Abstract Title Page

Not included in page count.

Title:

Choosing More School: Extended Time Policies and Student Achievement across Seasons in Charter and Traditional Public Schools

Authors:

Marc L. Stein and Bess A. Rose

Johns Hopkins University

Abstract Body

Limit 5 pages single spaced.

Background / Context:

Description of prior research and its intellectual context.

Extended learning or instructional time can take many forms: it can be provided by schools themselves, in the form of longer school days, longer school years, or separate summer programs; this extra time can consist of longer time given to the same subjects, time for additional subjects that would not otherwise have been taught, or different instructional methods that are intended to teach the same material in new ways (e.g., experiential learning, "hands-on" learning, small-group or one-on-one tutoring).

Research suggests that the extension of learning time for students during the school day, school year and over the course of the summer can be effective (e.g., Cooper, Charlton, Valentine, & Muhlenbruck, 2000; Cooper, Valentine, Charlton, & Melson, 2003; Grossman et al., 2002). As a recent review demonstrates, there is some evidence that extended day and year policies may have positive effect on student academic achievement, especially for low-income, minority, or low-achieving students (Patall, Cooper, & Allen, 2010). Similarly, studies of the impact of after-school programs suggest that out-of-school time programs help boost academic achievement, although the evidence is clearer for at-risk students (Lauer, 2006; Fashola, 1998), as well as social-emotional outcomes (Durlak & Weissberg, 2007). Summer programs appear to be particularly effective for students from low-income families. Extended time policies may be especially important given research that has documented inequalities between students in achievement growth during the school year and summer (e.g., Alexander, Entwisle, & Olson, 2001; Downey, von Hippel, & Broh, 2004; Heyns, 1987; Stein, 2010).

Charter schools may be particularly well-suited to provide effective extended learning time. The policy argument for charter schools is that increased levels of autonomy and flexibility should allow charters to operate more innovatively than traditional public schools (Chubb & Moe, 1990). Although findings from research into the relative effectiveness of charter schools on student achievement have been widely debated (e.g., Center for Research on Education Outcomes, 2009; Gleason, Clark, Tuttle, & Dwoyer, 2010; Hoxby, Murarka, & Kang, 2009), evidence of the degree to which charter schools actually implement practices that can be expected to improve student academic performance, and the relative impact of these practices on student achievement, is lacking (Bulkley & Fisler, 2003; Zimmer & Buddin, 2007; Berends, Goldring, Stein, & Cravens, 2010). Prior studies have examined a variety of instructional and organizational school characteristics, including teacher- and school-level supports for teaching and learning (Berends et al., 2010); efficiency (Carpenter & Noller, 2010); teacher attitudes and school climate (McDonald, Ross, Bol, & McSparrin-Gallagher, 2007) and working conditions for teachers (Malloy Wohlstetter, 2003).

Notable examples of charter schools that purport to implement longer school days or years include the Edison model (Gill et al., 2007) and the Knowledge is Power Program (KIPP) (David, Woodworth, Grant, Guha, Lopez-Torkos, & Young, 2006). Results from prior studies that examine the implementation of extended instructional time in charter schools as a whole are mixed. Hamilton's (2003) and Zimmer and Buddin's (2007) studies of principals in California found that charter schools have longer instructional days than traditional public schools, although Zimmer and Buddin found this was only at the middle and high school levels, not elementary. The 2010 charter school evaluation conducted by IES found that charter lottery winners attended schools that had longer school days than those attended by lottery losers (7.2 hours versus 6.7 hours), but this study included only middle schools and study schools were not necessarily representative of charter schools nationally (Gleason, Clark, Tuttle, Dwoyer, 2010).

Purpose / Objective / Research Question / Focus of Study:
Description of the focus of the research.

This paper looks at the potential mediating effects of extended time policies in sample of traditional public schools and schools of choice o student achievement in reading and mathematics during the school year and over the summer. We ask the following research questions:

1. Do charter schools in the sample exhibit greater usage of extended time policies than a matched sample of traditional public schools?
2. Do extended time policies have positive influences on student achievement growth in mathematics and reading during the school year and summer time?

Setting:
Description of the research location.

Data for this study was collected from a sample of traditional public and charter schools that partner with the Northwest Evaluation Association (NWEA) for interim achievement testing administration and services. Schools in our analysis sample are located across states and range of inner city, suburban and rural locals.

Population / Participants / Subjects:
Description of the participants in the study: who, how many, key features or characteristics.

The analysis sample for this paper includes 3 charter schools and 3 matched traditional public schools. Matches were based on the range of grades served, racial and socioeconomic demographics of the student population and proximity.

From the 6 schools we are able to locate 10,971 unique students with 29,690 unique testing events in reading and 29,986 in mathematics across the three testing points (Fall 2007, Spring 2008, Fall 2008).

Intervention / Program / Practice:
Description of the intervention, program or practice, including details of administration and duration.

This study examines the usage of extended time practices and policies that are extant in the sample of traditional public and charter schools as reported by school principals. Principals were instructed to indicate with either a yes or no if their school used any of the following strategies regarding time during the 2007-2008 school year: *mandatory* or *voluntary* [emphasis on survey] before-school, after-school or weekend tutorial instructional programs for students, *mandatory* or *voluntary* summer school or tutorial programs, and year-round instructional calendar.

Research Design:
Description of research design (e.g., qualitative case study, quasi-experimental design, secondary analysis, analytic essay, randomized field trial).

Survey, quantitative, quasi-experimental

Data Collection and Analysis:
Description of the methods for collecting and analyzing data.

Data were obtained by the National Center on School Choice (NCSC) from the Growth Research Database, maintained by the Northwest Evaluation Association, and the National Center for Education Statistics (NCES) Common Core of Data (CCD). The NCSC administered principal surveys in the 2007-200 school year. School data collected from the principals was linked to testing records for all students in those schools in grades 2 – 5 from the fall of 2007 to the fall of 2008 for a total of three test points. This panel allows for the estimation of separate school year and summer learning growth slopes.

For this analysis series of three-level hierarchical linear growth models are specified that will account for the nesting of student testing events in students, which are in turn nested in schools. This methodological approach allows for the comparison of achievement growth rates during the summer season with those during the school year. This design also allows for the examination of the effect of school-level extended time policies on both seasonal growth rates.

Findings / Results:

Description of the main findings with specific details.

Preliminary results indicate that the reported usage of any of the extended time policies that we examined does not statistically depend on school sector. Table 1 provides a breakdown of extended time usage policies by sector. Very few schools, regardless of sector, indicate that they use mandatory extended time policies during the school year or summer and very few schools operate on year round calendar. A large majority of elementary schools in both sectors report offering voluntary tutorial instructional programs during the school year and during the summer time.

Examination of the pattern of extended time program offerings (see Table 2) show that the majority of schools offer only voluntary extended time programs during the school year and the summer (Pattern 1), very few schools offer no extended time programs (Pattern 4) and conversely none offer all extended time programs. With respect to school sector, Table 2 does not illustrate any clear differentiation in the mix of offerings between charters and traditional public schools.

Estimates from preliminary models show the expected pattern of summer slide in student achievement growth in reading and mathematics during the summer that has been documented in other research (e.g., Alexander et al., 2001; Downey et al., 2004; Stein, 2010). During the school year only voluntary tutorials were estimated to have statistically significant positive influence on student achievement growth in mathematics but not in reading. Year round schooling was estimated to have small negative influence on student growth rates in both mathematics and reading net of student and school characteristics. However students in year round schools are exposed to the negative effects of the summer on average four and a half less weeks than students in traditionally calendared schools. Therefore even though growth is slower, the net influence of year round schooling on achievement growth over the course of a full year is greater than in traditionally calendared schools. Estimates of summer time growth indicate a possible negative influence of mandatory summer school o reading achievement growth but no statistically significant influence on mathematics growth whereas estimates of voluntary summer school indicate a potentially large positive influence in mathematics but none in reading.

Conclusions:

Description of conclusions, recommendations, and limitations based on findings.

This study looks at the question of whether charter schools are more innovative in their provision of extended time policies than matched set of traditional public schools. At least in this sample of schools we do not find evidence that charters are more or less innovative than traditional public schools as the pattern and level of usage of these policies appear to be similar in both sectors. This finding brings up a limitation of this study in that conclusions can only be drawn about this particular sample of schools and cannot speak to innovation in charter schools as a whole. Preliminary estimates on the relationships between extended time policies point to two conclusions. First, at least in this sample, it appears that the provision of voluntary extended time programs may be more effective than mandatory programs. Second, the policy with the clearest influence on student growth rates in both subjects is year round instructional calendar. While estimated growth rates are lower during the school year than in traditionally calendared schools, the net effect of a longer school year is that students are exposed to the summer for a shorter period of time and therefore experience a smaller summer set back in achievement, leading to them returning to school in the following year at higher level than peers in traditionally calendared school years.

Appendices

Not included in page count.

Appendix A. References

References are to be in APA version 6 format.

Alexander, K., Entwisle, D., & Olson, L. (2001). Schools, achievement, and inequality: seasonal perspective. *Educational Evaluation an Policy Analysis, 23*(2), 171-191.

Berends, M., Goldring, E., Stein, M., & Cravens, X. (2010). Instructional conditions in charter schools and students' mathematics achievement gains. *American Journal of Education, 116* 303-335.

Bulkley, K., & Fisler, J. (2003). decade of charter schools: From theory to practice. *Educational Policy*, *17*(3), 317-342.

Center for Research o Education Outcomes. (2009). Multiple Choice: Charter School Performance in 16 States. Stanford, CA: Center for Research on Education Outcomes (CREDO).

Chubb, J. E., & Moe, T. M. (1990). Politics, Markets, and America's Schools. Washington, DC: Brookings Institution.

Cooper, H., Charlton, K., Valentine, J., & Muhlenbruck, L. (2000). Making the Most of Summer School: A Meta-Analytic and Narrative Review. Monographs of the Society for Research in Child Development (Vol. 65).

Cooper, H., Valentine, J., 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), 1-52.

David, J. L., Woodworth, K., Grant, E., Guha, R., Lopez-Torkos, A., & Young, V. (2006). *San Francisco Bay Area KIPP Schools.* SRI Center for Education Policy. Retrieved September 27, 2010, from http://policyweb.sri.com/cep/publications/KIPPYear_1_Report.pdf

Deily, M. P. (2010, September 21). Federal after-school funding bill divides community: Federal measure would allow use of money to expand in-school time. *Education Week 30*(4), 19.

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.

Durlak, J. A., & Weissberg, R. P. (2007). The impact of after-school programs that promote personal and social skills. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning.

Fashola, O. S. (1998). Review of extended-day and after-school programs and their effectiveness (Report No. 24). Baltimore, MD: Center for Research on the Education of Students Placed at Risk.

Gill, B. P., Hamilton, L. S., Lockwood, J. R., Marsh, J. A., Zimmer, R. W., Hill, D., & Pribesh, S. (2007). *Inspiration, perspiration, and time operations and achievement in Edison Schools* RAND.

Gleason, P., Clark, M., Tuttle, C. C., & Dwoyer, E. (2010). *The Evaluation of Charter School Impacts: Final Report* (NCEE 2010-4029). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Grossman, J., Price, M., Fellerath, V., Jucovy, L., Kotloff, L., Raley, R., & Walker, K. (2002). Multiple Choices After School: Findings from the Extended-Service Schools Initiative. MDRC.

Hamilton, L. (2003). Academic environments of charter and conventional public schools. In R. Zimmer, R. Buddin, D. Chau, G. Daley, B. Gill, C. Guarino, L. Hamilton, C. Krop, D. McCaffrey, M. Sandler, and D. Brewer, *Charter School Operations an Performance: Evidence from California.* RAND, Santa Monica, 115–141.

Heyns, B. (1987). Schooling and Cognitive Development: Is There a Season for Learning? *Child Development, 58*(5), 1151-1160.

Hoxby, C. M., Murarka, S., & Kang, J. (2009). How New York City's charter schools affect achievement. Cambridge, MA: New York City Charter Schools Evaluation Project.

Lauer, P. A., Akiba, M., Wilkerson, S. B., Apthorp, H. S., Snow, D., & Martin-Glenn, M. L. (2006). Out-of-school-time programs: A meta-analysis of effects for at-risk students. *Review of Educational Research 76*(2), 275-313.

Malloy, C. L., & Wohlstetter, P. (2003). Working conditions in charter schools: What's the appeal for teachers? *Education an Urban Society 35*(2), 219-241.

McDonald, A. J., Ross, S. M., Bol, L., & McSparrin-Gallagher, B. (2007). Charter schools as a vehicle for education reform: Implementation and outcomes at three inner-city sites. *Journal of Education for Students Placed at Risk (JESPAR) 12*(3), 271–300.

Patall, E. A., Cooper, H., & Allen, A. B. (2010). Extending the school day or school year: A systematic review of research (1985-2009). *Review of Educational Research, 80* 401-436.

Stein, M. (2010). The Role of Neighborhood and School Contexts on Seasonal Inequalities in Student Academic Achievement. Presented at the American Educational Research Association Annual Meeting, Denver, CO.

U. S. Department of Education (USDE). (2003). *21st Century Community Learning Centers: Non-regulatory guidance* Washington, DC: Author.

Zimmer, R., & Buddin, R. (2007). Getting inside the black box: Examining how the operation of charter schools affects performance. *Peabody Journal of Education 82*(2), 231–273.

Appendix B. Tables and Figures

Not included in page count.

Table 1: Extended time programs by school sector†

Extended Time Policy		TPS	CPS	Pr‡
Tutorials	Mandatory	2 (6.7)	5 (16.7)	0.424
	Voluntary	24 (80.0)	27 (90.0)	0.472
Summer school	Mandatory	4 (13.0)	4 (13.0)	1.000
	Voluntary	22 (73.0)	23 (76.7)	1.000
Year Round		3 (10.0)	4 (13.3)	1.000

†percentage given in parentheses

‡p-value of two-sided Fischer's exact test

Table 2: Pattern of extended time program offerings

Pattern	Extended Time Policy						TPS	CPS	Total Schools
	Tutorials		Summer School		Year Round School	Total Number Offered			
	Mandatory	Voluntary	Mandatory	Voluntary					
1	No	Yes	No	Yes	No	2	15	16	31
2	No	Yes	No	No	No	1	2	3	5
3	No	Yes	Yes	Yes	No	3	2	2	4
4	No	No	No	No	No	0	3	0	3
5	No	No	No	Yes	No	1	2	1	3
6	No	Yes	No	Yes	Yes	3	2	1	3
7	No	Yes	No	No	Yes	2	1	1	2
8	Yes	Yes	Yes	Yes	No	4	0	2	2
9	No	No	No	No	Yes	1	0	1	1
10	No	Yes	Yes	No	No	2	1	0	1
11	Yes	No	No	Yes	No	2	0	1	1
12	Yes	Yes	No	No	No	2	0	1	1
13	Yes	Yes	No	No	Yes	3	0	1	1
14	Yes	Yes	No	Yes	No	3	1	0	1
15	Yes	No	Yes	No	No	2	1	0	1