Configuration Timeline (Seller, Paglin, Franklin and Howley)

"Configuring schools by grade is a practice influenced by history, psychology, sociology, and pedagogy. With all of these social sciences to draw on for knowledge and direction, configuring schools remains a process with inexact guidelines." (Seller)

This situation exists for a variety of reasons, but primary among them is the complexity of the reasons for considering various combinations of grades in the schools. Even though what is best for the student is central to the decision, administrative issues related to finances, transportation, space usage, and others can affect the final decision." (Seller)

Mid-1800's -

Majority of US schools are ungraded, one teacher schools servicing rural community with about 30 elementary aged children. The concept of dividing a school by grade/child age starts in Boston.

1915 – Concept of larger, centralized schools being able to provide more and better education and resources grows. Popularity of K-8 configuration follows. K-12 configuration emerges in rural community.

Post WWI

Better Roads + Better Transportation + Rural Economic Decline + Focus On Educational Management Efficiently = Consolidation of Larger Geographic Areas.

K-8 – Basic education for all citizens & sufficient for most jobs at the time
9-12 – Preparation for specialized work

Idea of junior high configuration begins. Typically grades 7-9. Preparation for High School. Similar structure to high schools.

1920 – Four out of five high school graduates attended K-8 elementary school and a four year high school

1960 – Four out of five high school graduates attended an elementary school, three-year junior high and 3-year senior high.

Mid 1960s

Idea of a middle school configuration begins. Typically grades 6-8. Child centered, interdisciplinary team teaching, advisory programs, more electives and varied curriculum compared to junior high.

1970s – Popularity of junior highs peak, and then decline with popularity of middle school configuration.

Mid 1990's

Idea of 9th grade only campuses begins. Purpose is to better prepare for high school & meet needs/challenges specific to adolescent age group.

1997 – only 1100 K-12 schools remain, mainly in rural areas.

2000's – Most common grade-span configurations are K-5, K-6, 6-8 or 7-9 and 9-12. Popularity of each varies by locale.

K-5 more common in urban
K-8 more common in rural and suburban.
K-2 most common in rural and small towns.
K-12 & K-8 configurations remain popular within private schools (Jacob)

Transition Effects of School Grade-Level Organization on Student Achievement Alspaugh, John W. & Harting, Roger D. (1995)

This study took all 540 Missouri school districts and divided them up based on grade configuration into 5 groups; K-4, K-5, K-6, K-7 and K-8. Data from the Missouri Mastery Achievement Test (MMAT), which tests grade 2-10, was taken from 4th graders f The MMAT is statewide for grades 2-10 and includes reading & mathematics. Test score data is pulled from...

4th graders May 1989
5th graders May 1990
6th graders May 1991
7th graders May 1992
8th graders May 1992

Starting with the transition from 4th to 5th grade, the study looks at average MMAT test scores for each of the 5 configuration categories across each of the four grade transitions between 4th and 8th grade.

Reading

Data shows a measurable drop in average test score results for any transition out of the elementary school setting but appear to recover within one or two school years. Average reading test scores for K-8 students do not decline between any grade transition and consistently had higher reading test scores compared to students in the other configurations that included a transition out of an elementary school setting.

Mathematics

Data shows that for K-4, K-5 and K-6 configurations there is a similar decline in average test scores when students transition out of an elementary school setting. For K-5 and K-6, those averages do not recover before the transition to high school.

For students in K-7 configurations, the data shows the transition out of an elementary school setting had no effect on test score averages one way or the other and, while in 5th grade, had better average test score results than K-8 students. Additionally, even though both K-5 and K-6 students saw a drop in test score averages when they transitioned out of the elementary school setting and that those scores didn't recover before transitioning to high school, 8th graders coming from K-5 and K-6 configurations had math test scores higher than that of 8th graders in an K-8 configuration.

The Relationship Between Grade Configuration and Student Performance in Rural Schools
Bobby J. Franklin & Catherine H. Glascock (Oct. 1996)

This paper presents empirical findings on the relationship between a school's grade configuration, student achievement, and persistence in grades six through twelve. Persistence indicators are attendance, suspensions, expulsions, and dropouts. Achievement is represented through state and national tests.

Specifically examined are the achievement and persistence indicators of students as they relate to school grade structure for grades six through twelve in **Louisiana** public schools.

Conclusions for Grades 6 and 7
Results show that sixth- and seventh-grade students performed better in elementary and K-12 schools than in middle or secondary schools, in terms of both achievement and persistence. Students in K-12 schools performed as well as those in elementary schools overall and performed better in some cases (grade 6 and high poverty).

Conclusions Grades 9-12
For grades 9-12, the K-12 school was more beneficial to students than the traditional secondary school, particularly in the area of student persistence or conduct. With regard to academic achievement, secondary schools did not differ significantly from K-12 schools regardless of school size or SES. School size did appear to impact 11th- and 12th-grade student persistence more within the secondary school environment than that of the K-12 school.

Elementary and combination (k-12) school learning environments are more beneficial to students than either the middle or secondary school learning environments. This is true for both academic performance as well as for student persistence.

The combination school (K-12) appears to have positive effects on the academic performance of students in grade six and seven, whereas middle and secondary schools have a detrimental effect on the same grade levels.

The Interaction Effect of Transition Grade to High School With Gender and Grade Level Upon Dropout Rates
Alspaugh, John W. (April 1999)

Part I
Purpose -The purpose of this ex post facto study was to extend the previous research concerning school-to-school transitions (or high school grade 4spans) and explore the interaction effect of the grade level of
transition to high school and gender upon dropout rates. A second goal was to study the relationship between the grade level of transition to high school and dropout rates by grade level.

Results – The results of this study support Bryk and Thum's (1989) conclusion that school district organization may be associated with educational outcomes. A raise in the grade level of transition to high school is associated with an increase in dropout rates. Also the gap between dropout rates of male versus female students increases as the grade level of transition to high school increases. The grade

level of transition to high school is related to the grade levels in which students tend to drop out of school.

Part II
Purpose – *The purpose of this study was to examine the extent to which grade span configuration was related to the academic achievement of students in Grades 5 and 6. Specifically, the academic achievement of students in poverty, boys and girls, and students of three ethnic/racial groups (i.e., White, Black, and Hispanic) were examined. Specifically analyzed in these three investigations were the reading and mathematics achievement of these groups of students according to the grade span configuration of their school. The two grade span categories that were compared were a single or double grade level school (i.e., Grade 4-5, 5 only, or 5-6) and a multiple grade level school (i.e., PreK-Grade 6).*

Results – *Grade 5 and Grade 6 students in poverty who were enrolled in multi-grade level schools had higher average passing rates in reading and in mathematics for the 2012- 2013, 2013-2014, and 2014-2015 school years than their peers who were enrolled in single/double grade level schools.*

Part III
Purpose – *The purpose of this study was to examine the relationship of grade span configuration to the reading and mathematics achievement of boys and girls for the 2012-2013 through the 2014-2015 school years.*

Results – *Grade 5 and 6 boys and girls who were enrolled in multi-grade level schools had higher average passing rates in reading and in mathematics for the 2012-2013, 2013-2014, and 2014-2015 school years than did their peers who were enrolled in single/double grade level schools (i.e., Grades 4-5, 5 only, or Grades 5-6).*

The Effects of Grade Span Configuration and School-to-School Transition on Student Achievement
Wren, Stephanie D. (2003)

The Effects of grade span configuration and school-to-school transition on student achievement was investigated. The Michigan Education Assessment Program test was used to collect data on the passing rate of students in 232 schools in a larger urban inner city school district in the Midwest. The results indicate that grade span configuration and school-to-school transition has significant positive and negative effects on student achievement respectively. Implications for school districts were discussed.

More specifically, the research questions that will be investigated are:

1. What is the relation between grade span configuration on student achievement?

Answer: *A simple linear correlation was performed to evaluate the relationship between grade span configuration and student achievement. The data revealed a significant positive correlation between grade span configuration and achievement*

2. What is the relation between school-to-school transition and student achievement?

Answer: *A simple linear correlation was performed to evaluate this relationship as well. The data revealed a significant negative correlation.*

3. What is the effect of school-to-school transition and grade span configuration on student achievement?

Answer: *When transition and grade span configuration were simultaneously regressed upon student achievement it was revealed that transition was a significant predict of student achievement.*

As grade span configuration increases so does achievement. The more grade levels that a school services the better the students perform. The more transitions a student makes, the worse the student performs as evidenced by the negative correlation for research question two.

Can Reorganizing K-8 Education Improve Academic Performance? The Impact of Grade Span on Student Achievement
Schwartz, Amy Ellen et al. (June 2010)

Using student and schools data from New York City (nation's largest school district), this study examines how student performance in the 8th grade is shaped by the grade span configuration of the schools attended, the effects of school transitions on student performance and the differences between mandatory and voluntary school changes.

What makes this study different than many others is that, rather than the data reflecting a single point in time, they are able to follow multiple students across multiple school configurations over a period of time (5 year).

Specifically, the data represents NYC students that are...

4th graders in 97-98
5th graders in 98-99
6th graders in 99-00
7th graders in 00-01
8th graders in 01-02

First, we exploit the variation in grade configuration found in the nation's largest school district (New York City) to identify grade span effects for a variety of configurations, controlling for a wide array of observable school and student characteristics.

Second, we take advantage of unique longitudinal student data that allow us to examine the performance of cohorts of students through five years of schooling as they transition across grades and across schools, rather than at a single point in time.

Third, we measure gains or "value-added" in student academic performance between the 3rd grade and the 8th grade.

The impact of Grade span on Student Performance:
...we see no significant differences between some of the most common grade span paths; K-6 to 7-8 is no different than K-5 to 6-8, for example. Students attending K-8 schools, though, earned significantly higher scores than others, both among those who articulated as expected and among those who switched midstream.

The results suggest that students who attend K-8 schools from 4th grade through 8th grade have significantly higher performance when compared to students in a more traditional K-5 to 6-8 path.

Several other academic paths also display higher student performance gains compared to the most common path (K-5). Students who move out of a K-5 into a K-8 also show significantly higher 8th grade performance in both math and reading. This result has interesting implications.

> *First, it suggests that older students may benefit from a K-8 environment even (or perhaps, especially) if they attended a school with a shorter grade span for their earlier grades.*
>
> *Second, it suggests that the K-8 effect may not be simply an artifact of students remaining in the same school for their elementary and middle grades. Instead, it indicates that the K-8 structure itself appears to have a positive impact on student performance.*

Discussion and Policy Implications
Our analysis finds strong evidence of grade span effects on student performance. Specifically, we find consistent evidence that students who attend schools serving longer grade spans – in particular K-8 schools – have significantly larger reading and math test score gains between third and eighth grades.

This result is particularly noteworthy because these schools do not appear to serve more privileged or higher-achieving students. On the contrary, K-8 schools have, on average, lower 3rd grade test scores and somewhat higher proportions of students from poverty and students who are black as compared to schools serving grades K-5 or 6-8.

...we find consistent positive K-8 effects for both students making standard academic progress and those who do not. Only on reading scores for low performing 3rd graders do we find negative effects of the K-8 span.

The Impact of Alternative Grade Configurations on Student Outcomes through Middle and High School
Schwerdt & West (July 2011)

Recent findings show that entering a middle school causes a sharp drop in student achievement and suggests that adopting K-8 grade configurations may be beneficial. However, it remains unclear whether this is evident in other settings and whether the negative effect of middle school attendance persists into high school. This issue is investigated using statewide administrative data covering all students in Florida public schools from grades 3 to 10 for the school years 2000–2001 through 2008–2009

The study shows that Florida students entering middle school in grade 6 or 7 experience a large drop in student achievement in math and English relative to their peers enrolled in a K-8 school.

The study found relative achievement of middle school students continued to fall while they remained in middle school and showed little sign of recovering in grades 9 and 10. These effects were not limited to urban areas and in math are generally more noticeable for students in the bottom half of the achievement distribution and for ethnic minorities.

According to the authors of the study, their results suggest that structural school transitions lower student achievement but that middle schools in particular have adverse consequences for students.

How Does Grade Configuration Impact Student Achievement? Geographic Regression Discontinuity Evidence from School Closures Hong and Zimmer – (Feb. 2015)

This study examines the effect of moving to middle school after grade 5 on student achievement within an anonymous school district that had closed multiple schools and rezoned the students with new boundaries. The study compares students on one side of the boundary that were sent to a middle school to students on the other side that were sent to a K-8 school.

Compared with students that remained in a K-8 school, the students who had moved to a stand-alone middle school performed worse in math and in reading.

The study also showed that impacts to reading are temporary and corrected by 8th grade. Unfortunately, the decline in math for the middle school students didn't make a similar recovery and continued to trail behind the K-8 students.

The results confirm the negative effects of moving to a separate middle school on both math and reading test scores. However, the magnitudes are remarkably larger than what we expect from the previous studies.

Grade Span Configuration and Academic Performance for Students in Poverty: A Texas Multiyear Analysis Chad Jones 2017

The specific grade span configurations of interest in this investigation were "elemiddle" settings (grades preK or K through 6,7, or 8) and secondary settings (grades 6 or 7 through 12). The study used 2009-2010 and 2010-2011 school year data from the Texas Education Agency Academic Excellence Indicator System (TAKS) database (reading and mathematics). This study is unique in that over 60% of Texas students are in poverty and students of poverty traditionally have low academic achievement.

The following research question was asked:
What is the effect of grade span configuration (i.e., elemiddle and secondary settings) on the academic achievement of Grade 6, 7, or 8 students who were economically disadvantaged?

Reading passing rates: *Three of the six analyses revealed statistically significant differences, with small to moderate effect sizes. Although the other three T AKS Reading analyses were not statistically significant, average passing rates on the T AKS Reading tests for students in poverty were higher at the elemiddle schools than in secondary schools in all six analyses.*

Mathematics passing rates: *Statistically significant differences were revealed in all six analyses. In all of the analyses, passing rates on the T AKS Mathematics test for students in poverty were higher in the elemiddle grade span configurations than in the secondary grade span configurations. Small to moderate effect sizes were present.*

Alspauqh, J. W., & Harting R. D. (1995). Transition effects of school grade-level organization on student achievement. Journal of Research and Development in Education, 28(3), 145-49.
Not Available Online – See Attachment

Alspaugh, J. W. - April 1999. The Interaction Effect of Transition Grade to High School with Gender and Grade Level Upon Dropout Rates. Paper presented at the Annual Meeting of the American Educational Research Association
Find Online: https://files.eric.ed.gov/fulltext/ED431066.pdf

Franklin, Bobby J.; Glascock, Catherine H. - Oct 1996. The Relationship between Grade Configuration and Student Performance in Rural Schools.
Find Online: https://eric.ed.gov/?id=ED403083

Hong, Kai and Zimmer, Ron. - Feb. 2015. How Does Grade Configuration Impact Student Achievement? Geographic Regression Discontinuity Evidence from School Closures.
Find Online:
https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=1634f40c17959a53dc0762a81724638d9f1114b0

Howley, Craig B – March 2002. Grade-Span Configurations.
Find Online: https://cdnsm5-ss7.sharpschool.com/UserFiles/Servers/Server_142018/File/Community/Capital%20Facilities%20Planning/Long-Range%20Facilities/ms3.pdf

Jacob, Brian A; Rockoff, Jonah E. - September 2011. Organizing Schools to Improve Student Achievement: Start Times, Grade Configurations, and Teacher Assignments
Find Online:
https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=ccb32236cf1aab331a88632d2efecdc4edc8829c

Jones, M. Chad; Slate, John R.; Moore, George W.; and Martinez-Garcia, Cynthia (2017). Grade Span Configuration and Academic Performance for Students in Poverty: A Texas Multiyear Analysis.
Find Online: https://scholarworks.sfasu.edu/slr/vol12/iss2/8

Paglin, Catherine; Fager, Jennifer – July 1997. Grade Configutation: Who Goes Where?
Find Online: https://eric.ed.gov/?id=ED432033

Schwartz, Amy Ellen et al. - June 2010. Can Reorganizing K-8 Education Improve Academic Performance? The Impact of Grade Span on Student Achievement.
Find Online: http://ssrn.com/abstract=1532342

Seller, Wayne – August 2004. Configuring Schools: A review of the literature
Find Online: https://files.cityofportsmouth.com/school/centraloffice/eefc/4i.pdf

Wren, Stephanie D. - 2003. The Effect of Grade Span Configuration and School-to-School Transition on Student Achievement.