COVID-19 LEARNING LOSS

RECOMMENDATIONS TO IMPROVE STUDENT OUTCOMES DURING COVID-19 PANDEMIC

A+ Colorado
SHARPENING PUBLIC EDUCATION

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Authored by
Stephen Fusco, Vice President of Policy and Research (Stephen@apluscolorado.org)
Eden Morrison, Director of Research (Eden@apluscolorado.org)

Media contact
Mary Willson, Director of Communication and Engagement (Mary@apluscolorado.org)

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Executive Summary

Executive Summary

It is undeniable that lost instructional time related to the events of 2020 will impact students, the question is - how much? While the research regarding opportunity gaps[1] for students is limited given the lack of available data and disparities in district responses, there is a substantial body of research related to “summer slide” - the inevitable learning loss students experience in the fall following a prolonged period away from direct, in-person instruction.

Based on this research, we know three things:

1. Students who experience low socioeconomic opportunities are exposed to summer slide more than their peers.[2]
2. Pre-K and elementary school students tend to experience the greatest learning losses, especially when combined with low socioeconomic opportunities.[3]
3. Students from historically targeted and oppressed groups experience greater opportunity gaps related to summer slide compared to their peers.

Therefore, we offer the following recommendations:

1. Prioritize live, in-person instruction for students in pre-K and elementary school, with a strong focus on addressing the opportunity gaps for

[1] Opportunity gaps are disparities in services and opportunities among historically targeted and oppressed students that create significant differences in educational outcomes. When looking at opportunity gaps, the focus is the lack of societal, community, and school supports and services needed for students to develop the capacity to learn. Carter, P. L., Welner, K. G. (2013). *Closing the opportunity gap: What America must do to give all children an even chance*. New York, NY: Oxford University Press; Ladson-Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher*, *35*(7), 3-12.

[2] Downey, D., Von Hippel, P., & Broh, B. (2004). Are schools the great equalizer? Cognitive inequality during the summer months and the school year. *American Sociological Review, 69*(5), 613-635.

[3] Burkam, D. T., Ready, D. D., Lee, V. E., & LoGerfo, L. F. (2004). Social-Class Differences in Summer Learning Between Kindergarten and First Grade: Model Specification and Estimation. *Sociology of Education*, *77*(1), 1–31.

historically targeted and oppressed groups, especially students who experience low socioeconomic opportunities.
2. Provide short duration, high-intensity tutoring to all students.
3. Leverage technology (e.g. texting) to provide consistent contact (at least bi-weekly) to families with a focus on specific research-backed interventions and enrichment activities families can use to help students.
4. Mail (or deliver) books to students in their homes.
5. Implement at-home interventions that include training for families in conjunction with student instruction.

Introduction

Introduction

Two months into the 2020-2021 school year, families and educators continue to grapple with the impacts of COVID-19 and issues of racial inequity across the United States. On March 20, 2020, U.S. Secretary of Education Betsy DeVos invited states to apply for a waiver from assessment and accountability requirements pursuant to the Every Student Succeeds Act (ESSA),[4] an invitation Colorado accepted.[5] As a result, predicting learning loss based on the events of 2020 is difficult due to lack of publicly available data. However, researchers have made predictions regarding learning loss based on prior research regarding summer slide.

In April 2020, the Northwest Evaluation Association (NWEA) released a report that followed the trajectory of learning loss by grade from the beginning of pandemic school closures in March based on typical growth/summer loss rates.[6] Based on their modeling, the situation ranges from bleak to dire as it relates to learning loss, with 30-50% predicted learning loss that is larger for earlier grades. **Figures 1** and **2** from the NWEA report highlight the serious learning loss expected for students following COVID-19.

[4] DeVos, B. (2020, March 20). Key policy letters signed by the Education Secretary or Deputy Secretary.
[5] https://oese.ed.gov/files/2020/04/CO-Covid19-WaiverResponse.pdf
[6] Kuhfeld, M., & Tarasawa, B. (2020). *The COVID-19 slide, What summer learning loss can tell us about the potential impact of school closures on student academic achievement.* NWEA.

Figure 1

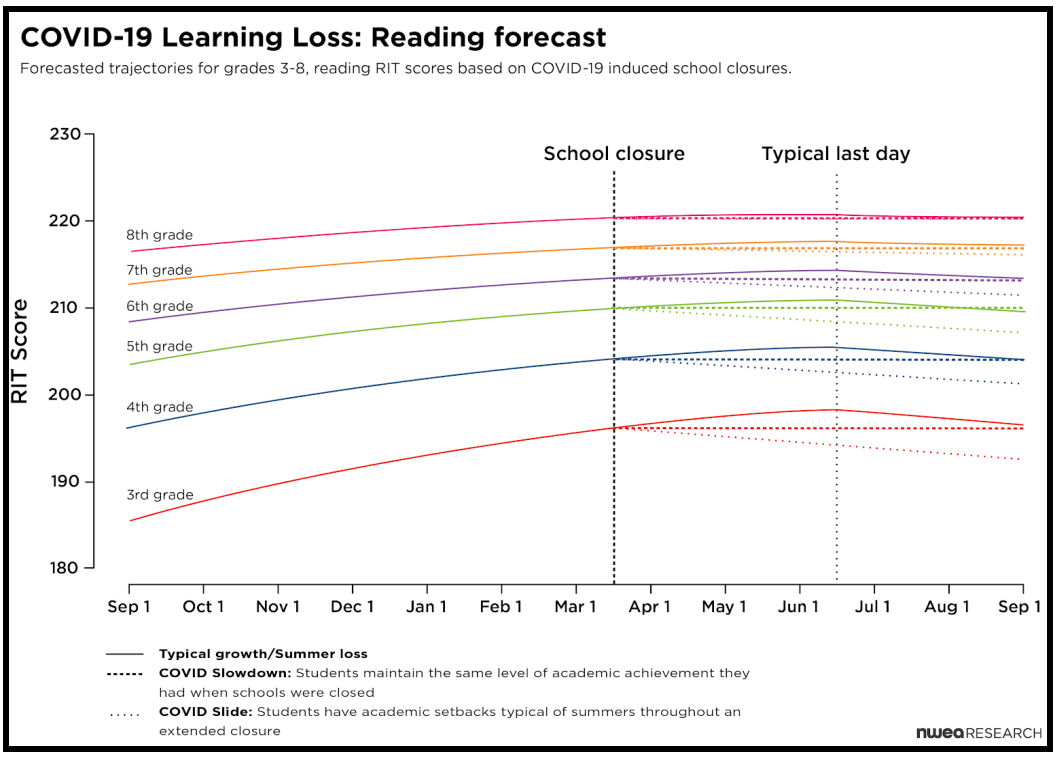
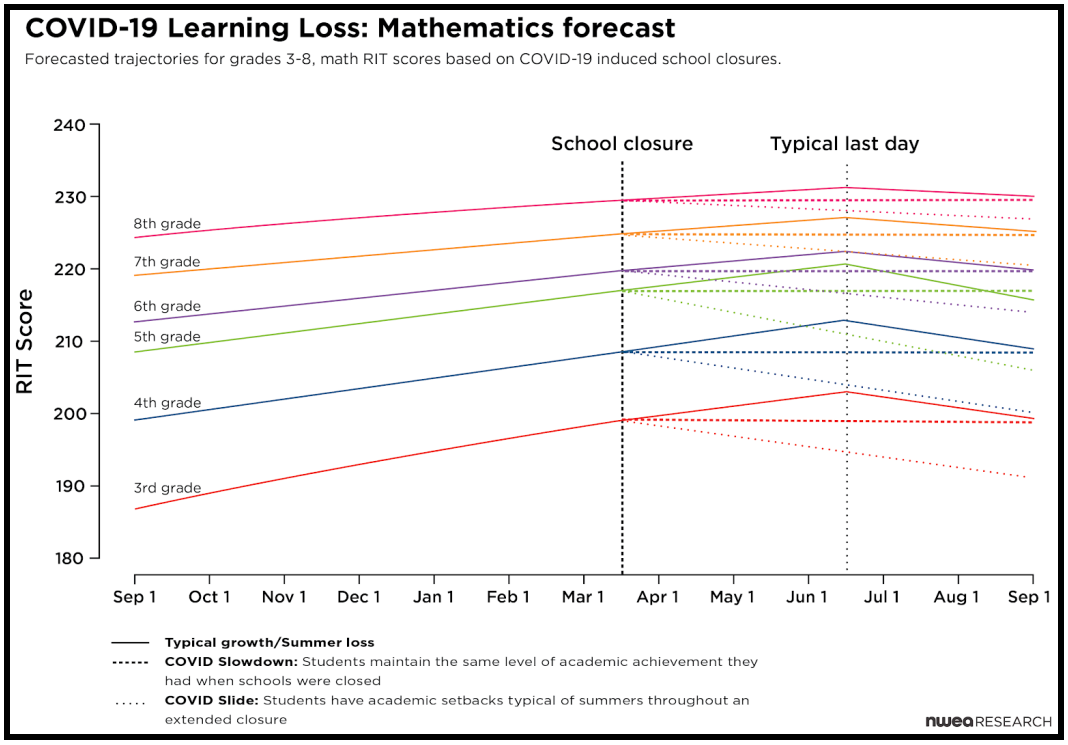
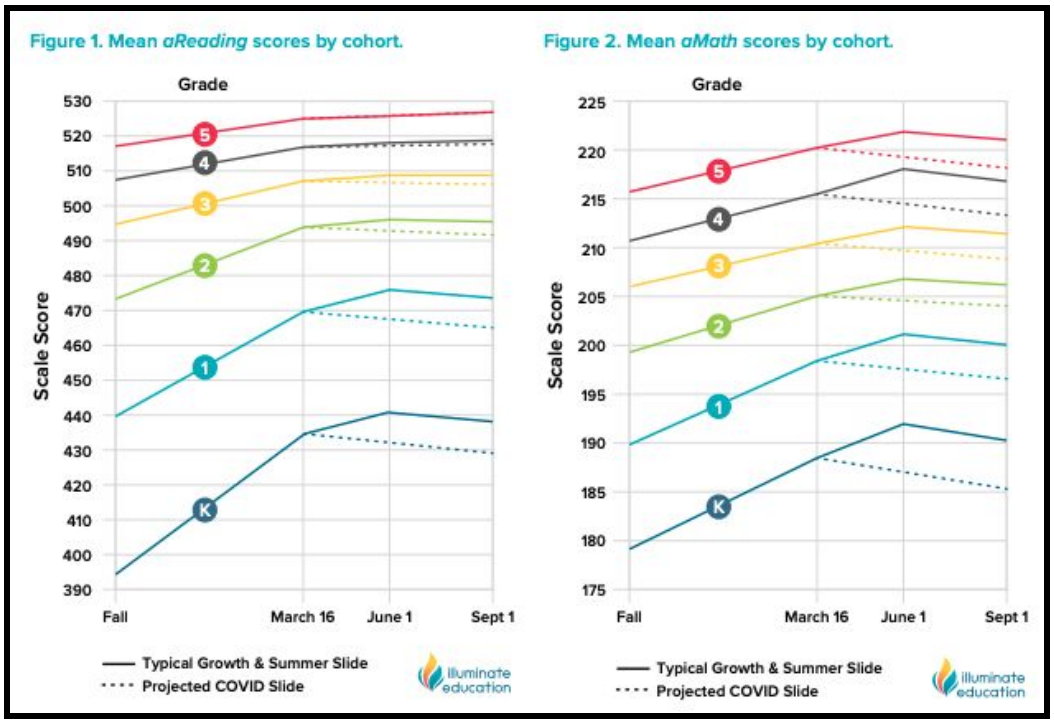


Figure 2



Similarly, in an analysis of student cohort data from *FastBridge* online reading and math assessments, Illuminate Education predicted similar significant learning loss following the pandemic based on typical growth/summer loss.[7] **Figure 3** is a visual representation of their findings.

Figure 3



In short, **learning loss following COVID-19 is inevitable and it is likely that students from historically targeted and oppressed groups and elementary school students will face the most significant lost learning opportunities.**

While the summative effects of the events of 2020 will remain unclear for years, understanding previous research regarding the summer slide can help schools, districts, and families make informed, immediate decisions to mitigate opportunity gaps. To make a well-articulated and informed decision, decision makers must understand which student populations benefit from in-person instruction, which students are likely to experience the greatest opportunity gaps if they do not receive adequate instruction, and what research-backed practices will address the growing opportunity gaps related to the events of 2020.

[7] Bielinski, J., Brown, R., Wagner, K. (2020, August). COVID slide: Research on learning loss & recommendations to close the gap. Illuminate Education.

To that end, this memo answers the following questions:

1. Based on what we know regarding learning loss related to the summer slide, which student populations are likely to experience the greatest opportunity gaps?
2. What can schools and districts do to mitigate learning losses related to the events of 2020?

Learning loss

Learning Loss

It is undeniable that all students return to school after extended breaks from instruction with natural loss of previously learned knowledge and skills. For some, summer enrichment opportunities such as time spent visiting museums, attending STEM camps, or learning life skills by participating in sports and fine arts mitigates this loss.[8] For others, time away from school creates significant opportunity gaps based on lack of access to these experiences.[9]

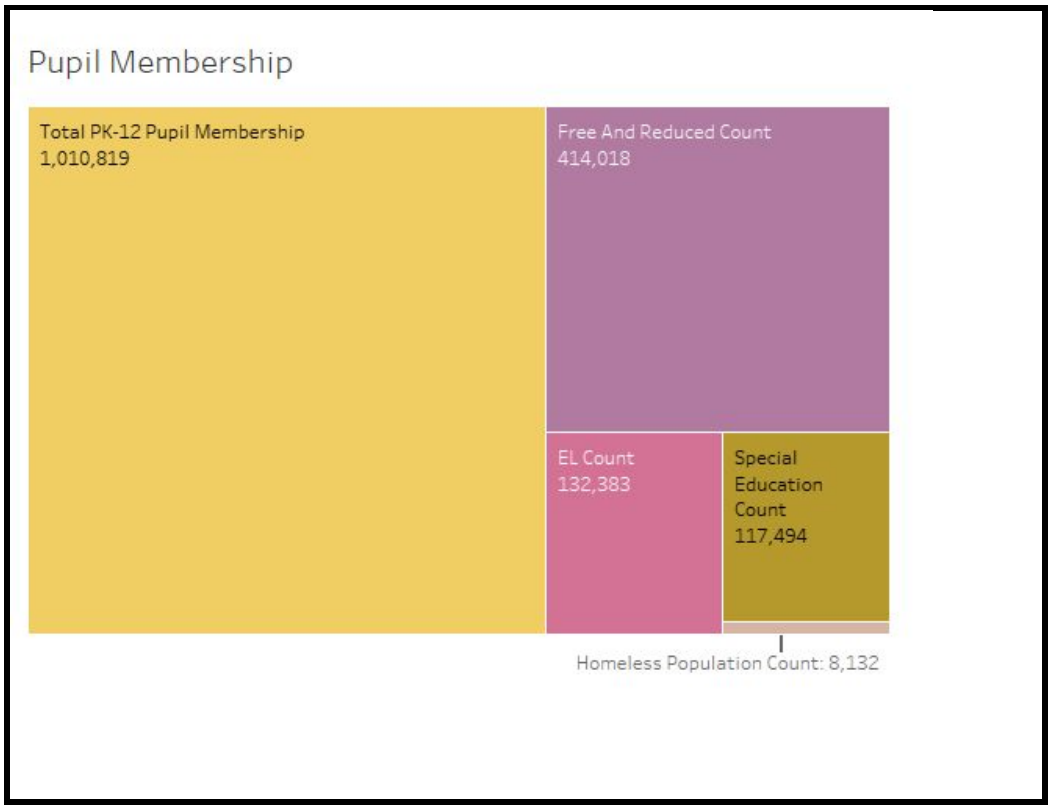
When it comes to learning loss, there are three salient themes.

- First, opportunity gaps based on socioeconomic factors grow faster when students are not in school.[10]
- Second, pre-K and elementary school students tend to experience the greatest learning losses, especially when combined with low socioeconomic opportunities.[11]
- Finally, students from historically targeted and oppressed groups experience greater opportunity gaps compared to their peers. **Figure 4** provides a relative comparison of the number of students in Colorado

[8] Gershenson S. (2013). Do Summer Time-Use Gaps Vary by Socioeconomic Status? *American Educational Research Journal*,*50*(6),1219-1248.
[9] Ibid.
[10] Downey, D., Von Hippel, P., & Broh, B. (2004). Are schools the great equalizer? Cognitive inequality during the summer months and the school year. *American Sociological Review, 69*(5), 613-635.
[11] Burkam, D. T., Ready, D. D., Lee, V. E., & LoGerfo, L. F. (2004). Social-Class Differences in Summer Learning Between Kindergarten and First Grade: Model Specification and Estimation. *Sociology of Education, 77*(1), 1–31.

belonging to several groups and A+'s *Outliers 2020* provides details regarding Colorado students experiencing housing insecurity.[12]

Figure 4



[12] A+ Colorado. (2020). *Outliers 2020.*

Students with Lower Socioeconomic Opportunities

Students with Lower Socioeconomic Opportunities

Across the board, regardless of inclusion in other vulnerable groups, students from lower socioeconomic backgrounds generally experience the greatest opportunity gaps following prolonged breaks from in-person instruction.[13] Indeed, as much as 80% of the difference in achievement levels between students from the highest and lowest socioeconomic status is due to summer slide.[14]

Additionally, students with lower socioeconomic opportunities are less likely to have access to the technology necessary to adequately participate in online programs when in-person instruction is unavailable.[15,16] In particular, changes in income and education account for approximately 70% of the variability in access to information and communication technology.[17]

Finally, students with low socioeconomic opportunities may experience housing insecurity[18] and community-based programs (e.g. libraries, recreational centers, and school-based extracurricular programs) are often the sole source of educational support among this population when in-person instruction is unavailable.[19] Unfortunately, due to COVID-19, these services are not available. **Figure 5** provides a breakdown of CMAS performance across several historically targeted and oppressed groups in Colorado.

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[13] Kreft, A. B. (2014). The Effect of Summer Vacation on Student Achievement for Disadvantaged Students. *J Cross-Disciplinary Perspect Educ*, *7*(2), 7-11; McAlister, L. R. (2014). Understanding summer learning loss: Why low-income children need effective summer programming.

[14] Alexander, K., Entwisle, D., & Olson, L. (2007). Summer learning and its implications: Insights from the beginning school study. *New Directions for Youth Development, 2007*(114), 11–32.

[15] Mubarak, F., Suomi, R., & Kantola, S. P. (2020). Confirming the links between socio-economic variables and digitalization worldwide: The unsettled debate on digital divide. *Journal of Information, Communication and Ethics in Society, 18*(3), 415-430.; Hamilton, E. C., Saiyed, F., Miller III, C. C., Eguia,

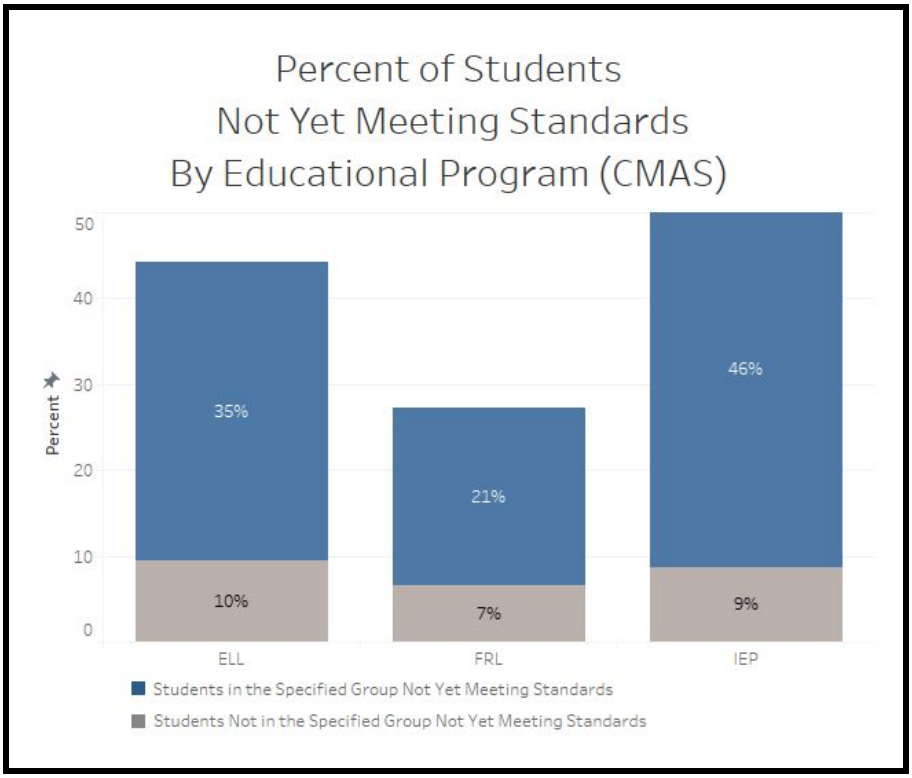
[16] A., Fonseca, A. C., Baum, G. P., ... & Austin, M. T. (2018). The digital divide in adoption and use of mobile health technology among caregivers of pediatric surgery patients. *Journal of Pediatric Surgery*, *53*(8), 1478-1493.

[17] Mubarak et al., Ibid.

[18] A+ Colorado, supra.

[19] Lenhoff, S. W., Somers, C., Tenelshof, B., & Bender, T. (2020). The potential for multi-site literacy interventions to reduce summer slide among low-performing students. *Children and Youth Services Review*, *110*, 104806.

Figure 5



Early Education Learners

Studies on learning loss indicate that low-income elementary school students see their opportunity gaps increase during the summer months[20] in comparison to their higher income peers who see their out of school learning opportunities increase.[21] Another trend we see with summer learning loss is that as students progress in school it becomes more severe.[22] This is particularly concerning for those in the elementary years learning foundational knowledge. Student achievement in early grades matters. We know, for example, that students who are not reading at grade level by third grade are more likely to face difficulties for the rest of their academic career.[23]

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[20] Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2001). Schools, achievement, and inequality: A seasonal perspective. Educational Evaluation and Policy Analysis, 23(2), 171–191.
[21] Burkam, D. T., Ready, D. D., Lee, V. E., & LoGerfo, L. F. (2004). Social-Class Differences in Summer Learning Between Kindergarten and First Grade: Model Specification and Estimation. Sociology of Education, 77(1), 1–31.
[22] Cooper H., Nye B., Charlton K., Lindsay J., Greathouse S. (1996). The effects of summer vacation on achievement test scores: A narrative and meta-analytic review. Review of Educational Research, 66(3), 227–268.

[23] Lesnick, J., Grge, R.M., & Smithgall, C. (2010). Reading on grade level in third grade: How is it related to high school performance and college enrollment? Chicago, IL: Chapin Hall at the University of Chicago.

Students Identified with Disabilities

Elementary students from low socioeconomic backgrounds with disabilities were more likely to experience regression in their skills over school breaks.[24] Students with specific learning disabilities in math are at a double disadvantage because they are more likely to lose math skills[25] while still coping with their personal learning needs. Not only do students face higher levels of learning loss, the burdens of distance learning are heavier for students with mental or physical disabilities, especially those that may make it difficult to operate technology. It is also more difficult for parents to provide the specific learning supports necessary for children with disabilities. In addition, legally required and medically necessary services such a physical or occupational therapy are difficult to adequately deliver online. These students face both academic setbacks and life skills setbacks that can be difficult to recover. In Colorado, there is a considerable opportunity gap for students identified with disabilities (see **Figure 5)** and the events of 2020 are only going to exacerbate those gaps.

Emerging Multilingual Students

There is a confluence of factors that could lead to a "COVID slide" for emerging multilingual learners. Emerging multilingual students who live in non-English speaking, monolingual homes are more vulnerable to losing the vocabulary gains they make during the school year.[26] These students are also at risk of falling behind in subjects taught to them in English as they slow on language acquisition.[27] Given the reality that many parents cannot help with schooling that takes place primarily in English (and that schools do not always provide appropriate translation services), many of these students may be navigating distance learning solo. This is a particular concern in Colorado where nearly 15% of students are English language learners (see **Figure 5**).

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[24] Menard, J., & Wilson, A. M. (2014). Summer learning loss among elementary school children with reading disabilities. *Exceptionality Education International*, *23*(1), 72-85.
[25] Cooper, H., Nye, B., Charlton, K., Lindsay, J., & Greathouse, S. (1996). The Effects of Summer Vacation on Achievement Test Scores: A Narrative and Meta-Analytic Review. *Review of Educational Research*, 66(3), 227-268. Retrieved October 1, 2020.
[26] Lawrence, J.F. (2012). English vocabulary trajectories of students whose parents speak a language other than English: steep trajectories and sharp summer setback. *Reading & Writing: An Interdisciplinary Journal* 25 (5), 1113-1141.
[27] Torres, H. N., & Zeidler, D. L. (2011). The Effects of English Language Proficiency and Scientific Reasoning Skills on the Acquisition of Science Content Knowledge by Hispanic English Language Learners and Native English Language Speaking Students. Retrieved 2020.

Mitigating Lost Educational Opportunities

Mitigating Lost Educational Opportunities

While the COVID-19 pandemic presents unprecedented issues for districts, educators, and families, it is important to implement multiple strategies to mitigate lost educational opportunities for students. While the current state of education presents unique challenges, the purpose of this section is to highlight research-backed, best practices that help mitigate learning loss for students, particularly historically targeted and oppressed groups[28]. These practices include integration of at home learning opportunities, use of culturally-responsive curriculum, and implementation of small group, in-person instruction (to the greatest extent possible).

While at home strategies can help mitigate learning loss while students are away from actual classrooms, in-person instruction is the most effective strategy to minimize opportunity gaps, especially as it relates to historically targeted and oppressed groups. Based on the research regarding effective summer learning programs, districts must consider implementation of the following research-backed practices:

1. School-based instruction provides significant gains for students with high rates of socioeconomic disadvantage who experience the summer slide.[29] Indeed, researchers suggest that two-thirds of the 9th-grade reading opportunity gap can be explained by unequal access to summer learning opportunities during elementary school.[30]

2. Short duration, high-intensity tutoring may help students (especially students with high rates of socioeconomic disadvantage and low initial performance) overcome opportunity gaps similar to summer slide.[31]

[28] Kim, J. S., & Quinn, D. M. (2013). The effects of summer reading on low-income children's literacy achievement from kindergarten to grade 8: A meta-analysis of classroom and home interventions. *Review of Educational Research*, *83*(3), 386-431.
[29] Kim, J., & Quinn, D. M. (2012). A meta-analysis of K-8 summer reading interventions: The role of socioeconomic status in explaining variation in treatment effects. *Society for Research on Educational Effects.*
[30] Alexander, K. L., Entwisle, D. R., & Steffel Olson, L. (2007). Lasting consequences of the summer learning gap. *American Sociological Review, 72*(2), 167-180.
[31] Lenhoff et al., Ibid.

Additionally, as families help children with school-related tasks during remote learning, they need continued support from educators to navigate the educator role. Drawing on research-backed practices designed to mitigate opportunity gaps during extended time away from school, the following strategies can help leverage in-home learning to mitigate learning loss. It is worth noting that many of the strategies focus on literacy instruction based on the research findings but they are equally applicable to other content:

1. Bi-weekly text messages to families regarding specific literacy and enrichment activities parents and children can engage in during remote learning.[32] Messages that emphasize the importance of reading, resources and ideas for literacy activities, and "pro-tips" to teach literacy can help older elementary school students improve their literacy skills, including reading comprehension.

2. Mailing (or delivering) books to students in their homes and asking students to mail back postcards to instructors. As an extension, instructors can survey students on topics of interest and periodically mail (or deliver) books related to the topics.[33] This practice is promising among students of color and students with high rates of socioeconomic disadvantage.[34]

3. The implementation of at-home interventions that include training for families in conjunction with student instruction[35]. Among vulnerable pre-K learners with opportunity gaps in core academic subjects and lower socioeconomic opportunities, an in-home literacy program combining learning sessions for children and families offered significant literacy gains for kindergarten students across multiple learning domains.[36]

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[32] 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.
[33] Kim J. S. (2004). Summer reading and the ethnic achievement gap. *Journal of Education for Students Placed at Risk*, *9*(2), 169-188.
[34] Allington, R. L., McGill-Franzen, A., Camilli, G., Williams, L., Graff, J., Zeig, J., ... & Nowak, R. (2010). Addressing summer reading setback among economically disadvantaged elementary students. *Reading Psychology*, *31*(5), 411-427.
[35] Terzian, M., Anderson Moore, K., & Hamilton, K. (2009). Effective and promising summer learning programs and approaches for economically-disadvantaged children and youth. Wallace Foundation.
[36] Graham, A., McNamara, J. K., & Van Lankveld, J. (2011). Closing the summer learning gap for vulnerable learners: An exploratory study of a summer literacy programme for kindergarten children at-risk for reading difficulties. *Early Child Development and Care*, *181*(5), 575-585.