended learning time.
- Secondary-level interventions used by schools include smaller sizes for specialized classes, homogenous classes, expert teachers, and greater frequency and duration of instruction
- Most schools rely on expert staff to provide tertiary-level interventions

Source: NCRTI¹⁰⁵

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¹⁰⁵ Ibid.
SECTION III: SOCIO-EMOTIONAL SUPPORT

This section provides best practices related to supporting the social and emotional development of middle school students as they transition into and out of middle school.

SOCIAL AND EMOTIONAL GROWTH OF MIDDLE SCHOOL STUDENTS

Middle school-aged students experience rapid physiological and psychological change. During middle school, adolescents form their adult personality, basic values, and attitudes. They seek autonomy, independence, and interaction with adults, and also are sensitive, vulnerable, and emotional. Research indicates that young adolescents have a strong need for approval and may be easily discouraged. Given the complex nature of middle school students’ psychological composition, Collaborative for Academic, Social, and Emotional Learning (CASEL) identifies five interrelated social and emotional competency clusters for students, as shown in Figure 3.1.

Figure 3.1: Core Social and Emotional Competencies

Source: CASEL

CASEL maintains that these social-emotional skills can be taught at schools. Moreover, teaching these skills can promote and enhance students’ connection to school, positive behavior, and academic achievement. Figure 3.2 provides examples of goals and actions.

that middle schools can implement to support academic learning with social and emotional learning (SEL).

**Figure 3.2: Examples of Integrating Social and Emotional Learning into Academic Learning**

<table>
<thead>
<tr>
<th>COMPETENCY</th>
<th>GOAL EXAMPLE</th>
<th>SCHOOL-WIDE ACTION EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>Identify triggers for stress reactions</td>
<td>Adopt and implement specific SEL curricula to guide instruction. Adopt a school-wide values program focused on character education.</td>
</tr>
<tr>
<td>Self-management</td>
<td>Make plans to achieve goals</td>
<td>Reinforce SEL skills at lunch, at the playground and other informal settings.</td>
</tr>
<tr>
<td>Social awareness</td>
<td>Predict others’ feelings and perspectives</td>
<td>Engage students in service learning projects and civic activities, including school-wide drives to collect donations for causes such as disaster relief.</td>
</tr>
<tr>
<td>Relationship skills</td>
<td>Demonstrate cooperation and teamwork</td>
<td>Promote and celebrate partnerships of family-school-community through activities such as picnics, open houses, dinners.</td>
</tr>
<tr>
<td>Responsible decision-making</td>
<td>Resist peer pressure</td>
<td>Integrate SEL methods into extra-curricular activities. Define what respect looks like in different school settings and post it visually.</td>
</tr>
</tbody>
</table>

Source: Brushanan and Gatti

The Association for Supervision and Curriculum Development (ASCD) also has developed best practices for middle schools that support the social and emotional well-being of students. These practices respect the developmental uniqueness of young adolescents and include providing a safe school environment, student-initiated learning, and strong adult role models. Figure 3.3 provides more detailed information about these developmentally appropriate best practices.

**Figure 3.3: Developmentally Appropriate Best Practices in Middle Schools**

<table>
<thead>
<tr>
<th>BEST PRACTICE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe school climate</td>
<td>▪ Positive interventions, including anti-bullying programs, conflict resolution, character education, gang awareness, alcohol and drug abuse counseling, student court, peer mediation, and anger management</td>
</tr>
<tr>
<td>Small learning communities</td>
<td>▪ Keeping school size to 300-700 students or dividing bigger schools into small learning communities of 200-300 with two or three teachers responsible for no more than 100 students</td>
</tr>
</tbody>
</table>
| Personal adult relationships | ▪ Providing each student with a homeroom teacher or advisor-teacher who serves as an advisor, mentor, counselor, or guide  
▪ Use of looping, a procedure that keeps students with one or more teachers over a period of two or more years |

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<table>
<thead>
<tr>
<th>Best Practice</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engaged learning</td>
<td>Giving each student a significant role in determining the kinds of learning experiences they will have and engaging students directly in real-life pursuits rather than artificially contrived lesson plans that have little or no relevance to their lives</td>
</tr>
<tr>
<td>Positive role models</td>
<td>Providing students with the opportunity to have contact with older people who have vital lives of their own and who are themselves authentic human beings, e.g. parent volunteers, outside experts, successful individuals in the community</td>
</tr>
<tr>
<td>Metacognitive strategies integrated into all courses</td>
<td>Helping adolescent students use their new kind of mind in learning study skills, reflecting on curriculum materials, exploring the nature of conflicts in their lives, and setting realistic goals for themselves</td>
</tr>
<tr>
<td>Expressive arts activities for all students</td>
<td>Providing opportunities for young teens to express themselves in an atmosphere that is without judgment in areas such as sculpture, painting, drama, music, and dance</td>
</tr>
<tr>
<td>Health and wellness focus</td>
<td>Informing young adolescents about issues such as substance abuse, depression, eating disorders, sexual health, and other ills that can begin at this stage of development in a context that emphasizes how to stay healthy, rather than how to avoid disease</td>
</tr>
<tr>
<td>Emotionally meaningful curriculum</td>
<td>Teaching history, social studies, literature, science, and even math in ways that have an impact on the emotional lives of young teens</td>
</tr>
<tr>
<td>Linking course material in some way to the feelings, memories, or personal associations of the students</td>
<td></td>
</tr>
<tr>
<td>Student roles in decision making</td>
<td>Involving students in maintaining discipline through teen court, shaping school assemblies or special events, and providing meaningful feedback about courses, the school environment, and other aspects of running the school</td>
</tr>
<tr>
<td>Honoring and respecting student voices</td>
<td>Helping students develop their own individual voice through poetry, journal writing, and other meaningful writing assignments</td>
</tr>
<tr>
<td>Facilitating social and emotional growth</td>
<td>Using cooperative learning as a key to fostering positive social relationships</td>
</tr>
<tr>
<td>Maintaining well-trained counselors on staff and good referral networks for students needing special help with their emotional problems from mental health professionals</td>
<td></td>
</tr>
<tr>
<td>Engaging students in curriculum-related activities that serve to develop their social and emotional intelligences</td>
<td></td>
</tr>
</tbody>
</table>

Source: ASCD

TRANSITION FROM ELEMENTARY SCHOOL

At a time when they are going through substantial physical and intellectual change, students are often taken from the safety and security of the self-contained elementary school and put into a different environment. Students typically attend larger schools and move from classroom to classroom at specified times, meeting new teachers and peers. All of these

changes put strain on the social and academic lives of young adolescents.\textsuperscript{112} It is common for students transitioning from elementary school to middle school to experience an achievement lag for a year or more.\textsuperscript{113}

To help students successfully transition from elementary school to middle school, the literature recommends that middle school educators, counselors, students, and their families plan and implement effective transition programs in cooperation with the elementary school.\textsuperscript{114} An essential part of that transition program should be identifying the needs of every student and communicating an assistance plan to those responsible. The transition program should also feature a multi-faceted approach and provide ongoing support, rather than a one-shot approach.\textsuperscript{115}

**TRANSITION TO HIGH SCHOOL**

Transitioning to high school introduces additional challenges for students. Research has consistently found that more students fail ninth grade than any other grade. The drop-out rate for ninth graders in urban, high-poverty schools is as high as 40 percent.\textsuperscript{117} Moreover, research shows that sixth-grade students who fail mathematics or English, have poor behavior or frequently miss school are at high risk of dropping out of high school.\textsuperscript{118} To ensure

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\textsuperscript{114} “This We Believe,” Op. cit.

\textsuperscript{115} “Easing Transitions for Young Adolescents.” California Department of Education. http://pubs.cde.ca.gov/tcsl/61/transitionyngadsnt.aspx

\textsuperscript{116} “Transitions to and from Middle School.” Baylor’s University’s Community Mentoring for Adolescent Development. http://www.mentoring.org/old-downloads/mentoring_432.pdf

\textsuperscript{117} “Supporting Student Transition From Middle to High School.” Texas Comprehensive Center. http://txcc.sedl.org/resources/briefs/number1/9th_grade_transition_briefing_paper.pdf

that more students are prepared for rigorous studies at the high school level, district leaders are advised to:\textsuperscript{119}

- establish readiness standards in middle schools for succeeding in challenging English, mathematics and science high school studies.
- align middle grades curricula, teacher assignments and assessments to high school readiness standards.
- set goals to increase annually the percentage of students who successfully complete Algebra I by the end of grade eight.

Additionally, schools and districts are advised to:\textsuperscript{120}

- organize a transition team consisting of teachers, administrators, counselors, parents, teachers, government-funded support program staff, and local service organizations that would create a transition plan,
- develop a counseling team to support individual students and their families in the transition process, and
- create special programs and initiatives to prepare students and their families for the transition to high school.

\textsuperscript{119} Bulleted items taken verbatim from Ibid.
\textsuperscript{120} “Supporting Student Transition From Middle to High School,” Op. cit.
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