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Disentangling School Reform Outcomes from School Philanthropy Influences:

The Kalamazoo Promise Two Years Later

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Abstract

This study tracks initial effects of a philanthropic effort, while disentangling its effects from a major concurrently administrated school improvement initiative. Significant positive effects attributable to both efforts were noted in a middle school student sample. The full impact of the philanthropic and school improvement initiatives will manifest over the years as more and more students mature and matriculate through the system. As we continue to track and monitor student cohorts, we plan to examine the impact on dropout rates, school performance, and attendance and to attempt further to disaggregate school improvement efforts from those of the philanthropic effort.

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Ever since *A Nation at Risk*, the report produced in 1983 by the National Commission of Excellence in Education, schools have been implementing a range of school reforms from the Coalition of Essential Schools whose mission is to create learner-centered schools (Acess, Ort, 1999) to professional learning communities (Fullan, 2006) that focus on job-embedded professional development to small learning communities that personalize the school experience for students (Rourke, Mero, 2008). With the advent of *No Child Left Behind* (2002), the concept of data-driven decision making, which espouses continuous monitoring and improvement of student achievement through the use of data collection, analysis, and feedback, has influenced school reform (Bernhardt, 2004). Concurrent with school reform and despite the economic downturn, this nation has experienced added wealth over the past several decades. This has presented opportunities for dollars to be funneled into philanthropic support for school reform (Born & Wilson, 2000). Philanthropists interested in demonstrating proactive school reform results (Anrig, 2008) have targeted their resources toward creative efforts aimed at promoting not only school reform (Domanico, Innerst, & Russo, 2000) but also socio-economic integration (Mirron, Evergreen, 2007). In this paper, we attempt to answer the following questions: given the dollars that have been funneled into both school reform and philanthropic efforts, how does one disentangle the effects of one from the other when both are occurring simultaneously within the same building? In what ways do school reform and philanthropy help and/or hinder the goal of increasing student achievement?

To accomplish this, we have disentangled the effects of a larger economic philanthropic community based scholarship program, the Kalamazoo Promise (KP) that was implemented in 2005 from concurrent effects of a multi-million dollar, multi-year, federally-funded Midwest Educational

Reform Consortium /Gaining Early Awareness and Readiness for Undergraduate Programs (GU) grant which also began in the fall of 2005. This study examines the trajectory of marking period grade point averages of students in three sixth grade cohorts at two middle schools from 2006 through 2008, before and after the announcement of the KP scholarship. Comparative data is presented for similar student groups in a neighboring school district also served by GU concurrently and for the previous 5 years but not part of the KP initiative.

The School District

Kalamazoo Public Schools (KPS) is a mid-size urban school district in Michigan with a student population of about 11,500, of which 63 percent are students of color. The district has 17 elementary schools, one of which is a dual language school, 3 middle schools and will be opening a fourth middle school in the fall of 2009, an alternative middle school program, two high schools, and an alternative high school. In the two middle schools involved in this study, 71 percent of the students received free or reduced lunch, a 22 percent increase since 2004. This rise in poverty has been fueled by the significant loss of jobs through corporate mergers and down-sizing in the banking, pharmaceutical, and paper manufacturing industries. KPS was one of only nine districts in the state (493) that fell below state expectations for academic progress in elementary, middle, and high school and both high schools were required to submit a restructuring plan because of under-performance in standardized tests for NCLB in 2006. Only 56 percent of incoming freshmen graduate in 4 years, over 56 percent of the incoming 2007 freshmen class are 3 grade levels behind in reading and math, and 39 percent of the twelfth grade students fail to meet state standards.

The comparison district is a smaller urban district with 7125 students. From 2001 to 2006, this district has seen a decline in enrollment of 1000 students, a 12 percent decrease, causing considerable financial impact and the closing of four schools. However, during this period of time,

these middle schools have benefitted from a major GU grant focused on school-based reform.

Currently, more than 75 percent of the students in this district qualify for free/reduced lunch, a 20 percent increase from 2004. Approximately 54 percent are children of color.

Student achievement is of particular concern as the percentage of students meeting state standards in math has been steadily declining from 1999-2006 in spite of improvement efforts but concomitant with national patterns. In the high school there has been a decrease of 12 percent in math. In addition, there was an 11 percent decrease in middle school writing scores over the same period of time. Significant gaps in achievement have also been identified between White, Hispanic, and Black students; between economically advantaged and economically challenged students; and between general education and special needs students. On average each year, only 56 percent of the incoming freshman will graduate. Of those who graduated in 2007, less than 37 percent have plans to go on to college.

Both KPS and the comparison school district face a number of relevant and similar issues. Many demographic issues as well as student attendance and drop-out rates have adversely affected enrollment. In addition, academic achievement and behavior are an ever present challenge in these urban schools.

School Reform Efforts

The current GU reform grant is a multi-year, multi-million dollar grant funded in part by the U.S. Department of Education that targets cohorts of sixth through twelfth grade students in schools that serve children of poverty. The purpose of the grant is to help provide structures and support for a rigorous, standards-based curriculum that prepares students for post-secondary education. The GU project, through a school-university partnership, is broadly adaptive to the unique needs of individual schools and communities. As such, GU funded school reform projects

target specific need areas of the affiliated schools as identified by local school administrators. The project is based upon a systematic focus on school reform, professional development, student/family support, and community engagement in order to prepare students socially and academically for post-secondary education (www.wmich.edu/gearup). Currently, the GU project encompasses four school districts in two states. The specific focus of this study centers on students enrolled in two middle schools in the Kalamazoo Public School District, Michigan, (KPS) and in middle schools in a comparison district who entered GU cohorts in the 2005-2006 and 2006-2007 academic years and who have since transitioned to a common high school.

Philanthropic Efforts: The Kalamazoo Promise

The KP was announced during the same year (2005-2006) that KPS became involved with the GU grant-funded school-university partnership. At the end of the 2005-2006 academic year and subsequent years, qualifying KPS graduates were eligible to have up to 100 percent of their college tuition to any Michigan university and/or community college paid for by this scholarship fund. Students who did not attend all K-12 years at KPS were offered prorated scholarship benefits (www.kalamzooopromise.com). Thus, since 2005, qualifying KPS students were able to take advantage of the federally funded school improvement effort (GU) and anonymously funded scholarship program (KP).

The scholarship is not based on economic or academic need, but rather on the geographic location of residency (www.upjohninst.org/promise). The purpose of the KP is economic development that *“seeks to revitalize the city [of Kalamazoo] and the region through a substantial investment in public education* (www.upjohninst.org/promise, para.2). According to the KPS website, the KP scholarship *“is a catalyst to [make] the Greater Kalamazoo Community an even greater community and is inspiring KPS students, families, teachers and staff. It is re-energizing the citizens of Kalamazoo and the Greater Kalamazoo*

community (www.kalamazoopromise.com). The KP scholarship, therefore, is an investment focused on promoting socio-economic integration by paying for college tuition (www.upjohninst.org/promise). The only program element defined by the KP is the actual scholarship. For example, tuition and fees at Western Michigan University for freshman entering the class of 2013 are projected to be \$33,400. Long and short term outcomes and possible impacts on the school environment and student achievement are delineated in the evaluation component of the KP, which is being conducted by the W.E. Upjohn Institute in Kalamazoo and the Evaluation Center at Western Michigan University.

Disentangling School Reform from Philanthropy

If students are to realize the opportunities for post-secondary education provided by the KP, then other factors must be in place before graduation, e.g. evidence of student achievement commensurate with college entrance expectations. This is the primary outcome of GU. Research is clear with regard to what factors are necessary for academic success, graduation, and post-secondary education involvement to occur (Anness, Ort, 1999; Fullan, 2006; Rourke, Mero, 2008). These factors are contained in the overall goals and objectives of the GU project. The GU goal is to increase the number of low income students who are prepared to enter and succeed in post-secondary education. The objectives of the project are to increase yearly academic performance and preparation for post-secondary education, to increase the rate of high school graduation and participation in post-secondary education, and improve students' and their families' knowledge of post-secondary options, preparation, and financing (www.ed.gov/programs/gearup).

Clearly both GU and the KP will impact students and their future plans for post-secondary education. GU focuses on affecting student achievement via school reform and cohort support while KP provides the necessary financial foundation for all students within the KPS District to attend a college or university.

But if the student is not academically prepared for the rigors of post-secondary education, the larger economic goals of the KP will not be realized. Research studies on school reform address a number of factors that are relevant for school academic success including interdisciplinary curriculum (Wiggins & McTighe, 2005), a caring/collaborative learning environment (Brophy, 1988), job-embedded professional development (Huffman, et al, 2001), and professional learning communities (Senge, 2006), all of which are featured as GU interventions in KPS and the comparison district collaborations. Other studies have focused on the effect of the KP on the perceptions of community leaders, parents, students, and school personnel (Miron, et al, 2007, 2008). Few studies, however, attempt to relate the effects of a private philanthropic effort on student achievement or to disentangle these effects from those of other initiatives. As further longitudinal studies of the KP progress over ensuing years, one must keep in mind the caveat that “because education philanthropy is disorderly and little studied but highly visible, it is easy both to overestimate and to underestimate its significance” (Hess, 2005, p.132).

Sample Participants and Research Design

This study began with a cohort of sixth grade students in two KPS middle schools in the 2005-2006 school year (N=256) and followed these students for 3 school years and 6 semesters. KPS operates on a 6 marking period calendar while the comparison district operates on 4. Semester total GPA is the average of 3 marking periods in KPS and 2 marking periods in the comparison district. A second cohort of sixth graders (N=237) entered in the school year ending in 2007 and is followed for 4 semesters through 2008. A third cohort (N=110) entered in 2008 and has been followed for 2 semesters at the time of this writing. By convention, we refer to an academic year by ending year number.

As part of the effort to disentangle intervention effects, it should be noted that while the KPS/GU collaboration had just begun in 2006 and had been underway one year by 2007 and two years by 2008 and while school change and innovation continued to occur, none of the students in each incoming cohort had any prior experience with GU and thus were equivalent in this respect. On the other hand, while the comparison school district had benefitted from 5 prior years of GU/comparison district collaboration and school reform, entering sixth graders in the three cohorts there also had no prior experience with GU and were similar to each other and to the KZ cohorts in terms of demographics and prior academic preparation for middle school. Further, the new KPS/GU and on-going comparison district/GU collaborations now are primarily cohort-based interventions focusing on particular groups of students moving through the educational system (sixth through 12th grade), rather than school-reform collaborations with students flowing in and out interchangeably. In school years ending in 2006 and 2007, project cohorts comprised all sixth and seventh graders in the target schools served by GU. These students were followed as they became seventh and eighth graders in 2007 and 2008. The sixth graders in 2008 are not formally part of the GU cohorts and did not receive direct services from the project. Therefore, the feature distinguishing the two districts is 5 years of GU school reform in the comparison district and zero years in KPS. The feature distinguishing the three cohort groups in both districts is the amount of time elapsed since the public announcement of the KP. This occurred in the middle of the first cohort's sixth grade year and they and their families had essentially zero advance notice. By the time the second cohort entered sixth grade, the KP had been discussed publicly as a major community innovation and opportunity for over 9 months. By the time the third cohort entered sixth grade, KP had been in operation almost two years and was well understood and taken for granted.

A similar group of three sixth grade cohorts entering four middle schools in 2006 and 2007 and 2008 academic years (N=500, 467, and 378 respectively) in a neighboring city with similar

characteristics was followed as a comparison group. This school district operates on a 4 marking period per academic year system and these cohorts were served similarly by the GU project.

However, this district does not have a comparable philanthropically funded, system-wide general scholarship incentive program and, in this respect, can serve as an appropriate comparison group.

Table 1 illustrates the sampling model, showing students in the two districts and three sixth grade cohorts being observed for 6, 4, and 2 semesters respectively over a three year period. Table 2 presents information on the categorical variables (factors) in the study and number of observations pooled at each level of each main effect.

Insert Table 1 and 2 about here

Analytical Methodology

The academic performance of the KPS and comparison student groups was modeled using generalized estimating equations (GEE) with a first-order auto-regressive [AR(1)] variance-covariance structure in a linear-normal ANOVA model appropriate for a causal-comparative, 2-between, 1-within univariate repeated measures design. The dependent variable defining academic performance was total semester grade point average (GPA), for both core and non-core coursework attempted. Student GPA is considered to be a function of individual within student variation, district differences due to prior GU experience (two fixed effect levels), and elapsed time following public announcement and inception of the KP (three fixed effect levels: 0, 1 year, and 2 years) measured across six elapsed semester grading periods (within subjects effect).

Results

A summary overview of key results from the study is presented in Figures 1 and 2 with supporting statistical results shown in Table 3. Overall group mean differences between the cohorts, controlling district differences and semester to semester changes were not significant (Wald $X^2_2 = .318$, $p = .853$). This is something the school system and GU can be proud of because at a time and a grade-level/age-level range where low income student cohorts are often declining in academic performance regionally and nationally, these student groups in both Kalamazoo and the comparison district maintained a fairly consistent and adequate level of academic performance throughout middle school.

 Insert Table 3 about here

Insert Figure 1 and Figure 2 about here

However, the main effect for group was overshadowed by the highly significant within-subjects effects to be noted as a main effect over time (Wald $X^2 = 267.65$, $p < .001$) and a two and three way interaction between time, school district, and cohort group (see Table 3). The positive effect of deliberate programmatic intervention (the GU effect for five prior years in the comparison district) predominates in Figure 1 which diagrams the district by elapsed time interaction, controlling for cohort effects (Wald $X^2 = 21.211$, $p < .001$). The differences between the cohorts (which differ primarily in terms of familiarity and confidence in the KP compared to status quo in the comparison sample where there was no such effect) can be seen in Figure 2 as patterns change over time, with a major bump in the performance of the KPS 2006 cohort following the announcement (Wald $X^2_5 =$

21.211, $p < .001$). This, we argue, is early evidence for an evolving, confidence-building attitude change toward the possibility of college reflected in better student academic performance in school. Unfortunately, this social philanthropic effect appears to fade as time goes by and the KP becomes well-understood and assumed as part of the social milieu.

Additional support for this inference is provided by the comparative analysis of similar events and consequences in the neighboring school district without benefit of a program like the KP. The significant group difference trends during comparable time periods noted above as well as significant time effects and interactions could be due to grade inflation, elementary school preparation for middle school, and many other factors at work. But the trends over time and the changes in group differences over time in this school district are more downward sloped and more closely resemble other regional and national statistical patterns. In addition to the difference in prior experience with GU, another general significant public and political difference between these two school districts and these students over the timeframe of this study is the existence of the KP initiative. This effect is still apparent in Figure 2 for KPS students two semesters out from the time of the announcement.

Conclusion

This study attempted to disaggregate effects of a major programmatic educational intervention and the effects of a major social philanthropic intervention on early academic performance of middle school students in one school district over a period of three years' observation. This could be done because of the availability of comparable data from a second similar school district and city also served prior to and concurrent with the district where the philanthropic intervention occurred.

KPS and the comparison district are similar in that they have many neighborhoods, families, and children presenting many challenges to traditional public schools. These district schools were

having great difficulties meeting these various challenges, which is why they (and the students) met the requirements to be GU schools. While these districts and their cohorts are similar, the comparison district benefitted greatly from five previous years of GU school reform, including teacher professional development, whereas KPS was just starting out with GU in 2006.

Our results show a substantial GU effect: two similar school districts, one after 5 years of school improvement efforts and the other at point 0. The comparison district students performed much better across the board and over the middle school years than did the KPS students. In 2006, both KPS and the comparison district began receiving cohort-based services rather than school reform services. As we watch the cohorts over time, there is an unfortunate but expected decline evident in both places, greater at first in KPS but eventually after several years the KPS cohorts match the comparison district cohorts who resemble similar national populations in regard to this trend.

The KP was announced at the same time GU started in KPS. There was a short blip of even greater improvement that appears to have faded somewhat i.e., the effects of philanthropy. We try to separate all these effects in this study and anticipate as the project continues that the good effects of the KP in KPS and of GU in KPS and the comparison district will replicate with current and new cohorts as these student progress into high school and beyond.

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Table 1: Sample Model

↙ KZ Promise Announced

School Year		2006		2007		2008	
District	Cohort	S1	S2	S3	S4	S5	S6
KZ	C1	KZ ₆₁	KZ ₆₂				
			↘	KZ ₇₁	KZ ₇₂		
					↘	KZ ₈₁	KZ ₈₁
	C2			KZ ₆₁	KZ ₆₂		
					↘	KZ ₇₁	KZ ₇₂
	C3					KZ ₆₁	KZ ₆₂
BC	C1	BC ₆₁	BC ₆₂				
			↘	BC ₇₁	BC ₇₂		
					↘	BC ₈₁	BC ₈₂
	C2			BC ₆₁	BC ₆₂		
					↘	BC ₇₁	BC ₇₂
	C3					BC ₆₁	BC ₆₂

Table 2: Categorical Variable Information

Factor	Level	N Obs	Percent
District	BC	4901	67.1%
	KZ	2407	32.9%
	Total	7308	100.0%
Cohort Starting in Year	2006	3866	52.9%
	2007	2506	34.3%
	2008	936	12.8%
	Total	7308	100.0%
Elapsed Semesters from Start of 6th Grade	S1	1888	25.8%
	S2	1872	25.6%
	S3	1216	16.6%
	S4	1182	16.2%
	S5	584	8.0%
	S6	566	7.7%
	Total	7308	100.0%

Table 3: ANOVA Summary Table

Source	Type III		
	Wald Chi-Square	Df	Sig.
(Intercept)	10180.220	1	.000
District	3.769	1	.052
CYR	.318	2	.853
elapsem	267.650	5	.000
District * CYR	15.102	2	.001
District * elapsem	21.211	5	.001
CYR * elapsem	9.230	4	.056
District * CYR * elapsem	15.599	4	.004

Dependent Variable: Term TOTAL GPA

2B1W repeated measures linear GEE Model using AR1

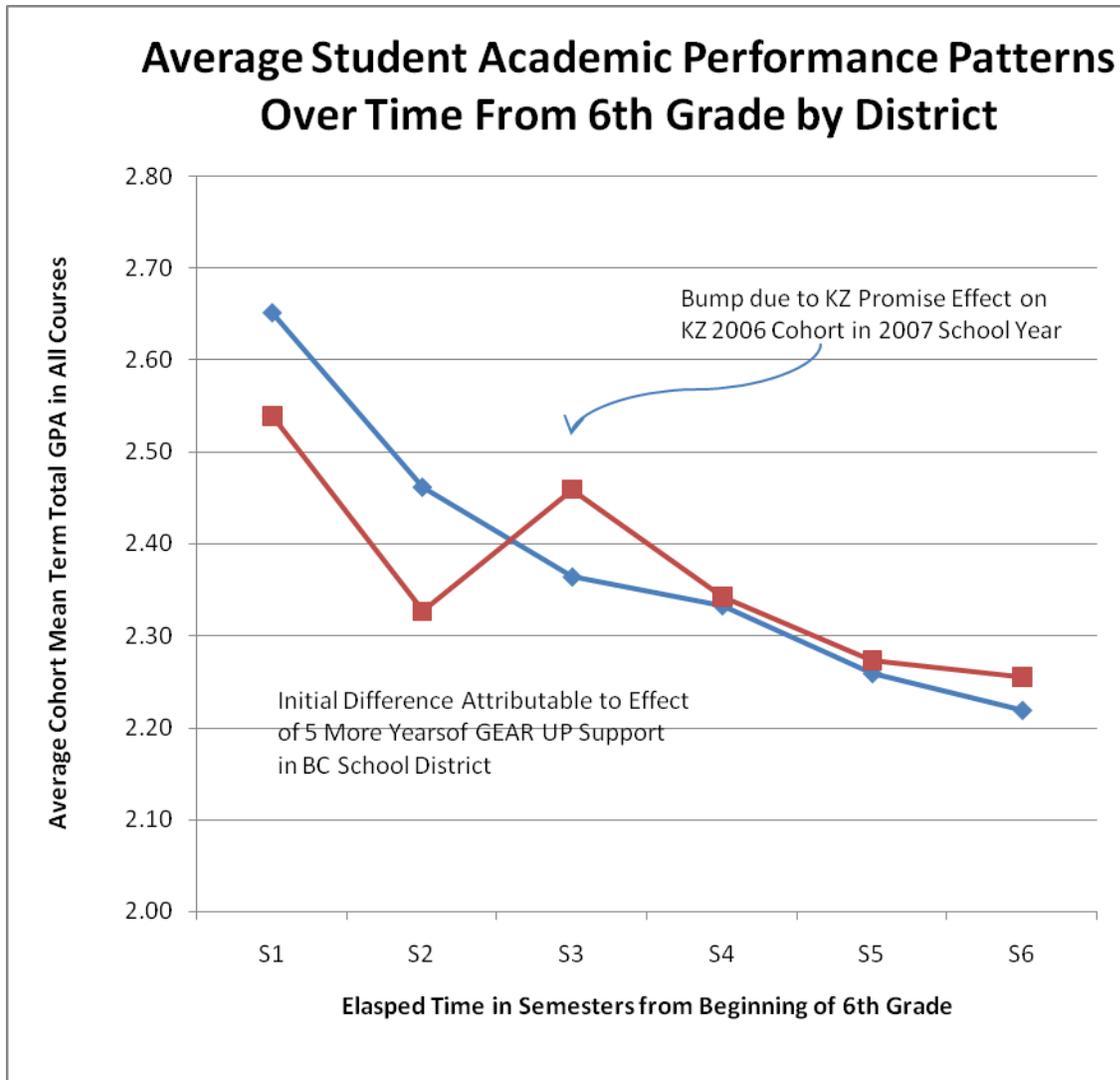


Figure 1. Two-Way Interaction for District by Elapsed Time Within Students Illustrating the GEAR UP Experience Effect

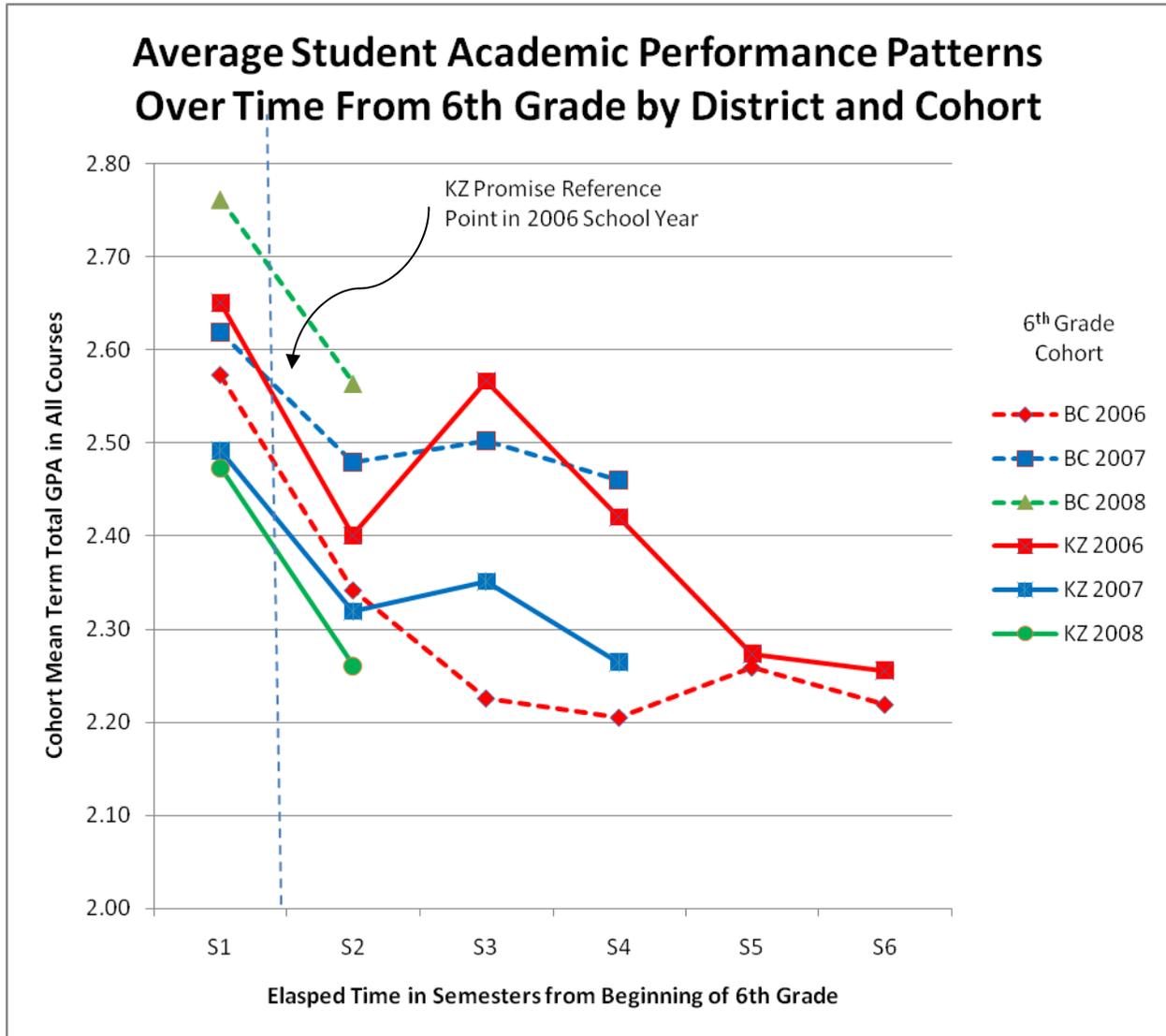


Figure 2: Three-Way Interaction for District by Cohort by Elapsed Time Within Students Illustrating the KZ Promise Effect