Research Brief

Summer Learning Loss & Year-Round Calendars

June 3, 2016

Highlights

- It is difficult to draw reliable conclusions on the impact of year-round school calendars on student achievement due to the **quality of evidence** currently available; hence, evidence remains suggestive rather than conclusive.
- Decisions to introduce year-round calendars as a means to increase student achievement does not find strong support in the research reviewed for this brief.
- At best, year-round calendars appear to have a **small but positive effect** on student achievement, with a slightly larger effect for students who are economically disadvantaged.
- Studies are more conclusive on the issue of the **summer learning loss**. Many studies reveal that students experience learning loss in the following areas: mathematics (particularly in computations/procedures), spelling and reading. Learning loss has been shown to be higher in mathematics compared to reading and language.
- Several studies show that **summer learning loss differs by socio-economic status (SES)**: students from low socio-economic backgrounds have been shown to have greater learning decay over the summer break in reading and language achievement compared to students from middle income backgrounds.
- Greater summer learning loss of students from low SES backgrounds has been attributed to having fewer literacy resources, summer educational programming, and opportunities to engage in language-based activities compared to students from middle income backgrounds.
- Several studies assessing the impact of summer literacy and educational programming has shown that such programming reduced summer learning loss, particularly among students from low socio-economic backgrounds.

Definitions:

Summer Learning Loss: the loss of academic skills and knowledge over the course of the summer holidays.

Year-Round Calendar: in contrast to traditional school calendars, which have a long summer vacation (approx. 2 months), year-round calendars exchange a longer summer vacation for several shorter breaks at different times of the year, while maintaining the same number of total instructional days as traditional calendars.

Appendices

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- See Appendix 1 for details on the methodology used to conduct this research.
- See Appendix 2 for an annotated bibliography of the articles reviewed for this brief.

Limitations

- The majority of the studies included in the reviewed meta-analysis and the subsequent literature search were from the US. Additionally, many of the studies were conducted in urban environments; hence, the findings may not translate well to the NWT context.

- Given the short time frame to conduct this research, only one meta-analysis/review article could be read in full, followed by a reading of abstracts of more recent articles. Hence, findings and conclusions drawn in this research brief remain tentative, which compromises the ability to use this brief for sound decision-making.

Background

Arguments in favour of shifting from a *traditional school calendar* (long summer break) to a *year-round calendar (YRC),* with the same number of total school days, are largely with respect to one or more of the following reasons:

1) Traditional calendars were based on an agricultural lifestyle, which is now long outdated; hence, YRC would better suit current lifestyles and economic organization;

2) YRC can reduce overcrowding in urban areas and reduce operational costs instead of having to construct new buildings in response to increased enrollment; and

3) Many studies have revealed that students experience "summer learning loss" over the extended summer break, resulting in the need to spend considerable time doing "catch up" early in the fall.

The Numbers

Schools operating on a YRC has increased dramatically in recent decades. In 1985 there were 410 public schools in the US following a YRC. The number has climbed to 3,700 schools, serving almost 2.2 million students in 45 states, as of 2011-2012.[1] As of 2011, the Canadian media reported that there are approximately 100 schools in Canada running on YRC.[2]

Views of Teacher Federations

The Alberta Teacher's Federation (ATA) (1991) discussed YRC on their website and stated that:

> "Year round schooling provides alternatives to existing calendars. Whether these options improve or reduce the quality of education is not generally apparent… The success or failure of YRS depends upon many variables and conditions. Each jurisdiction must examine the feasibility of the concept within its own area. While there will be advantages and disadvantages, it must be

[1] https://www.fas.org/sgp/crs/misc/R43588.pdf
[2] http://www.theglobeandmail.com/news/national/time-to-lead/does-year-round-schooling-make-the-grade/article4261901/

> recognized that the local context, and ideally the students' best interests, will be the final determining factor."[3]

The British Columbia Teachers' Federation (BCTF) also has a website dedicated to the topic of YRC. The association conducted a review of the literature in 1995 and concluded that there were mixed findings on the impact of YCS.[4] The topic of YRC has reemerged in BC in recent years. The BCTF has updated their review of the literature and the association remains opposed to the implementation of YRC due to inconclusive evidence.[5]

Literature Review Findings

Meta-analysis (1975-1994)

The most comprehensive review to date on *summer learning loss*, as identified through a literature search using Ebscohost, was conducted by Cooper et al. (1996). Cooper et al. reviewed 39 research reports dating back as far as the 1920s. For the purposes of this research brief, only the findings from the authors' meta-analysis, which included 13 studies conducted between 1975-1994 will be commented on. Studies prior to 1975 had weaker research methods and may have less currency today.

The main conclusions drawn by Cooper et al. are as follows:

- When the overall effect of summer vacation on standardized test scores is at issue, students appear at best to demonstrate no academic growth over summer.
- At worst, students appear to lose 1 month of grade-level equivalent skills relative to national norms.
- When performance is gauged relative to the student's own fall scores, the worst case scenario seems to be that the average student score in the fall is about one tenth of a standard deviation below the spring average.
- There is also evidence to suggest that these estimates of the effect of summer vacation are conservative or optimistic […] based on the finding that the average number of days in the spring-to-fall testing interval was 131, equivalent to the number of days in the months of June, July, August, and September, plus the first 10 days of October.
- [I]t seems reasonable to assume that that the typical study of summer effects has included at least 5 weeks of instructional time.
- [T]he meta-analysis found that as the length of the summer interval increased [*time between testing periods*], the amount of loss in test scores decreased. Most likely, the longer summer intervals covary more with inclusion of more instructional time rather than longer summer breaks. […] Therefore, the effect of summer vacation would likely be more detrimental, perhaps dramatically so, if it were measured from the day school is dismissed to the day students return. (Cooper et al., 1996, p.259)[6]

[3] http://www.teachers.ab.ca/About%20the%20ATA/Governance/PolicyandPositionPapers/Position%20Papers/Pages/Year-Round%20Schooling.aspx
[4] https://www.bctf.ca/publications/ResearchReports.aspx?id=5608
[5] http://www.bctf.ca/uploadedFiles/Public/Publications/ResearchReports/2012-EI-02.pdf
[6] Note: bullets are direct quotes with exception to text in *italics.*

Only one study in the meta-analysis found positive gains in student learning over the summer. This study had the largest sample size, and thus was weighted more heavily in the weighted meta-analysis. However, this particular study contained a testing interval that included 8 weeks of instruction; hence, it is possible that, if this study's results were adjusted to account for the long testing interval, its results would align with the findings of the other studies.

Cooper et al. found that there were differing effects of summer vacation by ***subject area, family income*** and ***grade****:*

- summer loss was more dramatic for math-related subject areas than for reading or language [*possibly related to the fact that*] mathematics learning may be more restricted to formal school setting. (p.260)
- summer learning loss was much greater for *math computations* and *spelling* compared to other subject areas.
- The greater loss in math computations and spelling may relate to the fact these are forms of *procedural knowledge* that require extensive practice, as opposed to *conceptual knowledge* (e.g. math concepts, problem solving, etc.).
- The meta-analysis revealed no differential effect of summer on mathematics skills of low and middle income students. All students lost math skills over the summer. However, substantial differences were found between income groups for reading and language.
- Middle income children showed greater gains in reading and language achievement. Middle income children showed a non-significant gain in grade-level equivalent reading scores, whereas students of low income backgrounds showed significant loss. On average, summer vacations created a gap of about 3 months between middle and low income students.
- Researchers explained the effect of income by suggesting that low socio-economic status translated directly into fewer learning opportunities and/or less support for learning-related activities during the summer vacation.
- On average, first and second graders showed non-significant gains in achievement over the summer relative to national norms, while students in fourth grade and beyond showed significant losses, some of which were quite dramatic. (Cooper et al., 1996, 260-263)

No differential effect of summer vacation was observed between genders, race, or intelligence level.

Abstract literature review (1995-2016)

To supplement Cooper et al.'s review, a literature search was conducted using Ebscohost to determine if literature published since Cooper's et al. review aligned or deviated from their earlier findings. Given the time limit on this research brief, only abstracts, rather than full studies, could be reviewed.

The criteria for inclusion in this review had to meet the following requirements: 1) article must be peer reviewed; 2) empirical study or review; 3) pertain to at least one year between pre-K to grade 12; 4) concern student achievement/learning (e.g. not about experiences); 5) quantitative (not qualitative, opinion, or discussion papers); 6) and comments on the results/conclusions had to be identified in the abstract.

A total of 14 articles met the inclusion criteria, three of which were review articles that summarized the findings of several independent studies. The articles pertained to the following three themes: 1) impact of summer vacation on learning loss (summer learning loss); 2) the impact of year-round calendars on student achievement; 3) and the impact of summer programming on countering the summer learning loss effect. The last theme on summer programming is arguably out of scope, but was included here as it related on the theme of summer learning loss. Tables 1 and 2 summarize the findings from the abstract review.

Table 1. Summary of findings on *year-round calendars* (YRC) (1995-2016)

YRC	Type/N	Positive	Negative	Neutral	Comment
Cooper et al. (2003)	Review – 39 schools	Yes			Modified calendars associated with small but positive effect; associated with higher achievement for low SES students.
Kneese (1996)	Review – 15 studies	Yes			YRC producing a positive, but small effect on academic performance compared to traditional calendars.
Wu et al. (2010)	Study – 4,569 schools			Yes	YRC did not affect the outcome or growth in scores.
Graves, J. (2011)	Study – N/A		Yes		Significant negative relationship found between YRC and test performance.
Kneese et al. (1995)	Study – 933 participants	Yes			Significant differences between school types favouring YRC, particularly for at-risk students.
Shields et al. (1999)	Study – N/A	Yes		Yes	YRC achievement is statistically as good or better than traditional schools.
Total		**4**	**1**	**2**	

A vote count on the impact of YRC on student performance for studies or reviews conducted between 1995 and 2016 is a follows: positive impact (4); negative impact (1); and neutral impact (2). The study by Shield's et al. was counted twice (positive & neutral) due to the ambiguity of the conclusion drawn in the abstract. Arguably Cooper et al. (2003) and Kneese (1996) findings should be given greater weight since these were *review* articles which covered multiple independent studies. A fair conclusion based on these results is that YRC is likely related to a positive, but small, increase in student achievement.

Table 2. Summary of findings on *summer learning loss* (SLL) (1995-2016)

SLL	Type/N	Gain	Loss	Neutral	Comment
Alexander et al. (2007)	Review – N/A		Yes		Concludes that racial/ethnic disparities in academic achievement largely originate from summer learning gaps.
Lawrence, J. (2012)	Study - N = 278		Yes		Summer loss for all (vocabulary), though greater setbacks for those without English spoken in the home.
Johnston et al. (2015)	Study - N/A		Yes		Decline in reading achievement over summer break.
Jesson, R. (2014)	Study – N/A		Yes		Summer losses were evident (participants were all from low SES backgrounds), but variable across students and classes. Subject: reading.

Sandberg Patton et al. (2013)	Study – N = 317		Yes	Yes	Grade 2 &3 evidenced summer loss; grade 4 & 5 did not exhibit loss; grade 2 students exhibited differential loss depending on family income and SPED status. Subject: reading.
Gershenson (2013)	Study – N/A	N/A	N/A	N/A	Author did not access whether students exhibited learning loss but investigated summer *time use* of students of differing income groups to explain factors that contribute to different rates of learning loss. Author finds significant differences in time use, notably in TV watching.
Total			**5**	**1**	

A vote count on the summer learning loss for studies or reviews conducted between 1995 and 2016 is a follows: gain (0); loss (5); and neutral (1). The study by Sandberg Patton et al. was counted twice (loss & neutral) due to the fact that some grade levels experienced loss while others had no change. These findings align with earlier studies described by Cooper et al. (1996), and hence it is fair to conclude that *summer learning loss* is well established in the literature, with several studies showing that summer break has a differential effect on income groups.

Four of the reviewed abstracts assessed whether summer programming as an intervention could minimize summer learning loss. Johnston et al. (2015) found that a 3 week summer program for students from low socio-economic (SES) backgrounds reduced the summer learning effect. Students in the study started the new school year with higher percentile ranks than the previous spring. Burgin et al. (2008) found that students from low SES backgrounds who attended summer programming showed significant improvement in literacy and significant loss for those who did not. A small study by Graham et al (2011) showed that at-risk students (pre-K) who attended a 5 week summer literacy program had gains in literacy skills. These studies further confirm the existence of the *summer learning loss* effect, and have shown how educational interventions during summer months can help curb the learning decay.

Due to the fact that only abstracts could be reviewed for literature between the years 1995-2016, it was not possible to assess the methodological rigour of each study. Hence, the results presented here remain suggestive rather than conclusive.

Appendix 1

Methodology

Step 1:

A literature search was conducted in an attempt to find an existing systematic literature review and/or a meta-analysis on the impact of summer vacation on learning loss (summer learning loss) or the impact of year-round calendars on student achievement/learning.

Academic search engine used: Ebscohost

Ebsco databases searched: 1) Education Source, 2) Academic Search Complete, 3) OmniFile Full Text Select (H.W. Wilson), 4) Psychology and Behavioural Sciences Collection

Search Query:

("summer intercession" OR "summer school" OR "summer break" OR "summer loss" OR "summer learning loss" OR “summer learning effect” OR "summer vacation" OR "year-round schooling" OR "year-round calendar" OR "alternative school calendar" OR "alternative school year" OR "balanced school year") AND ("achievement" OR "loss" OR "learning") AND (review OR meta-analysis)

The following article was the most comprehensive review to date identified in the search query. This article was read and analyzed in full:

Cooper et al. (1996). The effects of summer vacation on achievement test scores: a narrative and meta-analytic review. *Review of Educational Research*, 66(3), 227-268.

Step 2:

Given that the review by Cooper et al. (1996) was 20 years old, another search query was conducted to determine whether the findings of more recent studies aligned or diverged from the conclusions drawn in Cooper et al.’s study. The same academic search engine and databases were used.

Search query:

("summer break" OR "summer loss" OR "summer learning loss" OR “summer learning effect” OR "year-round schooling" OR "year-round calendar" OR "alternative school calendar" OR "alternative school year") AND ("achievement" OR "loss" OR "learning" OR "gap")

Inclusion criteria:

1) article must have been peer reviewed; 2) empirical study or review; 3) pertain to at least one year between pre-K to grade 12; 4) concern student achievement/learning (e.g. not about experiences); 5) quantitative (not qualitative, opinion pieces, or discussion papers); 6) comments on the results/conclusions had to appear in the abstract; 7) articles published between years 1995-2016.

Given tight timelines, only abstracts, rather than full articles, could be reviewed.

Appendix 2

Annotated Bibliography

Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2007). Summer learning and its implications: Insights from the Beginning School Study. *New Directions for Youth Development, 2007*(114), 11–32.

There is perhaps no more pressing issue in school policy today than the achievement gap across social lines. Achievement differences between well-to-do children and poor children and between disadvantaged racial and ethnic minorities and majority whites are large when children first begin school, and they increase over time. Despite years of study and an abundance of good intentions, these patterned achievement differences persist, but who is responsible, and how are schools implicated? The increasing gap seems to suggest that schools are unable to equalize educational opportunity or, worse still, that they actively handicap disadvantaged children. But a seasonal perspective on learning yields a rather different impression. Comparing achievement gains separately over the school year and the summer months reveals that much of the achievement gap originates over the summer period, when children are not in school. The authors review Beginning School Study research on differential summer learning across social lines (that is, by family socioeconomic level) and its implications for later schooling outcomes, including high school curriculum placements, high school dropout, and college attendance. These studies document the extent to which these large summer learning differences impede the later educational progress of children of low socioeconomic status. Practical implications are discussed, including the need for early and sustained interventions to prevent the achievement gap from opening wide in the first place and for high-quality summer programming focused on preventing differential summer learning loss. [ABSTRACT FROM AUTHOR]

Burgin, J. S. ., & Hughes, G. D. ., gdhughes@ualr.ed. (2008). Measuring the Effectiveness of a Summer Literacy Program for Elementary Students Using Writing Samples. *Research in the Schools*, *15*(2), 55–64.

To prevent summer achievement loss and help ensure Adequate Yearly Progress (AYP) for all students as mandated by No Child Left Behind (NCLB), school districts are enacting summer enrichment programs. To determine effectiveness, additional student assessments are often required and instructional time is reduced. The goals of this study were to collect data within the schools existing assessment framework for program evaluation and to examine how the summer break impacts low-SES students' literacy scores (n = 236). Results indicated statistically significant summer improvement in writing for kindergarten, third-, and fourth-grade participants, and a statistically significant summer loss for first and second graders who did not attend. With some enhancements to administration and scoring, assessments that teachers already collect have the potential for credible program evaluation use. [ABSTRACT FROM AUTHOR]

Cooper, H. M., Nye, B. A., & Charlton, K. (1996). The effects of summer vacation on achievement test scores: a narrative and meta-analytic review. *Review of Educational Research, 66,* 227–268.

A review of 39 studies indicated that achievement test scores decline over summer vacation. The results of the 13 most recent studies were combined using meta-analytic procedures. The meta-analysis indicated that the summer loss equaled about one month on a grade-level equivalent scale, or one tenth of a standard deviation relative to spring test scores. The effect of summer break was more detrimental for math than for reading and most detrimental for math computation and spelling. Also, middle-class students appeared to gain on grade-level equivalent reading recognition tests over summer while lower-class students lost on them. There were no moderating effects for student gender or race, but the negative effect of summer did increase with increases in students' grade levels. Suggested explanations for the findings include the differential availability of opportunities to practice different academic material over summer (with reading practice more available than math practice) and differences in the material's susceptibility to memory decay (with fact- and procedure-based knowledge more easily forgotten than conceptual knowledge). The income differences also may be related to differences in opportunities to practice and learn. The results are examined for implications concerning summer school programs and proposals concerning school calendar changes.

Cooper, H., Valentine, J. C., Charlton, K., & Melson, A. (2003). The Effects of Modified School Calendars on Student Achievement and on School and Community Attitudes. *Review of Educational Research, 73*(1), 1.

Offers a synthesis of studies on the effects of modifying the academic calendar in Grades K-12 to do away with the long summer break while not increasing the length of the school year. Origins of, and alternatives to, the traditional school calendar; Discussion on the use of modified calendars in the U.S.; Methods for attitude-related data synthesis; Results on achievement outcomes.

Gershenson, S. (2013). Do Summer Time-Use Gaps Vary by Socioeconomic Status? *American Educational Research Journal, 50*(6), 1219–1248.

Several scholars have suggested that differential rates of summer learning loss contribute to the persistence of achievement gaps between students of different socioeconomic backgrounds. To better understand the possible determinants of summer learning loss, a test for summer-specific differences by socioeconomic status (SES) in children's time spent in activities related to cognitive development and parental time spent interacting with children is conducted using data from two time-diary surveys: the Activity Pattern Survey of California Children and the American Time Use Study. Tobit-model estimates provide evidence of statistically and practically significant summer-SES time-use gaps, most notably in children's television viewing. [ABSTRACT FROM PUBLISHER]

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 & Care, 181*(5), 575–585.

School summer vacation may create a significant gap in the learning cycle. Such a gap may be particularly detrimental for vulnerable children such as those with lower academic achievement due to learning and language disabilities, lower socio-economic environments or learning in a language other than their native language. The current exploratory study investigated the efficacy of a summer family literacy programme on the reading achievement of 14 four-year-old children completing their pre-kindergarten year. All participating children were identified by their classroom teacher and a subsequent reading assessment to

be at-risk for reading difficulties. Children and one of their primary caregivers participated in a five-week summer literacy programme. The programme consisted of literacy-based activities for both children and caregivers. The results of the study indicated that children demonstrated significant gains in all aspects of literacy, thus reversing the summer learning loss expectancy. [ABSTRACT FROM AUTHOR]

Graves, J. (2011). Effects of year-round schooling on disadvantaged students and the distribution of standardized test performance. ***Economics of Education Review, 30*****(6), 1281–1305.**

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

Jesson, R., McNaughton, S., & Kolose, T. (2014). Investigating the summer learning effect in low SES schools. ***Australian Journal of Language & Literacy, 37*****(1), 45–54.**

The term “summer learning effect” (SLE) is used to describe the situation that often occurs in schools serving low socio-economic status (SES) communities, where achievement plateaus or declines over summer. The effect limits cumulative gains over time and creates a barrier to schools’ effectiveness. Although the phenomenon itself is well documented there is little research evidence for how to overcome the effect in local communities. We examined the profile of students’ reading losses over summer in low SES schools in New Zealand and found that summer loss is variable across students and classes. We describe the nature of that variability, seeking to identify factors that may make a contribution to overcoming the summer learning effect in reading in low SES schools. Once identified, these factors can form the basis of a locally relevant summer reading programme. [ABSTRACT FROM AUTHOR]

Johnston, J., Riley, J., Ryan, C., & Kelly-Vance, L. (2015). Evaluation of a Summer Reading Program to Reduce Summer Setback. ***Reading & Writing Quarterly, 31*****(4), 334–350.**

Summer setback, which is defined as a decline in academic achievement over the summer months, occurs in many academic areas but seems especially problematic in reading. We assessed students from a midwestern parochial school serving predominantly students from a low–socioeconomic status background for their reading achievement before they left for summer break in the spring and again at the start of the school year in the fall. We observed a significant decline in reading achievement. However, we observed a reduction in the effects of the setback in students who participated in a 3-week summer reading program that incorporated evidence-based reading fluency and comprehension strategies. Participants in the program significantly increased their reading achievement over the course of the summer program and started the school year with percentile ranks in reading that were higher than those at the end of the previous school year. [ABSTRACT FROM PUBLISHER]

Kneese, C. C. (1996). Review of research on student learning in year-round education. ***Journal of Research & Development in Education, 29,*** **60–72.**

Restructuring of schools has been suggested as a means of addressing the issues associated with increasing student school populations of diverse abilities and needs, and the revision of the school calendar from the traditional 9-month calendar to a year-round calendar (YRE) is one reform idea proposed to meet these needs. Considering the sweeping chances influenced by the trend toward excellence in education this meta-analytic research focused upon the impact of year-round education on student academic performance. Fifteen studies from the last decade compared achievement effects of year-round education to traditional-calendar students over a period from 1 to 4 years or more. The results suggest that, overall, YRE is producing a positive, but very small effect. When disaggregated according to track, single-track YRE was producing a small effect, which was stronger than the multitrack YRE program. Reprinted by permission of the publisher.

Kneese, C. C., & Knight, S. L. (1996). Evaluating the achievement of at-risk students in year round education. ***Planning & Changing, 26,*** **71–90.**

A study investigated whether year round education (YRE) increases academic performance, particularly for the at-risk learner. Subjects were 933 students in grades 4–6: Year round calendar students numbered 311, traditional calendar students numbered 311, and at-risk students numbered 311. Statistically and practically significant differences were discovered in student achievement that favored the YRE calendar. It appears that YRE was particularly effective for at-risk students in reading and that the academic performance of at-risk learners and of the entire student body can be increased by YRE, a finding that has implications for future research and program design in the education of disadvantaged students. The YRE program appears to provide many academic opportunities, especially in terms of outcomes pertaining to equity.

Lawrence, J., jflawren@uci.edulawrenjo@gse.harvard.ed. (2012). English vocabulary trajectories of students whose parents speak a language other than English: steep trajectories and sharp summer setback. *Reading & Writing, 25*(5), 1113–1141.

In this study, I used individual growth modeling methods to examine the English word-learning trajectories of adolescent students (N = 278) whose parents speak English at home (n = 210) and those whose parents speak a language other than English (n = 68). Sixth- (n = 130) and seventh-grade (n = 148) students attending an urban middle school took part in the study, with each student contributing up to four occasions of vocabulary-achievement data across three school years. I used the group reading and diagnostic evaluation (GRADE), a 40-item, group-administered assessment to measure vocabulary achievement. Students also provided information about the amount of time they spent reading independently during the summer and during the school year. Principal predictor variables included days between assessments, student home language, student free and reduced lunch status, time spent independent reading, and a dummy variable for the number of summers experienced between testing periods. On average, middle-school students experienced a loss of vocabulary over the summer, however students who spoke a language other than English at home had more pronounced summer setback and steeper learning trajectories, even when controlling for well-known predictors of vocabulary like independent reading and predictors of summer loss like free and reduced lunch status. These findings

corroborate research showing low-income students experience summer loss, but suggest that in urban schools serving mostly low-income students, home-language status may be a stronger predictor of summer loss than socio-economic status or reading amount. [ABSTRACT FROM AUTHOR]

Sandberg Patton, K. L., & Reschly, A. L. (2013). USING CURRICULUM-BASED MEASUREMENT TO EXAMINE SUMMER LEARNING LOSS. *Psychology in the Schools, 50*(7), 738–753.

Summer loss of reading is a potential factor in maintaining, and potentially widening, the achievement gap. This study used curriculum-based measurement of reading (R-CBM) to investigate the effect of the summer on reading. For this study, 317 students in Grades 2 to 5 were assessed in the spring and fall using Dynamic Indicators of Basic Early Literacy Skills Oral Reading Fluency (ORF) measure. Repeated measures analysis of variance modeled overall change in ORF scores by grade, family income, ethnic minority status, English language learner status, and special education (SPED) status. Students in Grades 2 and 3 evidenced overall summer loss, whereas students in Grades 4 and 5 did not exhibit summer loss. In addition, students in Grade 2 showed differential loss based on family income and SPED status. These results support the broadening application of R-CBM and add to the summer loss literature. Findings are discussed relative to prevention and intervention. [ABSTRACT FROM AUTHOR]

Shields, C. M., & Oberg, S. L. (1999). What can we learn from the data? Toward a better understanding of the effects of multitrack year-round schooling. *Urban Education, 34*(2), 125–154.

A study compared the effects of traditional and year-round school (YRS) calendars on student achievement and nonacademic outcomes. Longitudinal data from the Delphi school district in Utah concerning student academic performance over a period of six years were analyzed, and surveys and interviews were carried out with students, parents, teachers, and administrators from three traditional schools and three YRS from the district. Results indicated that academic achievement in multitrack YRS is statistically as good as or better than student achievement in traditional schools. Moreover, there were no meaningful differences in nonacademic outcomes between students in YRS and traditional calendar schools, and interviews with teachers and administrators indicated that, for the most part, positive changes in the teaching and learning environment accompanied a calendar change from traditional to year-round schooling. The findings

suggest that YRS may offer a viable educational option for educators seeking solutions to contemporary dilemmas facing urban areas.

Wu, A. D. ., & Stone, J. E. . (2010). Does Year Round Schooling Affect the Outcome and Growth of California's API Scores? *Journal of Educational Research & Policy Studies*, *10*(1), 79–97.

This paper examined whether year round schooling (YRS) in California had an effect upon the outcome and growth of schools' Academic Performance Index (API) scores. While many previous studies had examined the connection between YRS and academic achievement, most had lacked the statistical rigour required to provide reliable interpretations. As a response, this study used data collected from 4,569 schools over six years and two integrated and more sophisticated statistical techniques — mixed analysis of covariance and latent growth model. Results showed that YRS did not affect either the outcome or the growth of API scores. [ABSTRACT FROM AUTHOR]