

November 2016

Thank you for your request for research on **the impact of instructional learning time on student outcomes and whether this impact varies by content area**. Ask A REL is a collaborative reference desk service provided by the 10 regional educational laboratories (REL) that, by design, functions much in the same way as a technical reference library. It provides references, referrals, and brief responses in the form of citations on research-based education questions.

**Please note that REL Southwest has not done an evaluation of the resources themselves but offers this list to you for your information only.**

## BACKGROUND

To impact student outcomes such as improving academic achievement and test scores, or reducing learning loss, learning gaps, and achievement, schools and districts sometimes employ the educational strategy called extended learning time. Extended (or expanded) learning time takes a wide variety of forms from state to state or school to school, and has multiple uses. For example, school days and school weeks are used as a strategy to: increase instructional time; teach through non-traditional experiences such as apprenticeships or internships; give students academic support as part of their school days or years; or engage in learning opportunities in areas such as the arts and sports.<sup>1</sup>

Following an established REL Southwest protocol, we conducted a search for research reports, websites, as well as descriptive briefs on the impact of instructional learning time on student outcomes and whether this impact varies by content area. The sources included federally funded organizations, additional research institutions, educational databases, and general Internet searches using Google and Bing. See the methods section at the end of this Ask A REL for additional information on how we identified the following sources.

## QUESTION

What does research tell us about the impact of instructional learning time on student outcomes and whether this impact varies by content area (for example, are the impacts different for extending instructional time in mathematics or reading)?

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<sup>1</sup> The Glossary of Education Reform—<http://edglossary.org/expanded-learning-time/>—a comprehensive online resource that describes widely used school-improvement terms, concepts, and strategies for journalists, parents, and community members.

## SOURCES

Corey, D. L., Phelps, Geoffrey; Ball, D. L., Demonte, J., and Harrison, D. (2012). Explaining Variation in Instructional Time: An Application of Quantile Regression, *Educational Evaluation and Policy Analysis*, v34 n2 p146-163. <http://eric.ed.gov/?id=EJ963503>.

*From the ERIC abstract:* “This research is conducted in the context of a large-scale study of three nationally disseminated comprehensive school reform projects (CSRs) and examines how school- and classroom-level factors contribute to variation in instructional time in English language arts and mathematics. When using mean-based OLS regression techniques such as Hierarchical Linear Models (HLM), we found that CSR programs did not have the expected effects on instructional time. However, when using Quantile Regression to estimate the effects at the lower end of the distribution of instructional time, we found substantial effects. These effects were strongest for the subjects that were the focus of the school interventions. (Contains 2 figures and 2 tables.)”

Farbman, D., Davis, J. Goldberg, D. and Rowland, J. (2015). Learning time in America: Trends to reform the American school calendar, Spring 2015 Update. Education Commission of the States. <http://files.eric.ed.gov/fulltext/ED556469.pdf>.

*From the description:* “The National Center on Time & Learning (NCTL), an organization dedicated to redesigning and expanding school time to improve opportunities and outcomes for high-poverty students, has again teamed up with the Education Commission of the States (ECS), whose mission it is to foster the exchange of ideas on education issues among the states, to produce this snapshot of public school time in America, the third since the original in 2011 (See ED521518). By focusing on some of the key actions that have taken place at the federal, state, and local levels since 2013, these organizations seek to advance the national conversation about how the nation's schools can harness the power of time to realize a vision of high-quality education for all. This brief concludes with an updated version of a number of public policy recommendations that appeared in the original report. These revised recommendations take into account the rapidly shifting policy context and provide policymakers with a roadmap guiding how they can best support efforts to effectively provide students with the learning time they need to be prepared for future success. Also included in the report is the appendix: “Number of Instructional Days/Hours in the School Year.”

*An excerpt from the brief:* “In the nearly two years since the National Center on Time & Learning (NCTL) and the Education Commission of the States (ECS) published the 2013 Learning Time in America update, the number of expanded-time schools across the country has continued to increase at a rapid clip. Moreover, an ever-growing number of practitioners and policymakers have come to understand how the conventional American school calendar too often poses an enormous impediment to educating the next generation. The core idea presented in Prisoners of Time, the 1994 report of the National Commission on Time and Learning, now rings truer than ever: In schools, learning should be the constant, and time must vary to serve the individual needs of students in achieving high standards. From this perspective, it has become

clear that meeting the learning needs of many of our students— especially those from disadvantaged backgrounds— requires considerably more time than is available in the traditional calendar of 180 6.5-hour days.

In 2014 alone, at least 35 districts (across more than ten states) announced that they are implementing or considering implementing a longer day and/or year in at least some schools.<sup>2</sup>

Gabrieli, C. (2011). The Emergence of Time as a Lever for Learning, *New Directions for Youth Development*, n131 p43-54. <http://eric.ed.gov/?id=EJ945494>.

*From the ERIC abstract:* “More schools than ever are expanding their schedules beyond the traditional limits of six and a half hours a day, 180 days of the year. Schools serving predominantly high-poverty populations make up the vast majority of this emerging movement as they try to overcome the widespread failure of schooling to meet academic goals for high-risk students. Although raising academic achievement is certainly the single biggest driver of this wave, many participants are also motivated by the desire to provide a well-rounded education to all children and to address their broader social-emotional and twenty-first century skills needs. This chapter offers an overview of expanded learning time (ELT) schools and their relationships with community-based partners offering expanded learning opportunities (ELOs).”

Graves, J. (2011). Effects of year-round schooling on disadvantaged students and the distribution of standardized test performance, *Economics of Education Review*, v30 n6 p1281-1305. <http://eric.ed.gov/?id=EJ944391>.

*From the ERIC abstract:* “Using detailed longitudinal data for the state of California, this paper estimates the effect of year-round school calendars on nationally standardized test performance of traditionally disadvantaged students. The student subgroups studied in this paper are: low socioeconomic status, limited English proficiency, Hispanic and Latino, and African American students. I find significant negative effects of multi-track year-round calendars on academic achievement for all subgroups examined, with only the limited English proficiency student subgroup producing unreliable estimates. Negative and significant results for another type of year-round calendar, single-track, are also found for the full sample of students and low socioeconomic status students. (Contains 27 tables.)”

Huffman, G. E., (2013). Teacher perceptions regarding the relationship of modified year-round school calendars with student achievement, student behavior, and teacher efficacy. ProQuest LLC, Ph.D. Dissertation, The University of Southern Mississippi. <http://eric.ed.gov/?id=ED556378>.

*From the dissertation:* “The purpose of this study was to analyze demographic and school data, as well as data on the perceptions of teachers regarding the impact that a modified year-round school calendar has on student achievement, student behavior, and teacher efficacy. Prior research and literature examined the impact of year-round

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<sup>2</sup> Cited in brief as analysis of news articles January 2014 – November 2014.

school calendars on student achievement and student behavior; however, there was a limited amount of research on the perceptions of teachers regarding the school calendar and the impact that the school calendar has on teacher efficacy. A thirty-seven item researcher-developed questionnaire was utilized for the purpose of this study. The data for this study were obtained from 106 teachers from public schools within districts in the state of North Carolina that employ both traditional school calendars and year-round type calendars. Demographic data disclosed that these respondents were relatively experienced and that the majority worked in schools with high concentrations of students in poverty. The results did not disclose a significant relationship between teacher perceptions of the school calendar and teacher efficacy. However, a strong positive correlation was found between teacher perceptions of year-round school calendars and improved student achievement. Similarly, the study revealed a significant relationship between teacher perceptions of year-round school calendars and positive student behavior. A multiple regression analysis determined that grade-level taught served as a negative predictor of teacher perceptions regarding a modified year-round school calendar's impact on student achievement, student behavior, and teacher efficacy. These findings yielded useful recommendations for policy and practice. Additionally, this study served as a vehicle for continued research into matters of year-round education. Finally, in light of the researcher's interest in a research-based discourse of year-round education in Mississippi, the location where he lives and practices, the study offered a spring-board for exploration of the potential benefits of year-round education in Mississippi.”

Long, D. A. (2014). Cross-National educational inequalities and opportunities to learn: Conflicting views of instructional time, *Educational Policy*, v28 n3 p351-392. <http://eric.ed.gov/?id=EJ1041966>.

*From the ERIC abstract:* “Educational reformers use international evidence to argue that increasing the number of days in school and the length of the school day will improve academic achievement. However, the international data used to support these claims (1999 Third International Math and Science Survey and 2000 Program for International Student Assessment) show no correlation between time in school and achievement. In this article, the author re-examines the effects of instructional time using improved measures of instructional time, a more extensive data set (2006 Program for International Student Assessment), and a more nuanced multilevel model. The author finds mixed evidence of a positive effect of subject-specific instructional time on achievement, controlling for socioeconomic status, school characteristics, and country-level traits. The author finds no effect of the length of the school year on academic achievement and that sample selection and the specific uses of time in school have a strong influence on conclusions about the effectiveness of instructional time.”

McMurrer, J., Frizzell, M., and Yoshioka, N. (2015). Expanded learning time: A summary of findings from case studies in four states. Center on Education Policy. <http://files.eric.ed.gov/fulltext/ED555412.pdf>.

*From the report's introduction:* “Many low-performing schools across the nation have increased learning time in response to federal requirements for the School Improvement Grant (SIG) program. The conditions governing federal waivers of the Elementary and

Secondary Education Act (ESEA) also require certain schools to redesign the school day, week, or year to include additional time for student learning and teacher collaboration. Furthermore, the waivers allow greater flexibility to redirect certain federal funding streams toward increased learning time. This report by the Center on Education Policy (CEP) at the George Washington University summarizes the findings of a series of case studies of 17 low-performing schools within 11 school districts in four geographically dispersed states--Connecticut, Colorado, Oregon, and Virginia. This research examined state and local efforts to expand learning time through the unique lens of state and local responses to specific federal provisions. In particular, we investigated the strategies being used by the case study sites to meet federal requirements and encouragements for increased or expanded learning time, and the challenges, successes, and impacts associated with this implementation process. All four states in this study have been granted ESEA waivers. Most of the case study schools received SIG funds and/or were identified as "priority" schools under ESEA waivers, meaning that they were among the lowest-performing schools in their state. From October 2013 through March 2014, CEP staff and consultants visited all of the participating districts and the majority of participating schools. We interviewed 49 education leaders, including 13 state education officials, 18 district leaders, and 18 school principals. We also gathered information from state ESEA waiver applications and other relevant state, district, and school policy documents. As explained later in this report, different federal initiatives use different terminology and definitions for provisions that have the common goal of adding time for student learning and for teacher collaboration, professional development, or planning. For simplicity's sake, this report uses the umbrella term of "expanded learning time," or ELT, to describe these various approaches. Throughout this report, the findings are supported by examples from specific districts and schools. Key findings included: (1) Case study schools are meeting the federal requirements to expand learning time, but ELT is costly, and the short-term nature of federal grants is causing difficulties for some schools; (2) Case study districts and schools differ in when and how they expand learning time; (3) State, district, and school leaders participating in these case studies often emphasized that improving the quality of instruction in low-performing schools was just as important as increasing the quantity of instructional time; (4) There was evidence of improved student outcomes in some, but not all, of the case study schools; however, several schools were in the early stages of ELT implementation at the time of the study; (5) Few case study districts and schools were taking advantage of the flexibility afforded by waivers to redirect certain federal funding streams to ELT; (6) States and districts varied in their level of involvement and support for ELT initiatives in schools; (7) Implementing ELT sometimes required negotiations with teachers' unions about such issues as contractual time and compensation; and (8) Teacher and student fatigue from longer school days was cited as a challenge in implementing ELT in all four states studied. More detailed information can be found in the individual reports developed by CEP for each of the four states and 11 districts. These detailed reports, plus three appendices, are available on the CEP website (<http://www.cep-dc.org>.)”

Merrill, C. A. (2012). The impact of year-round education on fifth grade African American reading achievement scores in an urban Illinois school. ProQuest LLC, Ed.D. Dissertation, DePaul University. <http://eric.ed.gov/?id=ED555110>.



*From the abstract:* “The purpose of this quantitative, causal-comparative study was determine the impact of the year-round education school calendar on the standardized test performance of fifth grade African American students, as measured by the Illinois Standards Achievement Test (ISAT) in reading. The ISAT reading scores from two year-round education (YRE) schools (School A and School B) were compared with two traditional calendar education (TCE) schools (School C and School D). The selection of schools was based on numerous factors in order to ensure that the year-round education schools and traditional calendar education schools were similar in socioeconomic status and in the number of African American students attending the schools. Descriptive and inferential analyses were conducted. Descriptive analyses consisted of determining means and standard deviations of study variables. Inferential statistics consisted of a 2 (school type) x 3 (lunch status) between subjects factorial ANOVA to demonstrate main effects of each independent variable, as well as the interaction effect of both variables together on the dependent variable. Results of this study concluded that there was not a significant difference between the year-round and traditional school groups on ISAT reading scores. There were no significant differences between the free lunch, reduced lunch, and paid lunch groups on ISAT reading scores. The interaction effect for school type x lunch status was not significant. Although the current research did not support the previous literature that indicates year-round education might mitigate some of the risks associated with low-socioeconomic status, further research should be conducted on this topic. The present research indicates that within classrooms, educational quality and student outcomes may depend on several factors. Future research on the particular qualities and attributes of the teacher, the social and physical context in which learning unfolds, and the specific activities and events structuring how children experience their time as learners may continue to shed light on the educational attainment discrepancies between different groups of students.”

Patall, E. A., Cooper, H., and Allen, A. B. (2010). Extending the school day or school year: A systematic review of research (1985-2009). *Review of Educational Research*, v80 n3 p401-436 Sep <http://eric.ed.gov/?id=EJ906926>.

*From the ERIC abstract:* “Attention has been directed toward extended school time as a measure to improve academic achievement. The school year and day length have varied over time and across localities depending on the particular needs of the community. Proponents argue that extending time will have learning and non-academic benefits. Opponents suggest increased time is not guaranteed to lead to more effective instruction and suggest other costs. Despite noted limitations in the research, past reviewers have argued that any positive relation between allocated time and achievement is tentative and instructional quality needs to be addressed first. After a comprehensive search of the literature, 15 empirical studies of various designs conducted since 1985 were found. The literature revealed that (a) designs are generally weak for making causal inferences and (b) outcomes other than achievement are scarcely studied. That said, findings suggest that extending school time can be an effective way to support student learning, particularly (a) for students most at risk of school failure and (b) when considerations are made for how time is used. Of note, the strongest research designs produced the most consistent positive results. Implications for policy and practice are discussed.”

Phelps, G., Corey, D., DeMonte, J., Harrison, D., and Loewenberg Ball, D. (2012). How much English language arts and mathematics instruction do students receive? Investigating Variation in Instructional Time *Educational Policy*, v26 n5 p631-662. <http://eric.ed.gov/?id=EJ975885>.

*From the ERIC abstract:* “The amount of instruction students receive has long been viewed as a foundational educational resource. This article presents an analysis of the time students spend in elementary English language arts (ELA) and mathematics instruction. In mathematics, the average student received about 140 hr of instruction, but students in the top sixth of classrooms in this distribution can expect to receive between 80 and 160 hr more instruction over the school year than students assigned to the bottom sixth of classrooms. We found similar magnitudes of variation in ELA. Although most of the variation was due to differences among classrooms, there was also substantial variation among schools. Some variation in instructional time is expected and probably favorable. However, we argue that the large variation demonstrated by these results represent substantial inequity in students' opportunity to learn ELA and mathematics. (Contains 3 notes, 4 figures and 13 tables.)”

Redd, Z., Boccanfuso, C., Walker, K., Princiotta, D., Knewstubb, and D., Moore, K. (2012). Expanding time for learning both inside and outside the classroom: A review of the evidence base, Child Trends. A report commissioned by The Wallace Foundation. <https://eric.ed.gov/?id=ED534555>.

*From the ERIC abstract:* “This report synthesizes what is known about the effectiveness of school and program interventions that aim to address deficiencies and inequities in academic achievement and educational attainment by expanding learning opportunities for students both inside and outside of school. In Chapter 1, the authors introduce and frame the topic by providing background on the educational system in the United States and the need for improving the system to better support optimal achievement and attainment outcomes. The introduction also outlines the current policy context, describes the methodology for conducting the literature review, and provides information on the different types of out-of-school time programs. In Chapter 2, they examine the available literature on models in which districts or schools either expand the length of the day that young people must be in school or expand the number of days in the school year. This chapter is divided into two sections: the first looks at the evidence on extended school-day (ESD) program models; the second focuses on findings from extended school-year (ESY) program models. Because this review aims to cover the effects of extended learning time programs serving students in grades K-12, both sections include information on kindergarten programs. Most of the studies of ESD and ESY models focus solely on academic achievement outcomes, so that will be the focus of this review. In Chapter 3, they summarize the effects of social intervention programs that expand learning opportunities outside of the school day by providing at least one academic component as a part of their regular program offerings. In many cases, these programs are designed to complement learning that happens in school. They refer to these programs as expanded learning opportunities or ELO programs. Because ELO programs take place in community and school settings during nonschool hours, these programs are also commonly referred to as out-of-school time (OST)

programs. Because random assignment evaluations were available on ELO programs, but not for ESD and ESY program models, Chapter 3 is structured differently than Chapter 2 and focuses on "what works" based on findings from these rigorous evaluations. In addition, the ELO evaluations tended to include information on a wider range of educational outcomes beyond academic achievement; therefore, their review of the research literature on ELO programs in Chapter 3 includes a broader review of educational outcomes, such as information on student engagement and educational attainment. In Chapter 4, they offer a set of conclusions and recommendations based on what they learned from their investigations. (Contains 2 figures, 2 tables, 3 footnotes and 14 endnotes.)”

Warner, D. O. (2012). A Comparison of the effect of instructional time and instructional program on reading achievement growth of kindergarten students, *ProQuest LLC*, Ed.D. Dissertation, Aurora University. <http://eric.ed.gov/?id=ED551011>.

*From the ERIC abstract:* “This dissertation study examined reading achievement among students enrolled in half-day kindergarten (HDK) and full-day kindergarten (FDK) programs. First, a review of the research on reading achievement in students in both HDK and FDK programs was presented. Next, the study, including the research questions, study design, and analysis plan, were outlined. Participants included a diverse sample of kindergarten students enrolled in both HDK and FDK programs from all the classrooms in a large, unit school district in the Midwest. Reading achievement was measured by performance on the Letter-Sound Fluency task using AIMSweb®. The study examined whether reading achievement growth differed for students in HDK as compared to FDK programs, as well as whether the type of reading instructional program in which children participated predicted reading achievement growth. This dissertation also examined the performance of students who were identified as English Language Learners and students from low-income families. The results indicated that the positive effects of FDK are greater than for HDK; however, the differences were statistically significant only for children who are English Language Learners or who receive free or reduced lunch. Only one reading program, SRA-Reading Mastery, used in conjunction with SRA-Language for Learning in Extended Day Kindergarten, was found to be associated with higher achievement growth as compared to all of the other reading programs. The results have implications for how to best close the achievement gap in U.S. schools and may provide educators with necessary research to meet the needs of at-risk students and to make judicious reading curricular expenditures. [The dissertation citations contained here are published with the permission of ProQuest LLC. Further reproduction is prohibited without permission. Copies of dissertations may be obtained by Telephone (800) 1-800-521-0600. Web page: <http://www.proquest.com/en-US/products/dissertations/individuals.shtml>.]”

Wu, A. D. and Stone, J. E. (2010). Does year round schooling affect the outcome and growth of California's API scores? *Journal of Educational Research & Policy Studies*, v10 n1 p79-97. <http://files.eric.ed.gov/fulltext/EJ930166.pdf>.

*From the ERIC abstract:* “This paper examined whether year round schooling (YRS) in California had an effect upon the outcome and growth of schools' Academic Performance Index (API) scores. While many previous studies had examined the



connection between YRS and academic achievement, most had lacked the statistical rigor required to provide reliable interpretations. As a response, this study used data collected from 4,569 schools over six years and two integrated and more sophisticated statistical techniques--mixed analysis of covariance and latent growth model. Results showed that YRS did not affect either the outcome or the growth of API scores.”

## ADDITIONAL ORGANIZATIONS AND RESOURCES TO CONSULT

Hong, G., Corter, C. Hong, Y., Pelletier, J. (2012). Differential effects of literacy instruction time and homogeneous ability grouping in Kindergarten Classrooms: Who Will Benefit? Who Will Suffer? *Educational Evaluation and Policy Analysis*, v34 n1 p69-88. <http://eric.ed.gov/?id=EJ956889>.

*From the ERIC abstract:* “This study challenges the belief that homogeneous ability grouping benefits high-ability students in cognitive and social-emotional development at the expense of their low-ability peers. From a developmental point of view, the authors hypothesize that homogeneous grouping may improve the learning behaviors and may benefit the literacy learning of kindergartners at all ability levels through adaptive instruction under adequate instructional time. The benefits are expected to be more evident for medium- and low-ability children than for high-ability children. However, when instructional time is limited, low-ability children may suffer from high-intensity grouping, defined as grouping taking up a large proportion of instructional time. The authors also examine whether low-ability kindergartners develop lower self-esteem as a result of homogeneous grouping. Analyzing Early Childhood Longitudinal Study kindergarten cohort data, the authors find no overall advantage of homogeneous grouping for high-ability students. For medium-ability students' literacy growth, homogeneous grouping appears to be optimal when teachers spend more than 1 hour per day on literacy instruction; high-intensity grouping shows additional advantage for improving these students' general learning behaviors. For low-ability kindergartners, homogeneous grouping with ample instruction time seems to improve their general learning behaviors, whereas low-intensity grouping with ample instruction time seems to reduce internalizing problem behaviors. Yet for low-ability students' literacy growth, a detrimental effect of high-intensity grouping is found when instructional time is limited. These findings contradict results from past research and have important implications for educational theories and practice. (Contains 2 tables and 8 notes.)”

Konrad, M., Helf, S., Joseph, and Laurice M. (2011). Evidence-Based instruction is not enough: Strategies for increasing instructional efficiency, *Intervention in School and Clinic*, v47 n2 p67-74. <http://eric.ed.gov/?id=EJ941928>.

*From the ERIC abstract:* “Even evidence-based instructional methods may not be sufficient for closing achievement gaps. If teachers are not maximizing instructional time, achievement gaps are likely to widen over time; therefore, instruction need not only be effective but efficient as well. The purposes of this article are to (a) provide practitioners with a broad definition of instructional efficiency and (b) describe several considerations for increasing efficiency in the classroom. Suggestions are made for planning, delivering, and evaluating instruction. (Contains 1 table and 1 figure.)”

Stelow, S., Holland, J. G.; Jackson, R. (2012). Extended learning time: Research and resources, Finance Project. <http://files.eric.ed.gov/fulltext/ED542373.pdf>.

*From the introduction:* “In recent years policymakers have increasingly looked to Extended Learning Time (ELT) as a means of improving student outcomes. As a result, some school districts have increased academic time for students by adding time to the school day or days to the school year. In other communities, schools and community-based organizations have partnered to offer aligned and integrated school-day and afterschool and summer programs. The selected list of resources includes summaries of the research supporting Extended Learning Time, and resources describing recommendations related to policy initiatives and resource allocation. The resources are organized in the following sections: (1) Resources on Extended Learning Time and Extended Day Initiatives; and (2) Afterschool and Expanded Learning Opportunities.”

## Websites

- The National Center on Time & Learning (NCTL) — <http://www.timeandlearning.org>. —“dedicated to expanding learning time to improve student achievement and enable a well-rounded education.” Its Research section includes materials under the headings Time & Learning Theory, Time & Student Achievement, and Expanded-Time Schools Database.
  - Massachusetts 2020 —a state affiliate of the NCTL and coordinator of the Massachusetts’ Extended Learning Time Initiative, which requires participating schools to add 300 hours over the course of the school year.
- The National Association for Year-Round Education — <http://www.nayre.org/> — an advocacy organization.
- The Education Commission of the States’ “Issue Site” on school calendars — [http://www.timeandlearning.org/sites/default/files/resources/learningtimeinamerica\\_2015\\_0.pdf](http://www.timeandlearning.org/sites/default/files/resources/learningtimeinamerica_2015_0.pdf). — presents a variety of readings, research summaries, and statistical information, including discussion of extended day programs and summer school as possible strategies for reducing achievement gaps. The State Legislation section of the website — <http://www.ecs.org/state-legislation-by-state/> —provides information about what policies states are adopting with respect to school calendar reform.

## METHODS

### Keywords and Search Strings Used in the Searches:

Extended learning time; Instructional time

### Search of Databases and Websites

- Institute of Education Sciences (IES) website (<http://www.ies.ed.gov>) and IES sources: Regional Educational Laboratory (REL) Program, National Center for Education Statistics (NCES), National Center for Education Research (NCER), What Works Clearinghouse (WWC)

- ERIC database ([www.eric.ed.gov](http://www.eric.ed.gov))
- Google Scholar ([scholar.google.com](http://scholar.google.com))
- Google ([www.google.com](http://www.google.com))
- Bing ([www.bing.com](http://www.bing.com) )

### Criteria for Inclusion

REL Southwest selected resources that provide research on the impact of extended instructional time on student outcomes and whether this impact varies by content area (for example, are the impacts different for extending instructional time in mathematics compared to reading). When REL Southwest staff reviewed resources, we considered – among other things – three factors:

1. **Date of Publication:** The most current information (primarily published from 2010 to the present) is included.
2. **Source and Funder of the Report/Brief/Article:** Priority was given to publications written in relevant, peer-reviewed journals or reports or produced by well-known research organizations.
3. **Methodology:** sources include reported studies, literature reviews and policy reports.

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