Developments Special Report

It's About Time: Extended Learning and Academic Achievement

By Amanda S. Koury

The family income of students is a consistent predictor of academic achievement across the United States, where an achievement gap between the most and least affluent students has long persisted and shows no sign of narrowing.

On standardized tests, for example, low-income students are two to three times more likely than students from higher-income families to score at the lowest proficiency levels in reading and math.[1] And recent research shows the gap separating their test scores has grown by more than 40 percent over the last 50 years.[2]

The income-related academic achievement gap is especially pertinent today in the United States, where an estimated 21 percent of U.S. children live in poverty. These children are at risk of performing more poorly than their more affluent peers as early as kindergarten and research suggests the gap widens as they progress through school.[3,4]

Moreover, school achievement has long-term implications. Economically disadvantaged third-graders who struggle with reading, for instance, are three times less likely to graduate from high school than their more advantaged counterparts.[5] Such findings are in line with studies that show early academic success to be a robust predictor of high school graduation.[6] And failing to graduate deprives students of the improved career prospects, future earnings, and a path toward social mobility that a high school education offers.

Extending the learning time of students is among the approaches used to improve academic achievement, particularly among children from low-income families. Studies find that students from both economically advantaged and disadvantage backgrounds learn at similar rates during the school year.[7] However, lower-income students tend to lose more skills over summer recess than their more affluent peers, who either gain or maintain their academic skill sets.[8]

The current body of research is insufficient to draw conclusions about whether extending learning time is effective in closing the academic achievement gap between lower-income and more affluent students. Studies, however, do find that strategies ranging from extended school years to summer learning opportunities show promise as a means for improving the academic achievement of the lower-income students exposed to them.

Extended Learning Strategies

Strategies for extending learning time are grounded in the idea that providing additional time in school could boost academic achievement and help prevent the loss of academic skills during summer recess, which research suggests is a particular problem among low-income students.

The most widely used and studied approaches to extend learning time include lengthening the school year, extending the hours in the school day, offering academically focused after-school programs, and providing students with summer learning opportunities.

Extended-year strategies add days to the beginning of the school year, the end, or to both the beginning and end of the school year. For this review, extended year approaches were considered to be any program that added days to the traditional 180-day school calendar. Nearly all added days to the end of the school year. And the programs were distinguished from summer learning opportunities by key design characteristics. Extended-year programs, for example, were largely mandatory and were structured like a regular school day, while the summer learning programs were mainly voluntary and included a mix of academic and enrichment activities.

Extended-day and after-school programs both extend students' learning time and share a largely academic focus. In this review, extended-day programs are those that lengthen the traditional 6.5-hour school day and are considered to be an extension of the regular school day. An important distinction is that extended-day programs tend to be mandatory for students in a particular school, while after-school programs are often voluntary. Full-day kindergarten programs that operate for more than 3 hours per day fall into the category of an extended day program due to the fact they extend the learning time offered in half-day programs.

Programs considered to be summer learning opportunities operate solely during summer recess and emphasize academic instruction, although enrichment and recreational activities could also be offered. Several program characteristics distinguish summer school from summer learning opportunities.[9] Summer school, unlike summer learning programs, is largely remedial, has mandated attendance policies, and is provided to students in danger of grade retention. Summer learning programs generally offer a mix of academic and enriching opportunities, have a voluntary attendance policy and tend to be shorter in duration than summer school programs.

Key Characteristics

Although program design varies widely between and within the types of extended learning programs, recent research identifies several characteristics of those that have been shown to be effective.

An extensive review of summer programs, for example, found certain characteristics to be effective with low-income students, such as making learning enjoyable by joining academic content with enrichment.[10] Effective features also included incorporating hands-on learning activities, small student-to-teacher ratios of roughly 5:1, employing professional teachers, and aligning summer program curriculum with that of the regular school year. It was also noted that economically disadvantaged students might particularly benefit from enriching activities because they often do not participate in school year extracurricular activities.

Several other characteristics have been found to be important to the success of extended learning time programs, including parental involvement and rigorous, engaging programming that encourages student attendance.[11] Among the most important characteristics of effective programs appears to be getting students engaged in learning, which has long been linked to improved achievement outcomes, even after controlling for gender, race/ethnicity, and socioeconomic status.

Staff training is another key factor. In this review, each of the programs that produced the largest effect sizes employed either professional teachers or volunteers from colleges and universities who received training.

The size of a program in terms of students enrolled can also influence its effectiveness. In general, programs serving larger numbers of students were more likely to produce small or no effect. One study suggests that program size may act as a proxy, with smaller programs allowing for greater flexibility and control among teachers or perhaps relate to socioeconomic circumstances of a community.[12] Programs that produced large effects used small groups or individualized instruction compared those that resulted in small effects, no effect, or negative effects.

Effectiveness and Conclusions

The extended learning programs examined in this review were largely beneficial to the students who participated in them, at least to some degree. The programs overall were four times more likely to produce positive student outcomes than to have insignificant or negative effects.

How effective the programs were in promoting academic achievement varied, both within and across the different types of programs. In general, however, the different types of programs did not produce markedly different outcomes and no single program type emerged as the most effective, although evidence suggests summer learning opportunities to be a particularly promising approach to improving academic achievement.

Extended year programs produced small to moderate positive effects, although there were too few programs to draw firm conclusions. Extended day programs, which included full-day kindergarten and academically focused after-school programs, were largely beneficial for students, but the effects tended to be small. The promise of extended learning was more broadly seen among summer learning opportunities, including mandatory summer school. In this review, more than 9 in 10 of the findings for those programs were positive and about half demonstrated effects ranging from moderate to large in size.

Student Implications

Recent research suggests extended learning is beneficial to students who are economically disadvantaged, low-performing, and of racial/ethnic minority. One study, for instance, found that economically disadvantaged students experienced nearly twice the benefit of an additional week of classes than students overall.[13]

Other evidence includes an evaluation of a New York City after-school program for highly disadvantaged students, which found that racial/ethnic minorities, low-performing, and low-income students, in particular, were likely to benefit academically, especially those who attended regularly. For example, African American students demonstrated gains in math that increased linearly for each year they participated in the program compared to similar students who did not participate. And after two years in the program, ▸

children who qualified for the federal free lunch program and those in the lowest proficiency levels in math gained roughly one-fifth of a standard deviation unit above similar students who did not participate.[14]

This review also indicates that younger students tend to be the most likely to benefit from extended learning time, particularly those in kindergarten and first grade. The finding corroborates other studies that report that programs are more effective for younger children than for older children.[15, 16] The number of studies included in the review that focused specifically on kindergarten students was limited, however.

Studies reporting the benefits of full-day kindergarten compared to half-day kindergarten suggest that it may be especially useful to offer extended learning time programs starting from kindergarten and going forward.[17] Studies also find that summer vacation becomes increasingly detrimental for academic skills after second grade, which suggests that summer learning opportunities may be advantageous for young children.

Time and Learning

Another conclusion drawn from this review is that allocated time does not appear to be linearly related to academic improvement. If that were the case, it would be expected that programs would not produce insignificant or negative outcomes, given that the all of the programs provided students with additional learning time.

The weakest outcomes were generally found among programs whose duration was on the extreme ends of the spectrum—programs that were among those offering the fewest or greatest number of hours. Among summer programs, it appears that the most beneficial duration is somewhere between 70 and 130 hours. For extended-day and after-school programs, it appears that the duration needs to be more than 22 hours, but fewer than 210 hours.

Other researchers have also noted a similar relationship between duration and outcomes. A large-scale analysis of out-of-school time programs, for example, found those that with a duration between 44 and 84 hours and 85 and 210 hours were significantly related to reading improvement among students, while programs with a duration of fewer than 44 hours or greater than 210 hours failed to produce improvements. The same study reported that math programs were most effective when they offered between 46 and 100 hours of instruction. The effects tapered off when program duration exceeded 100 hours, but were still significant.[18]

Other Issues

This review provided some insight into other issues related to extended learning programs, including measuring academic improvement, the impact of academic instruction and enrichment, and program features associated with the largest effects on student achievement.

Among the conclusions drawn is that academic improvement may be better measured by examining changes in particular skills rather than global composite measures. Global measures of reading, for example, may not be sensitive enough to report changes in any one particular skill, such as spelling. Yet understanding how a program affects a range of academic skills is important to informing program improvement.

In addition, the review found evidence that it is just as important to consider when academic improvement is assessed as it is to consider how it being assessed, which supports the findings of other studies that suggest programs are likely to produce significant and larger effects when the pretest and posttest are in closer proximity to one another.

Not all extended learning programs supplement academic instruction with enrichment activities and evidence suggests those that don't are not necessarily at a disadvantage. Among the programs included in the review, those that offered academic instruction and enrichment did not appear to be more effective than those without enrichment components. Other recent studies have reported that the evidence for enriching programs to yield more positive academic results is mixed and generally low. One study, for example, found enrichment was beneficial in helping students with math, but not necessarily reading.[19]

The last inference drawn from this review is that there were features of programs, regardless of type, that predicted larger effects. Specifically, small-group instruction and one-on-one tutoring as well as having professional teachers appeared to relate to more effective programs. The finding corroborates previous studies that suggest one-on-one tutoring may be a particularly beneficial strategy for boosting academic achievement.

The review of the research related to extended learning time programs suggests they can be effective mechanisms for improving academic achievement, especially for low-income, low-performing, and racial/ethnic minority students who attend regularly. However, whether extending students' learning time ▸

is an effective strategy for closing the achievement gap that separates low-income students from their more affluent peer is a question for which a definitive answer remains elusive. At the moment, there simply isn't sufficient research specific to the issue from which to draw firm conclusions.

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This Special Report is a summary of the author's original paper, "It's About Time: Extending Learning to Narrow the Achievement Gap." References noted in the text follow.

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