THE ANSWER LAB AT USC ROSSIER

PACE Policy Analysis for California Education

THE QUESTION

What Can Be Done to Address Learning Losses Due to School Closures?

: : **Geoffrey D. Borman**, Arizona State University

With nationwide school closures due to COVID-19, over 50 million of the country's 57 million K–12 students are out of school until next fall.[1] If (and that remains a big *if*) the 2020–21 academic year begins on schedule, most students will have experienced a full 5- to 6-month hiatus from school. Of course, COVID-19 also represents a simultaneous healthcare and economic crisis without precedent. The pandemic has caused rising unemployment, psychological distress, and great uncertainty for U.S. families. These hardships are unequally distributed, affecting low-income families and families of color most significantly. The realities of the digital divide[2] have been highlighted by many schools' attempts to provide distance learning. Without question, this crisis will impact our country's education system in unforeseen ways for years to come. It is possible that the pandemic will be worse for education than the recent Great Recession[3] and natural disasters like Hurricane Katrina,[4] both of which greatly reduced student achievement, especially among economically disadvantaged and minority students.

Though the current situation is unprecedented, a long history of prior research on summer learning may help inform policymakers and educators about how this extended "break" from school might affect students. Lessons may also be learned from past research on summer learning programs. Are there particular strategies or ideas that may help students continue learning or make up for learning losses suffered during the pandemic? Because school-based summer programs may not be feasible due to continued stay-at-home orders, are there quality home-based summer learning options or other ways to make up ground when schools reopen in the fall?

USC Rossier School of Education
Center on Education Policy, Equity and Governance

THE EVIDENCE

The Summer Slide

More than 100 years of research has documented the summer slide—the loss of skills that students experience from the end of one school year to the beginning of the next.[5] Like a musician or athlete who does not practice, when students take a 3-month break from their studies, their academic skills tend to stagnate or decay. Estimates of the severity of the summer slide vary and some recent debate[6] has even called into question whether summer learning losses are real. Regardless, researchers find a consistent and intuitive result: all children learn reading and math more slowly (if at all) during summer break than during the school year, with some evidence showing that they actually forget things they learned during the school year over summer break.

What Should We Expect in Terms of Learning Loss?

With schools physically closed for nearly one third of the school year, we have good reason to believe students have not learned what they needed to learn during 2019–20 and may even have lost some of what they had learned before school closures. We also know that they are now heading into 3 more months without schooling—summer break. How far behind will students be when they return to school in the fall?

Recent estimates of the summer slide, based on the widely used MAP Growth assessment,[7] suggest that students lose about 20 to 50 percent of their school-year math and reading gains during a typical summer. We can use this information to estimate how much ground students will lose due to the 2 to 3 additional months of face-to-face instruction that most students have missed. Based on millions of test scores, projections suggest that when schools reopen in the fall, students will return with about 70 percent of their typical reading gains and less than half of their usual math gains.

These recent estimates of the COVID-19 slide do not, however, consider the many other serious health and economic hardships that are affecting students' learning and general well-being under pandemic conditions. These health[8] and economic[9] struggles tend to hit low-income families and families of color hardest, in general amplifying existing societal inequalities.[10] As a result, it seems inevitable that economically disadvantaged and minority students will return to school with more ground to make up academically.

The projected learning losses also identify key differences by subject and grade, with greater declines in math than reading skills and with older students experiencing greater disadvantages than younger students. Research shows that, in general, students' out-of-school learning outcomes are far more variable than their school-year outcomes.[11] As a result, we can expect that when schools reopen in the fall (at the earliest), there will be even larger learning differences among students than usual and even greater demand for differentiated instruction.

What Can Be Done to Accelerate Student Learning?

What can be done to compensate for these learning losses and increased learning differences among students? Research suggests that school-based summer programs often compensate for the typical summer slide, but these programs may have to wait until summer 2021 given recent state guidance suggesting that schools will not physically be able to reopen until the fall or later.[12] During summer 2020, home-based summer programs can help, especially in reading. In particular, a review of home-based literacy programs targeting low-income children (K–8) suggests that they can be just as effective as school-based programs.[13]

Home-based summer reading programs, like Harvard Graduate School of Education's READS LAB (readslab.org/readingresources) and Kids Read Now (kidsreadnow.org), provide children with access to approximately nine to twelve books that are matched to each student's reading level and interests. The programs typically offer key guidance for teachers or parents to help improve students' comprehension skills, and they employ gentle nudges from teachers or program staff—such as texts, emails, or phone calls—to encourage students' continued reading over the summer. Free-book distribution programs, such as Reading Is Fundamental's Books for Ownership program (rif.org/literacy-network/our-solutions/books-ownership), Bernie's Book Bank (berniesbookbank.org), or school–public library partnerships,[14] are also great ways to get quality books to low-income students who have access to few or none of their own.

Considerably less research evidence, though, exists on home-based math programs, such as the widely used Khan Academy (khanacademy.org). Parents often read with their young children, but very few parents practice math problems with their kids. Rigorous research[15] supports a tablet-based math app for elementary students, called Bedtime Math (bedtimemath.org), that helps parents and caregivers bring a little bit of math into the home. In general, research suggests that any efforts caregivers can make to engage with their children in studying math at home can help.

Online classes may be another option during summer 2020. However, research[16] comparing online instruction to face-to-face instruction typically reveals that online instruction is relatively less effective. And even when students are offered remote instruction, those without reliable internet service or the devices to access it will fall further behind. If online classes are the only option, though, they are likely a better strategy than offering no instruction at all. Relative to the classroom setting, online instruction can present challenges for teachers with respect to monitoring students' active engagement. To help all students gain the most from distance learning, teachers may need to set specific expectations or rules that encourage all students to demonstrate active participation. Additional efforts to deliver supplemental online help to those who need a little more time and assistance to master the content also can make online learning more effective.

CONCLUSIONS

Even if academic programming is possible during summer 2020, it is inevitable that students will return in the fall with greater overall needs and even more variable learning levels than usual. Educators should be prepared to use formative assessments to evaluate where students are academically in the fall.[17] This information should then be used to target the specific needs of students through supplemental and/or differentiated instruction. Research has consistently shown that one-to-one tutoring[18] is an effective strategy—though teachers and paraprofessionals are best, trained volunteers can be effective as well. Given the pandemic and resulting recession, many recent college graduates will be unemployed and as many as 20 percent of young people may delay attending college.[19] Like the Peace Corps, a "Corona Corps"[20] or federally funded "Tutor Corps"[21] of young people could be formed to provide online or face-to-face tutoring supports. Evidence-based intelligent tutoring systems[22] could provide a technology-based option in lieu of face-to-face tutoring. Finally, spring end-of-year assessments could be used to identify students who continue to struggle and these students could be served through supplemental 2021 summer programs. It will take more than business as usual during this summer and the coming academic year. The academic futures of our nation's children are depending on it.

Endnotes

[1] Map: Coronavirus and school closures. (2020, May 15). *Education Week*. edweek.org/ew/section/multimedia/map-coronavirus-and-school-closures.html

[2] USC Annenberg School for Communication and Journalism. (2020, April 20). *COVID-19 crisis creates distance-learning gap for Los Angeles County students*. annenberg.usc.edu/news/research-and-impact/covid-19-crisis-creates-distance-learning-gap-los-angeles-county-students

[3] Shores, K., & Steinberg, M. (2019). Schooling during the great recession: Patterns of school spending and student achievement using population data. *AERA Open*, *5*(3), 1–29. doi.org/10.1177/2332858419877431

[4] Sacerdote, B. (2012). When the saints go marching out: Long-Term outcomes for student evacuees from hurricanes Katrina and Rita. *American Economic Journal: Applied Economics*, *4*(1), 109–135. doi.org/10.1257/app.4.1.109

[5] 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. doi.org/10.3102/00346543066003227

[6] Alexander, K. (2019, August 26). Summer learning loss sure is real. *Education Next*. educationnext.org/summer-learning-loss-sure-is-real-response/

[7] Kuhfeld, M. (2018, July 16). Summer learning loss: What we know and what we're learning. *NWEA*. nwea.org/blog/2018/summer-learning-loss-what-we-know-what-were-learning/

[8] Centers for Disease Control and Prevention. (n.d.). *COVID-19 in racial and ethnic minority groups.* cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html

[9] Aratani, L., & Rushe, D. (2020, April 28). African Americans bear the brunt of Covid-19's economic impact. *The Guardian*. theguardian.com/us-news/2020/apr/28/african-americans-unemployment-covid-19-economic-impact

[10] Reeves, R. V., & Rothwell, J. (2020, March 27). Class and COVID: How the less affluent face double risks. *Brookings.* brookings.edu/blog/up-front/2020/03/27/class-and-covid-how-the-less-affluent-face-double-risks/

[11] Atteberry, A., & McEachin, A. (2020, April). *School's out: The role of summers in understanding achievement disparities.* Annenberg Brown University (EdWorking Paper no. 19–82). doi.org/10.26300/2mam-bp02

[12] Cooper, H., Charlton, K., Valentine, J. C., & Muhlenbruck, L. (Eds.). (2000). Making the most of summer school: A meta-analytic and narrative review. *Monographs of the Society for Research in Child Development*, *65*(1). srcd.onlinelibrary.wiley.com/toc/15405834/2000/65/1

[13] 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. doi.org/10.3102/0034654313483906

[14] American Library Association. Association for Library Service to Children. (n.d.). *School–public library partnerships*. ala.org/alsc/publications-resources/professional-tools/school-public-library-partnerships

[15] Berkowitz, T., Schaeffer, M. W., Maloney, E. A., Peterson, L., Gregor, C., Levine, S. C., & Beilock, S. L. (2015, October 9). Math at home adds up to achievement in school. *Science*, *350*(6257), 196–198. doi.org/10.1126/science.aac7427

[16] Loeb, S. (2020, March 20). How effective is online learning? What the research does and doesn't tell us. *Education Week*. edweek.org/ew/articles/2020/03/23/how-effective-is-online-learning-what-the.html

[17] Hough, H. J. (2020, May 5). *Understanding, measuring, and addressing student learning needs during COVID-19 recovery* [Commentary]. Policy Analysis for California Education. edpolicyinca.org/newsroom/understanding-measuring-and-addressing-student-learning-needs-during-covid-19-recovery

[18] Slavin, R. (2018, April 5). New findings on tutoring: Four shockers. *Robert Slavin's Blog*. robertslavinsblog.wordpress.com/2018/04/05/new-findings-on-tutoring-four-shockers/

[19] Horn, M. B. (2020, May 7). What students can do on a gap year during the pandemic. *Forbes*. forbes.com/sites/michaelhorn/2020/05/07/what-students-can-do-on-a-gap-year-during-the-pandemic/ - 275395b2760b

[20] Galloway, S. (2020, April 24). United States corona corps. *No Mercy/No Malice.* profgalloway.com/united-states-corona-corps?utm_source=newsletter&utm_medium=email&utm_campaign=NMNM20200424

[21] Phillips, J. (Host). (2020, April 28). Using tutors to close the opportunity gap with Matthew Kraft [Audio podcast episode]. *In The Late Bell.* education.brown.edu/news/2020-04-28/using-tutors-close-opportunity-gap

[22] Kulik, J. A., & Fletcher, J. D. (2016). Effectiveness of intelligent tutoring systems: A meta-analytic review. *Review of Educational Research*, *86*(1), 42–78. doi.org/10.3102/0034654315581420

USC Rossier School of Education
Center on Education Policy, Equity and Governance

PACE
Policy Analysis for California Education

Center on Education Policy, Equity and Governance
3470 Trousdale Parkway
Waite Phillips Hall, Room 901
Los Angeles, CA 90089-4039
cepeg.usc.edu

Contact
Morgan Polikoff at Polikoff@usc.edu