REL SOUTHEAST
Regional Educational Laboratory At Florida State University

# Research Synthesis on Resource Allocation for Georgia Waiver Initiative

This research synthesis, provided by Regional Educational Laboratory (REL) Southeast, is intended to enhance the success of the Georgia Department of Education, Strategic Waiver School Systems (SWSS), Charter Systems, and support organizations working with districts to implement waivers. Specifically, the synthesis will assist SWSS and Charter System administrators in using school resource allocation research to plan and implement strategies for their schools with the limited resources they receive. This synthesis will be discussed in REL Southeast facilitated meetings with SWSS and Charter System leaders to plan resource allocation strategies, with the goal of improving student performance.

REL Southeast researchers sought publicly available literature that mentions associations between resource allocation and student outcomes. To be included in this synthesis, published articles or reports—peer reviewed, if possible—had to meet three criteria.

- Be grounded in research and include at least a description of methodology, theory, or evidence.
- Be published in 2011 or after, unless a frequently cited, seminal research study.
- Include practices or strategies on topics that align with Georgia district expenditure control waivers and have findings related to student or school outcomes.

Based on the literature, several predominant and overlapping themes emerged on resource allocation to improve schools: academic and non-academic interventions, special populations, and data and technology. To this end, Georgia state and district leaders and content experts from the American Institutes of Research have recommended specific topics within these themes for this synthesis. The topics include the following:

- **Academic interventions**
  - *Dropout prevention and recovery*
  - *Reading interventions*
  - *Math interventions*
  - *Learning loss*
- **Data and technology**
  - *Instructional technology*
  - *Online learning*
- **Non-academic interventions**
  - *Social-emotional learning*
  - *School climate*
- **Special populations**
  - *At risk*
  - *English language learners*
  - *Students in special education*
  - *Rural*

This synthesis is not a comprehensive literature review. Instead, it summarizes the highlights and findings of studies and related questions that education leaders in Georgia may consider when making resource allocation decisions related to waivers.

| Reference | Summary of content | Findings | Considerations for SWSS and Charter Systems |
|---|---|---|---|
| **Academic interventions** | | | |
| ***Dropout prevention and recovery*** | | | |
| Catterall, J. S. (2011). The societal benefits and costs of school dropout recovery. *Education Research International, 2011,* 1–9. https://www.hindawi.com/journals/edri/2011/957303/ | • Assesses the costs and benefits to society—increased government tax collections and reduced costs for welfare, healthcare, and crime—based on implementation of a supervised independent study dropout recovery program in nine charter schools in California.<br>• Describes the Options for Youth, Inc./Opportunities for Learning, Inc. (OFY/OFL) program and estimates actual and projected participant attainment of high school diplomas. | • Costs per-pupil for the program was $7,476, similar to the average 7,500 spent per-pupil statewide for general fund expenditures.<br>• The program cost-benefit ratio is 3 to 1, that is for every one dollar spent on the program there are three dollars in societal benefits. | • What flexibilities can be applied to implement dropout recovery interventions to increase high school completion?<br>• What data is available to consider the cost-benefit of dropout recovery interventions? |
| Levin, H. M., Belfield, C., Hollands, F., Bowden, A. B., Cheng, H., Shand, R., et al. (2012). *Cost-effectiveness analysis of interventions that improve high school completion*. New York, NY: Center for the Study of Benefit-Cost Studies of Education. https://www.newyorkfed.org/medialibrary/media/research/education_seminar_series/IESHighSchoolCompletion.pdf. | • Examines through cost-effectiveness analysis five interventions shown to have positive effects on high school completion—four remedial programs for dropouts and one preventive program for youth from low-income households still in school.<br>• Demonstrates how cost-effectiveness comparisons can be made across different programs that have similar intentions but not necessarily perfectly aligned program goals and cost accounting methods. | • Costs for high school completers participating in the four remedial programs for dropouts ranged from $70,000 to $195,000 per completer; costs for the preventive program per completer was about $30,660.<br>• Large differences in cost-effectiveness were evident across programs and sites. | • What interventions are being considered to increase high school completion? What plans are there to measure the cost-benefit of those interventions?<br>• What costs are entailed to implement the interventions being considered? |

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| U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse. (2015). *Dropout prevention intervention report: Check & connect*. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_checkconnect_050515.pdf | Check & Connect is a dropout prevention intervention based on monitoring of school performance, mentoring, case management, and other supports. The two studies studied by WWC included 238 students who attended Minneapolis high schools and entered the program in the beginning of ninth grade. These two studies include students that receive special education services for a learning, emotional, or behavioral disability. | • Check & Connect was found to have positive effects on staying in school, potentially positive effects on progressing in school, and no discernible effects on completing school for high school students with learning, behavioral, or emotional disabilities. | • What is your school or district's capacity to provide "monitors" for students, who functions as the student's mentor and case worker, and follows up with their assigned students on a regular basis? |

| Reference | Summary of content | Findings | Considerations for SWSS and Charter Systems |
|---|---|---|---|
| ***Reading interventions*** | | | |
| Hollands, F., Kieffer, M., Shand, R., Pan, Y., Cheng H., & Levin, H. (2016). Cost-effectiveness analysis of early reading programs: A demonstration with recommendations for future research. *Journal of Research on Educational Effectiveness*, *9*(1), 3–53. https://eric.ed.gov/?id=EJ1089965 | Reports cost-effectiveness analysis of two early reading programs:<br>• Corrective Reading.<br>• The Wilson Reading System. | • The Wilson Reading System was twice as cost-effective as Corrective Reading for alphabetic skills.<br>• For both programs, significant investment was required in initial and ongoing training of staff. | • What reading programs are being implemented?<br>• What analyses are planned or conducted to better understand the cost per unit of outcome (cost-effectiveness) of early literacy interventions? |
| Hollands, F. M., Pan, Y., Shand, R., Cheng H., Levin, H. M., Belfield, C., et al. (2013). *Improving early literacy: Cost-effectiveness analysis of effective reading programs*. New York, NY: Center for the Study of Benefit-Cost Studies of Education. https://vkc.mc.vanderbilt.edu/pals/pdfs/Improving%20Early%20Literacy.pdf. | • Discusses cost-effectiveness analysis on the incremental costs of seven early reading programs for alphabetics, fluency, and reading comprehension outcomes:<br>• Corrective Reading.<br>• Fast ForWord Reading 1.<br>• Kindergarten Peer-Assisted Learning Strategies.<br>• Reading Recovery.<br>• Sound Partners.<br>• Stepping Stones to Literacy.<br>• The Wilson Reading System. | • The majority of costs were spent on personnel, except for the one computer-based program.<br>• Costs generally increased substantially with student grade level.<br>• Program implementation costs ranged from $30 to $10,000 per student.<br>• Large differences in cost-effectiveness were evident across programs. | • What programs in a district and across schools would benefit from a cost-effectiveness analysis?<br>• What type of district and school data are available to conduct a cost-benefit analysis? |
| Reed, D. K., Cook, K. M., & Aloe, A. M. (2018). A cost-benefit analysis of summer reading programs implemented under state guidelines. *Educational Policy*, 1–25. https://journals.sagepub.com/doi/10.1177/0895904818802112 | • Uses cost-benefit analysis to assess providing summer reading programs compared to retaining students not reading proficiently.<br>• Assesses district-designed, book-based, and computer-based reading programs across a Midwestern state. | • Per-pupil costs varied by program:<br>• Book-based ($2,194).<br>• Computer-based ($1,803).<br>• District-designed ($1,665).<br>• On average, $4 per pupil was gained for every dollar invested in summer reading programs. | • What are state and district retention policies for students not reading at proficiency levels? Do the policies allow for summer reading programs?<br>• What actions are needed to implement a summer reading program? |

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| Jeon, E., & Day, R. R. (2016). The effectiveness of ER on reading proficiency: A meta-analysis. *Reading in a Foreign Language, 28*(2), 246–265. http://www.nflrc.hawaii.edu/rfl/October2016/articles/jeon.pdf | • Analyzes the effectiveness of using an extensive reading (ER) approach to develop reading skills, that is using a great amount of reading for enjoyment without specific lessons or tasks assigned.<br>• Uses meta-analysis of the effects on reading comprehension, reading rate, and vocabulary found in 49 studies of ER implemented in 71 settings. | • ER within curricular activities had the highest positive effect of all types of ER implemented.<br>• To realize the benefits of ER, this approach needs to be implemented over an extended period of time.<br>• English as a foreign language (EFL) settings showed a higher effect of ER than when used in English as a second language (ESL) settings.<br>• The use of web-based stories had a higher effect than the use of paper books in ER settings. | • What approaches are used to increase reading proficiency in districts and schools?<br>• How can teachers incorporate extensive reading in existing curriculum?<br>• What library and computer-assisted resources are available to increase student's use of extensive reading? |
| Bowers, L.M., Schwarz, I. (2018) Preventing summer learning loss: Results of a summer literacy program for students from low-SES homes. *Reading & Writing Quarterly*, 34(2), 99-116. https://doi.org/10.1080/10573569.2017.1344943 | Focuses on the results of a summer program designed to improve the oral and written narrative skills of low-SES elementary school students | • Students who participated in the summer literacy program achieved significant gains in oral narrative outcomes, specifically in the areas of character development and referring characters in their retells.<br>• Students also had significant gains in written narrative outcomes, and the total number of words and unique words used in their written narratives increased.<br>• Students had no loss of decoding or reading comprehension skills. | • What summer literacy programs have taken place in the past? How effective have they been?<br>• Do you know any community organizations and/or local universities that would be willing to develop a summer literacy program to combat summer reading loss?<br>• Do you have any initial thoughts on what the content of a summer literacy program should be in your district?<br>• What would it take to replicate or adapt this study for your district? |

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| ***Math interventions*** | | | |
| Parker, D. C., Nelson, P. M., Zaslofsky, A. F., Kanive, R., Foegen, A., Kaiser, P., et al. (2019). Evaluation of a math intervention program implemented with community support. *Journal of Research on Educational Effectiveness, 12*(3), 391–412. https://eric.ed.gov/?id=EJ1229044 | This research focuses on a randomized controlled trial study of the impact of a school-based and community-supported mathematics intervention program on the mathematics academic achievement of students in grades 4–8 in Minnesota. Researchers examined the performance of students who participated in the intervention program for one semester, including how their performance differed from students who did not participate in the program. | • The researchers found that students in the intervention program demonstrated slightly more growth between pre- and posttest scores than students who did not participate in the program. | • Does your district or school have any existing school-community partnerships?<br>• What potential community-based (or university or corporate-based) organizations could participate in a partnership as described in the study?<br>• What would it take to replicate or adapt this study for Georgia students?<br>• How are districts in Georgia supporting the building of mathematics competencies in grades 4–8 and at what level of intensity? |
| What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education. (2020, March). Fraction Face-Off!. Retrieved from https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_STEM_FFO_IR_mar2020.pdf | • This What Works Clearinghouse (WWC) report explores the effects of Fraction Face-Off! (a supplemental math program designed to support fourth grade students who need assistance solving fraction problems) on mathematics outcome domains including geometry and measurement, number and operations, and general mathematics achievement.<br>• The program included 36 lessons, each with four activities: a warm-up problem, group work, a speed game to build fluency, and a worksheet to check students' understanding. | • Implementing the program may increase student achievement in geometry and measurement.<br>• May increase student achievement in number and operations.<br>• May increase student achievement in general mathematics achievement. | • What practices does your district or school have in place for students struggling in fourth grade math?<br>• What type of training and support materials are offered to teachers before implementing an intervention? |

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| ***Learning Loss*** | | | |
| Pérez-Albarracín, A., & Fernández-Baena, J. (2019). Beyond conflict resolution: Socio-emotional learning in student mediators. *Journal of Research in Educational Psychology, 17*, 335-358. http://ojs.ual.es/ojs/index.php/EJREP/article/view/2223/3033 | • Uses a calibrated "pedagogical production function" model to estimate the potential long-term losses to children's learning from Covid-19 related school closures.<br>• Models the potential benefits of two mitigation strategies: one short term strategy, in which schools cover the missed material when students return to school, and one more robust strategy, in which schools offer remediation but also adjust the curriculum to students' needs and learning levels. | • Effective remediation efforts immediately upon return to school could reduce long-term learning loss for the cohort of grade 3 students by half.<br>• Remediation, combined with long-term reorientation of curriculum aligned with children's learning levels could fully mitigate the long-term learning loss, and can even surpass the learning of counterfactual of no shock (no school closure).<br>• Education systems can embrace this shock as an opportunity to implement formative assessments, adjustment of curriculum to better math the needs, and ongoing support, such as coaching or structured pedagogy. | • How can your district/school embrace the Covid-19 related shock to build on its remediation efforts and enhance students' learning?<br>• How will your district/school assess the learning when schools return to "normal instruction" to identify the needs and make the necessary adjustments?<br>• How can you address drop-out risks through your remediation strategies? |
| Kraft, M. A., & Monti-Nussbaum, M. (2017). Can schools enable parents to prevent summer learning loss? A text-messaging field experiment to promote literacy skills. *The ANNALS of the American Academy of Political and Social Science*, *674*(1), 85–112. https://doi.org/10.1177/0002716217732009 | • Describes and evaluates a school-based pilot text-messaging program implemented during the summer, that intended to engage parents in reducing summer learning loss and promoting literacy skills among first through fourth grade students.<br>• Presents the results of a randomized field trial conducted among 183 households. | • The pilot showed positive effects in reading comprehension among third and fourth graders, but no effects for first and second graders.<br>• Texts increased parents' attendance at parent-teacher conferences, but not for other school related activities.<br>• There is no evidence about a specific parent behavior that works as a primary mechanism through which the summer learning text messages increased students' achievement in reading. | • How can your school/district engage parents as active partners in students' learning, during and following pandemic-related school closures?<br>• To what other areas (besides literacy) can your school/district expand this type of intervention?<br>• Is there any way in which you could differentiate and personalize this type of learning initiatives, based on child's development levels? |

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| **Non-academic interventions** | | | |
| ***Social emotional learning*** | | | |
| Moy, G. E., & Hazen, A. (2018), A systematic review of the Second Step program. *Journal of School Psychology*, *71*, 18–41. https://www.ncbi.nlm.nih.gov/pubmed/30463668 | • Uses meta-analysis to examine the effects of participation in the social emotional learning (SEL) Second Step curriculum on program content knowledge and prosocial and antisocial outcomes.<br>• Prosocial outcomes are desirable prosocial behavior such as social competence and empathy.<br>• Antisocial outcomes are negative social behaviors that are aggressive or harmful. | • Students showed significant increases in program content knowledge and modest increases in prosocial outcomes.<br>• Prosocial nor antisocial outcomes were not significantly different based on participation in the Second Step curriculum. | • What would be needed to institute a SEL initiative across the district and within schools?<br>• How does implementing SEL align with education plans across the district and within schools?<br>• What steps would need to be taken to evaluate the processes and effectiveness of SEL initiatives? |
| Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D. & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1): 405–432. https://www.casel.org/wp-content/uploads/2016/08/meta-analysis-child-development.pdf | • Presents findings from a meta-analysis of 213 school-based, universal social and emotional learning (SEL) programs involving 270,034 kindergarten through high school students. | • Compared to controls, SEL participants demonstrated significantly improved social and emotional skills, attitudes, behavior, and academic performance. They also demonstrated fewer conduct problems and had lower levels of emotional distress.<br>• School staff can conduct successful SEL programs (Classroom by Teachers program was more effective than Multi-component programs and Classroom program delivered by non-school personnel)<br>• The use of the four SAFE practices to develop student skills and reported implementation problems moderate program outcomes, suggesting that programs must be both well-designed and well-conducted. | • How can SEL interventions at your district or school impact academic performance of students?<br>• Who is usually responsible of delivering SEL programs/interventions at your district or school? Do you rely on outside personnel or school staff?<br>• To what extent are the youth programs implemented at your district or school interactive? How is the young student involved in these programs? |

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| Bavarian, N., Lewis, K. M., Dubois, D. L., Acock, A., Vuchinich, S., Silverthorn, N., Snyder, F. J., Day, J., Ji, P., & Flay, B. R. (2013). Using social-emotional and character development to improve academic outcomes: a matched-pair, cluster-randomized controlled trial in low-income, urban schools. *The Journal of School Health*, *83*(11), 771–779. https://doi.org/10.1111/josh.12093 | • This longitudinal study uses a matched-pair, cluster-randomized controlled design to evaluate the impact of one School-based social-emotional and character development (SECD) program, Positive Action (PA), on educational outcomes among low-income, urban youth.<br>• Outcomes were assessed through student self-report measures, teacher ratings of students, and school-level archival data.<br>• Participating schools were drawn from 483 K-6 and K-8 Chicago Public Schools. | • PA improved academic motivation and mitigated disaffection with learning.<br>• There was a positive impact on absenteeism and marginally significant impact on math performance of all students.<br>• There were favorable program effects on reading for African American boys and cohort students transitioning between grades 7 and 8, and on math for girls and low-income students. | • How can socio-emotional initiatives at your school/district positively impact academic outcomes?<br>• What practices do you have in place to support the outcomes of academic motivation or disaffection with learning, which are predictors of long-term academic achievement and school completion? |
| What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education. (March 2021). *Promoting Alternative Thinking Strategies (PATHS®)*. Retrieved from https://whatworks.ed.gov | • Explores the effects of the Promoting Alternative Thinking Strategies (PATHS®) program on emotional awareness, social interactions, behavior, and academic achievement of students, including 70% White, 11% Asian, and 8% Black students, and students with and without disabilities—spanning grades 1 through 5 in both urban and suburban districts.<br>• The program is a curriculum based on the principle that understanding and regulating emotions are central to effective problem solving.<br>• It is designed for general education students and students with disabilities. | • The PATHS program has no discernible effects on academic achievement, which means that the intervention may result in little to no change in the outcome.<br>• The PATHS program has no discernible effects on student social interaction.<br>• The PATHS program has no discernible effects on observed individual behavior.<br>• The PATHS program has no discernible effects on student emotional status. | • What in-home activities does your school/district have to support SEL?<br>• How are the strategies for SEL hat your school/district offer modified or adapted for students with disabilities? |

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| | • Includes whole-class, small group instruction, and in-home activities. | | |
| Wills, H., Kamps, D., Fleming, K., & Hansen, B. (2016). Student and teacher outcomes of the class-wide function-related intervention team efficacy trial. *Exceptional Children*, *83*(1), 58–76. https://doi.org/10.1177/0014402916658658 | • Examines the effects of a Class-Wide Function-Related Intervention Team (CW-FIT) randomized trial, a group contingency intervention, on the on-task and disruptive behavior of elementary school students with or at risk for emotional behavior disorders (EBD).<br>• Teacher praise and reprimands to individual at-risk students were evaluated across the two groups.<br>• A total of 313 students in grades K to 6 were assigned to experimental and control group.<br>• The CW-FIT intervention includes using a group contingency intervention and self-management, through four primary components: teaching classroom rules and skills, using a group contingency with differential reinforcement of appropriate behaviors through class teams and points, minimizing attention to inappropriate behavior, and using self-management for students unresponsive to the first three components. | • High-risk students served in classes receiving the CW-FIT intervention increased their time on task and decreased their disruptive behaviors.<br>• Students who received Tier 2 interventions (self-management and help cards) showed a decrease in disruptive behaviors and improved on-task behaviors.<br>• The use of CW-FIT resulted in a significant increase in teacher praise to groups of students but not to individual students with EBD risks. | • Does your school/district have any group contingency interventions? Which one?<br>• How could your district/school implement a system to reinforce the use of skills and certain behaviors, using points and rewards?<br>• What multitiered levels of support are being provided for students with emotional behavior disorders (EBD)? |

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| ***School climate*** | | | |
| H., Young, C., Chen, A., Zou, A., & Allensworth, E.M. (2020). *Supporting school improvement: Early findings from reexamination of the 5Essentials survey*. Chicago, IL: University of Chicago Consortium on School Research. https://files.eric.ed.gov/fulltext/ED608120.pdf | The "5Essentials Survey" is one of the few validated instruments to measure school climate. Schools that are strong in at least three of the five essential supports are up to 10 times more likely to experience substantial gains in students' math and reading scores. This report updates the original design and validation of the 5Essentials Survey, addressing questions about its present-day validity and use in schools and districts. This is the first time high school outcomes are measured with the survey. | • 5Essentials Survey measures continue to be predictive of school improvement in elementary schools and are also predictive in high schools.<br>• Of the 22 survey measures, all were in some way positively and significantly associated with schools' improvement.<br>• For elementary schools, the measures were positively and significantly related to growth in elementary test scores, attendance, and GPA.<br>• For high schools, attendance, test scores, GPA, Freshman OnTrack, and college enrollment— were positively and significantly related to 5Essentials Survey measures. | • How does your school or district currently measure school climate amongst students, staff, and families? |
| Berkowitz, R., Moore, H., Astor, R.A., & Benbenishty, R. (2017). A research synthesis of the associations between socioeconomic background, inequality, school climate, and academic achievement. *Review of Educational Research,* 87(2),425-469. https://eric.ed.gov/?id=EJ1133356 | A comprehensive review of studies since 2000 which examine whether a positive school climate can successfully disrupt the associations between low socioeconomic status (SES) and poor academic achievement. | • School climate matters when it comes to the relationship between SES and academic achievement.<br>• Most studies showed evidence that a positive school climate is related to improved academic achievement, beyond the expected level of achievement based on student and school SES backgrounds.<br>• 84% of studies found that positive school climates provide an additive value to academic achievement beyond the | • What are current examples of positive school climate in your school?<br>• What aspects of school climate need to be improved?<br>• Does your assessment of school climate include student, teacher, staff and parent perceptions? |

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| | | negative contribution of poor SES background. | |

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| **Data and technology** | | | |
| ***Instructional technology*** | | | |
| Bingham, A. J., Pane, J. F., Steiner, E. D., & Hamilton, L. S. (2018). Ahead of the curve: Implementation challenges in personalized learning school models. *Educational Policy, 32*(3), 454–489. https://eric.ed.gov/?id=EJ1174536 | Examines challenges school administrators, teachers, and students face enacting personalized learning models. | Challenges identified for implementing personalized learning include the following:<br>• Teachers' needs are not aligned with school infrastructure; available technology; and teacher preparation, development, and support.<br>• Traditional measures of student success (for example, standardized tests and college admission) are not aligned with how success is measured in personalized learning models. | • What individual, contextual, and systemic factors present challenges for personalized learning in districts and schools?<br>• What steps would need to be taken to implement and adjust to new forms of teaching and learning? |

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| ***Online learning*** | | | |
| Heppen, J. B., Walters, K., Clements, M., Faria, A., Tobey, C., Sorensen, N., et al. (2012). *Access to Algebra I: The effects of online mathematics for grade 8 students.* (NCEE 2012–4021). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. https://eric.ed.gov/?id=ED527394 | Describes a randomized controlled trial study in Maine and Vermont of the effectiveness of an online Algebra I course on algebra-ready students' algebra achievement at end of grade 8 and subsequent likelihood of participating in an advanced mathematics course sequence in high school. | • Algebra-ready students taking online Algebra 1 improved Algebra scores (but not general mathematics scores) and took more advanced mathematics courses in high school.<br>• No effects were found for non-algebra-ready students on achievement or on planned grade 9 mathematics course taking. | • What differentiation exists for subjects offered through online learning modalities?<br>• How are students prepared, or what qualifications are required, for online course taking? |
| Heissel, J. (2016). The relative benefits of live versus online delivery: Evidence from virtual algebra I in North Carolina. *Economics of Education Review, 53,* 99–115. https://www.sciencedirect.com/science/article/abs/pii/S0272775716302357 | Examines how eighth graders in virtual Algebra I perform relative to students in face-to-face Algebra I classes. | • Eighth-grade virtual students underperform compared with similar students taking face-to-face Algebra I.<br>• Small impact for lower performing eighth graders in regular mathematics classes when higher achieving peers take Algebra 1. | • What differentiation exists for subjects offered through online learning modalities? |
| Jacob, B., Berger, D., Hart, C., & Loeb, S. (2016). Can technology help promote equality of educational opportunities? *The Russell Sage Foundation Journal of the Social Sciences, 2*(5), 242–271. https://eric.ed.gov/?id=ED577325 | Examines online learning in Florida, including characteristics of students likely to take online courses and outcomes for virtual students compared to in-school students. | • High-achieving students were more likely to take a virtual course than low-achieving students; and the likelihood increased in alignment with prior achievement.<br>• Most popular courses: physical ed., foreign language, and driver's ed.<br>• Higher income and higher achieving students more likely to take virtual courses; rural students less likely.<br>• School technology resources were not linked to virtual course taking. | • How would technology help promote equality of educational opportunities across a district?<br>• What benefits would be expected if funds are spent on in-school technology? |
| Whiteside, A. L., Garrett Dikkers, A., Lewis, S. (2016). "More confident | Examines a blended learning initiative in a large suburban high | • The flexibility of the blended learning model promotes | • Are there opportunities within your school or district to configure |

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| going into college": Lessons learned from multiple stakeholders in a new blended learning initiative. *Online Learning*, 20(4),136-156. https://files.eric.ed.gov/fulltext/EJ1124646.pdf | school in the Midwest. The study used surveys, face-to-face observations, interviews, and focus groups with administrators, teachers, students, and parents to learn about their experiences and observations about student readiness for blended learning. | autonomy, self-regulation, satisfaction, and increased learning for students.<br>• Blended learning encourages student inquiry and builds student motivation and teacher-student relationships.<br>• The blended learning model helps students feel ready for college because college courses are structured in a similar fashion. | certain high school courses into a blended learning model? |

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| **Special populations** | | | |
| ***At risk*** | | | |
| Levin, H. (2017). Improving education for at-risk students. In *What does it cost to educate California's students? A professional judgment approach: Report appendices*. San Mateo, CA: American Institutes for Research. | Examines elements of school education programs associated with improvements for students at risk, with special reference to California. | • Ensure teacher talent pool through various human capital management strategies to improve recruitment, development, and evaluation.<br>• Reduce and differentiate class size by subject and student need.<br>• Assign support personnel roles carefully for specific needs.<br>• Emphasize curriculum depth rather than breadth and provide enrichment opportunities.<br>• Consider extending the school day and/or year through quality after school and summer programs.<br>• Use technology as an instructional tool and provide adequate access.<br>• Seek ways to increase racial and socioeconomic student diversity; consider incentives.<br>• Consider a model of comprehensive school reform where the will and capacity to implement exists.<br>• Offer quality preschool programs.<br>• Emphasize high school programs with frequent assessment and monitoring, high academic standards, and student supports to close learning gaps. | • How do districts currently attract and retain talented teachers?<br>• What are typical class sizes and do these vary by school type, level of need, or subject taught?<br>• How are support staff used to address specific instructional and pupil needs?<br>• What co-curricular or enrichment opportunities exist or are needed?<br>• What consideration has been given to extending school day or year? What extended time programs exist or are needed?<br>• What resources are allocated to increase student racial and socioeconomic diversity?<br>• To what extent do districts offer early childhood programming?<br>• How can high school programs improve? |
| Odden, A., & Picus, L. (2018). *An evidence-based approach to school finance adequacy in Michigan*. North Hollywood, CA: Picus, Odden & Associates. http://picusodden.com | Suggestions for resource allocation of funds for student populations considered to be struggling based on research evidence. | • Reallocated funding and staff to four categories—tutors, pupil support, extended day programs, and summer school programs—for student populations at risk. | • What additional resources (program and staffing) are allocated for at-risk populations? |

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| /wp-content/uploads/2018/04 /Michigan-2018-Adequacy-Study.docx. | | | |

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| ***English language learners*** | | | |
| Hakuta, K. (2017). English language learners with reference to California public schools. In *What does it cost to educate California's students? A professional judgment approach: Report appendices*. San Mateo, CA: American Institutes for Research. | Examines elements of school education programs associated with improvements for English learner students, with special reference to California. | • Plan activities that engage whole school community to establish the expectation that educating English learners requires joint effort, not just English learner specific staff.<br>• Provide all teachers with strategies that support language development and opportunities for collaboration.<br>• Establish targeted English learner development programs where most needed.<br>• Use curriculum materials across content areas to vary levels of English learner development and provide corresponding teacher professional development.<br>• Use assessment tools with formative assessment practices for teachers and enable continuous monitoring of English learner development. | • What resources are needed to plan instructional programs for English learner students?<br>• Who is providing English learner student–focused professional development and on what? What time is allotted for professional collaboration?<br>• How are English learner student development programs targeted to need? What additional supports are provided for English learners with extra learning needs?<br>• How do curriculum and materials for English learner students accommodate differing levels of students' English proficiency?<br>• What is needed to adequately assess English learners and is a formative component for teachers included? |
| Hwang, H., & Duke, N. K. (2020). Content counts and motivation matters: reading comprehension in third-grade students who are English learners. *AERA Open, 6*(1).<br>Retrieved from: https://eric.ed.gov/?id=EJ1248510 | Examines the role of science domain knowledge, reading motivation, and decoding skills in reading comprehension achievement in third-grade students who are English learners (ELs) and students who are monolingual, in the United States. | • Science domain knowledge has a positive association with reading comprehension achievement for both, ELs and monolingual students. The effect is bigger for ELs.<br>• Supporting students to develop fundamental decoding skills by the end of first grade has a positive effect on reading comprehension.<br>• Higher levels of reading motivation can lead to a similar increase in reading comprehension for both groups of students, ELs and monolingual. | • What strategies could you use to support English language learners to achieve higher levels of reading comprehension and academic performance?<br>• What motivational practices in reading comprehension can you implement to support ELs?<br>• How can you differentiate instructional practices among ELs and monolingual students?<br>• How can your school/district further prioritize content area instruction over basic reading and |

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| | | | language skills to strengthen the science domain knowledge that benefits ELs? |

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| ***Students in special education*** | | | |
| McLaughlin, M. (2017). California special education. In *What does it cost to educate California's students? A professional judgment approach: Report appendices*. San Mateo, CA: American Institutes for Research. | Examines elements of school education programs associated with improvements for students in special education, with special reference to California. | • Intervention must occur early, be tailored to a child's characteristics, and intensive to be effective.<br>• Multi-tiered Systems of Support, e.g., response to intervention and positive behavioral interventions and supports (PBIS) require a strong district commitment of resources.<br>• Rely on data to determine special education needs. | • What additional resources are allocated to ensure the needed support for students in special education?<br>• What multitiered levels of support are being provided to students in special education? |
| McLeskey, J., Barringer, M-D., Billingsley, B., Brownell, M., Jackson, D., Kennedy, M., et al. (2017). *High-leverage practices in special education*. Arlington, VA: Council for Exceptional Children & CEEDAR Center. https://eric.ed.gov/?q=purposes+AND+project&pg=5&id=EJ1150396 | Reports teacher perceptions from focus groups, interviews, and surveys on effective (high-leverage) instructional practices for students in special education. | • Collaboration with professionals and families is linked to student success and securing needed support services.<br>• Multiple information sources, i.e., instructional practice assessments and analysis, aid in developing a comprehensive understanding of students' strengths and needs.<br>• Establish a consistent, organized, and respectful environment with positive and constructive feedback.<br>• Identify and prioritize learning goals, design instruction, and adapt the curriculum toward goals. | • What best practices are implemented across schools to increase the success of students in special education?<br>• What changes have been made to classroom instruction and staffing for students in special education? |

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| | | • Use flexible grouping, assistive and instructional technologies, and scaffolded supports. | |
| Polcyn, D. M., Levine-Donnerstein, D., Perfect, M. M., & Obrzut, J. E. (2014). Reading Intervention and Special Education Referrals. *School Psychology Forum*, *8*(3), 156–167. http://web.b.ebscohost.com/ehost/detail/detail?vid=11&sid=044337e2-c3e1-45c1-9608-c34226682a83%40pdc-v-sessmgr02&bdata=JkF1dGhUeXBlPWlwLHVybCxjb29raWUsdWlkJnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=ehh&AN=99769755 | Evaluates the effect of implementing an Oral Reading Fluency (ORF) intervention on the number and accuracy of special education referrals (a referral is considered accurate when it results in eligibility for special education services).<br>• The study was conducted at a middle school in the southwest United States. | • Implementing an evidence-based reading fluency intervention might result in a significant reduction in the number of students who are referred for special education evaluations.<br>• The number of students identified as needing support during the intervention period decreased.<br>• The implementation of the reading intervention reduced the proportion of inaccurate special education referrals. | • What is the usual process for referrals to special education?<br>• In what way can this process be improved so that it ensures resources are allocated accurately to those individuals who need special education services? |

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| ***Rural*** | | | |
| Huscroft-D'Angelo, J., January, S. A., & Duppong Hurley, K. L. (2018). Supporting parents and students with emotional and behavioral disorders in rural settings: Administrator perspectives. *Rural Special Education Quarterly*, *37*(2), 103-112. https://eric.ed.gov/?id=EJ1179773 | Investigates processes rural school districts implement to:<br>• Identify the needs of youth with emotional and behavioral challenges.<br>• Resolve barriers to accessing school and community services.<br>• Begin a phone-based parent-to-parent support program. | • Rural school districts are providing some form of mental health services, either through professionals working in the schools (social workers, licensed mental health professionals, or counselors) or through contracting mental health service providers.<br>• There is minimal direct support for parents of children with emotional and behavioral disorders in rural school settings.<br>• Barriers to student services include transportation, child care, and time. For community providers, parents encountered wait lists, financial and time constraints, and long distances.<br>• Implementing a phone-based parent-to-parent support program along with other methods of communication (video calls, text messages ) assist parents.<br>• Peer parents need to be thoroughly screened and familiar with supports and resources available to the specific rural community. | • What supports are needed and available for special population students in rural districts and schools?<br>• What flexibilities can be used to resolve barriers to transportation and other student support services?<br>• How can systems be implemented to increase parental training to provide peer support? |

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| ***Rural*** | | | |
| Wieczorek, D., & Manard, C. (2018). Instructional leadership challenges and practices of novice principals in rural schools. *Journal of Research in Rural Education*, *34*(2), 1–21. http://jrre.psu.edu/wp-content/uploads/2018/03/34-2.pdf | Examines principals' past experiences in education; their leadership practices as new principals; and their perspectives about rural leadership, future needs as leaders, and potential changes in their practices. | • Principals weaved professional and personal experiences into their leadership role but found meeting community expectations to be visible and engaging a challenge.<br>• Principals often took on roles at both the school- and district-levels.<br>• Principals focused on developing relationships and trust with teachers, students, and parents. | • What steps are being taken to increase new leaders' understanding of rural school community expectations and needs?<br>• What type of training is needed for new principals to fulfill expanded job responsibilities? |
| Zuckerman, S. J., Wilcox, K. C., Schiller, K. S., & Durand, F. T. (2018). Absorptive capacity in rural schools: Bending not breaking during disruptive innovation implementation. *Journal of Research in Rural Education*, *34*(3), 1–27. http://jrre.psu.edu/wp-content/uploads/2018/03/34-3.pdf | • Evaluates the district and school leadership strategies implemented in four rural districts that beat the odds—districts that had better than expected student assessment scores based on demographics.<br>• Assesses how schools adapted to disruptive policy innovations, that is high-leverage policies established outside of the school that generally have limited flexibility. | • Leaders used adaptive strategies:<br>  ◦ Brokering–communication that is two-way between leaders and other staff to create shared understanding and relate policies to local needs.<br>  ◦ Buffering–positive messaging about teacher evaluation, framing the evaluation as a support for professional growth, keeping existing teacher evaluation plans, and creating plans that support district priorities.<br>  ◦ Bridging–seeking new external resources to meet goals.<br>• Additional strategies used by leaders were: collaborative goal-setting, teacher collaboration, and ongoing curriculum revision. | • What strategies are implemented to broker, buffer, and bridge district and school staff ability to adapt to changing policies?<br>• What steps are needed to communicate about district and school flexibilities, waiver contracts, and policy changes?<br>• How often are curriculum assessed and revised? |