What does the research say about increased learning time and student outcomes?

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The study found mixed effects of increased learning time programs on student academic and nonacademic outcomes. Findings suggest that the impacts of these programs depend on the settings, implementation features, and types of students targeted.

Why this study?

Increased learning time programs offer students additional instruction beyond the regular school day in English language arts, math, and other subjects. The programs are designed to enhance students' academic interests and success. The most common increased learning time approaches are out-of-school programs (before- and after-school and weekend programs); summer school; schools with longer days, weeks, or years; and year-round school.

A growing evidence base on the academic, social, and other benefits of increased learning time programs has accompanied the rising interest in the programs. Several systematic literature reviews have been conducted, but each had a narrow focus, making it difficult to consider findings across various types of programs and students. This brief condenses the findings of a recent Regional Educational Laboratory Appalachia comprehensive review of increased learning time studies (Kidron & Lindsay, 2014; see box 1 for a description of the study methodology) to help state, district, and school administrators identify increased learning time practices whose effectiveness is supported by research evidence.

This brief summarizes the findings of Kidron, Y., & Lindsay, J., 2014, *The effects of increased learning time on student academic and nonacademic outcomes: Findings from a meta-analytic review* (REL 2014–015), Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. That report is available at http://eric.ed.gov/?id=ED545233.

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Box 1. Data and methods

More than 7,000 studies of increased learning time programs were identified for possible review. Of these studies, 165 experimental and quasi-experimental studies were identified and screened. Using the U.S. Department of Education's What Works Clearinghouse criteria, reviewers excluded 135 of these studies because of limitations in their designs. That left 30 relevant studies.

The 30 studies were conducted relatively recently (half were published within the last five years). Out-of-school programs (before- or after-school enrichment or academic programs during the regular school year) and summer schools were the two most common increased learning time approaches represented. No studies of expanded learning time schools or year-round schools met the screening criteria (except studies of full-day kindergarten), so no conclusions could be drawn for those approaches. In addition, the 30 studies focused mostly on elementary and middle school students; only one study with high school students met the screening criteria.

The research team used two criteria to determine whether increased learning time had an impact on students: the statistical significance of the effect and whether the effect size exceeded 0.25. The team further characterized the impact level using the following classification: small (the average effect size is less than 0.20), moderate (the average effect size is 0.20–0.50), and large (the average effect size is greater than 0.50).

What the study found

The meta-analysis found mixed effects of increased learning time programs on student academic and nonacademic outcomes. Findings suggest that the impacts of these programs depend on the settings, implementation features, and types of students targeted (table 1).

Table 1. Studies of increased learning time approaches had mixed effects, depending on program implementation features, student subgroups, and settings

Outcome	Had a negative effect when...	Had a positive effect when...		
		Implementation feature	Student subgroup	Setting
Literacy achievement	· Students are at the middle school level (4)	· Teachers are certified (10) · Instruction is traditional (9)	· Students are performing below standards (3) · Students are not at risk (4)	· Students live in a suburban locale (3) · Students are at the elementary level (13)
Math achievement		· Teachers are certified (5) · Instruction is traditional (4)	· Students are not at risk (3)	· Students are from a variety of locales (4) · Students are at the elementary level (6)
Academic motivation		· Out-of-school program approach is used (10)		· Students are from a variety of locales (4)
Social-emotional skill development		· Instruction is experiential (4)	· Students are diagnosed with attention deficit/ hyperactivity disorder (3)	

Note: Values in parentheses are the number of studies that inform the evidence; several studies reported more than one finding. The total number of studies reviewed was 30.

Source: Kidron & Lindsay (2014).

Regardless of how they are implemented, increased learning time programs promote academic motivation

Across grades K–12, increased learning time programs had a small but statistically significant positive effect on students' academic motivation (defined as school attendance, homework completion, teachers' assessments of students' work effort in class, and students' self-reports of their motivation to learn), compared with similar students who did not participate in the programs.

Academic and social-emotional growth depends on instructor qualifications and type of instruction

Increased learning time programs had a small positive effect on students' literacy and math achievement under the following conditions:

- *Certified teachers delivered the increased learning time academic instruction.* Increased learning time programs that employed certified teachers had a small positive effect on literacy and math achievement. In contrast, programs that employed instructors who were not certified (such as graduate students and volunteers) had no impact on students' academic achievement.
- *Program facilitators used traditional instruction.* Traditional instruction includes organized and focused lessons, clear articulation of learning objectives, and a sequenced demonstration of skills. Increased learning time programs that used traditional instruction had a small positive effect on students' literacy and math achievement. In contrast, programs that used guided practice (supervision as students work independently on their tasks) without initial, explicit instruction did not improve students' academic achievement.
- *Program facilitators used experiential instruction.* Experiential education uses hands-on activities, project-based learning, and field trips as the main learning activities. Students often work in groups and are encouraged to reflect on their learning. Examples of experiential education activities reported in the reviewed studies included working with lab equipment in science centers, writing for the school newspaper, and designing projects in science and technology. Increased learning time programs that incorporated experiential education yielded a small positive effect on students' social-emotional skill development, including self-esteem, prosocial behavior, and self-regulation.

Increased learning time programs had a large positive effect on struggling students and a moderate positive effect on students with attention deficit/hyperactivity disorder

Increased learning time programs had a positive effect of varying sizes on two subgroups of students:

- *Students struggling to meet grade-level standards in English language arts*. Increased learning time programs had a large positive effect on the literacy achievement of students performing below standards. In addition, increased learning time programs in reading and writing had a small positive effect on the literacy achievement of students performing at or above academic standards.
- *Students with attention deficit/hyperactivity disorder.* After-school activities produced a moderate positive effect on the social-emotional skill development of middle school students with attention deficit/hyperactivity disorder. Social-emotional skills are defined as educational, social, and recreational skills; homework completion; and school and home behavior.

Increased learning time programs had a positive effect on literacy and math achievement in a variety of locales

Increased learning time programs had a moderate positive effect on literacy achievement for students in suburban school districts and a small positive effect on math achievement and academic motivation in mixed locales.

Increased learning time programs had a small positive effect at the elementary school level and mixed effects at the middle school level

Increased learning time programs had a small positive effect on elementary school students' literacy and math achievement. However, at the middle school level increased learning time programs had a small negative effect on students' literacy achievement and no discernible effect on students' math achievement.

Implications for state and local education agencies

Findings from this meta-analytic review can guide discussions and decisionmaking about selecting, designing, and revising increased learning time programs. However, more research is needed on the conditions and features of successful increased learning time programs. The evidence base would benefit particularly from rigorous studies evaluating expanded learning time and year-round schools and programs serving high school students and rural locales.

Additional free resources from the U.S. Department of Education

In addition to this meta-analytic review, state and local education agencies can find information about research-based practices for implementing increased learning time in the following online resources:

- The IES Practice Guide *Structuring out-of-school time to improve academic achievement* (Beckett et al., 2009) details five recommendations to help district and school administrators, out-of-school program providers, and other educators design out-of-school programs for students:
  - Align the out-of-school program academically with the school day.
  - Maximize student participation and attendance.
  - Adapt instruction to individual and small group needs.
  - Provide engaging learning experiences.
  - Assess program performance and use the results to improve the quality of the program.

  The guide describes the research supporting each recommendation, how the recommendations may be implemented, and strategies for addressing roadblocks to implementation.

- The School Turnaround Learning Community (http://www.schoolturnaroundsupport.org/) is an online learning community offering resources, training, and discussion tools. It enables users to share and comment on school turnaround practices and lessons learned. One of the site's special interest groups focuses on increased learning time. Additionally, the site features media, webinars, and tools for implementing increased learning time programs.

References

Beckett, M., Borman, G., Capizzano, J., Parsley, D., Ross, S., Schirm, A., et al. (2009). *Structuring out-of-school time to improve academic achievement: A practice guide* (NCEE 2009–012). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. http://eric.ed.gov/?id=ED505962

Kidron, Y., & Lindsay, J. (2014). *The effects of increased learning time on student academic and nonacademic outcomes: Findings from a meta-analytic review* (REL 2014–015). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. http://eric.ed.gov/?id=ED545233

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