After School Tutoring for 2012-13

Implementation and Outcomes

Reviews features of implementation across participating schools and examines end of year differences in classroom grades between students who received tutoring and a group of matched students who did not.

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Educational Research and Evaluation

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**After School Tutoring for 2012-13:**

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After school tutoring services were offered at eleven schools during 2012-13. The program began during the fall semester at Middle Schools A, B, C, D, E and F, and at High Schools W, X, and Y. Middle School G and High School Z joined the program second semester. This review will examine certain aspects of program implementation and student outcomes.

Program Content and Structure

During January 2013, brief telephone interviews were conducted with the principals in each of the participating schools. The focus and intent of each school’s program was reviewed, as well as the logistics of student selection and service delivery (time and length of sessions, etc.) These interviews were supplemented by further conversations or e-mail exchanges with teachers recommended by the principals. Summaries of each may be examined in Appendix A. (High School Z declined to provide this type of information.)

The programs varied across schools on several points. For example, content was restricted to Reading/Language Arts and Math at some schools, covered all Core subjects in others, and was open to any area requested by students in still others. In some schools, students were selected for inclusion by teachers, based on daily performance and common assessments, while in others students mainly self-referred, and in still others both methods were used. Despite these differences, it was generally agreed that the best outcome measures for these interventions would involve daily performance and/or classroom grades.

Determining an appropriate level of student outcome to examine is critical to investigating program effectiveness. Although some staff mentioned MAP scores as a possible outcome, everyone agreed that interventions were designed to boost work completion and daily classroom performance which, in turn, should improve classroom grades. Regardless of other differences noted among the schools, intervention in particular subject areas should be expected to lead to discernible improvements in classroom grades in those areas.

The Evaluation Plan

Given the impossibility of assigning students randomly to tutoring vs. no-tutoring groups, a matched-group comparison was chosen. The following steps were conducted:

1. Individual attendance at tutoring sessions in each subject area at each school was recorded by tutoring teachers using an Excel roster provided by the evaluator. Total contact hours per student in each area were calculated. (Middle School G did not participate in the evaluation.)
2. First quarter and final grades were recorded for all students in the four core subject areas, and fall-to-spring changes were determined. For students who were enrolled in multiple courses in a single core area, a single, average grade was calculated for that area. Marks in each subject were converted to a 13 point scale, from F = 0 to A+ = 12. This allowed numeric comparison of changes across the school year. (Numeric grades were converted to the same scale.)
3. Analysis was restricted to students who attended for the *full year at only one* *of the schools*.
4. All students who participated in the tutoring study were assigned *paired* students who *did not* participate in tutoring for comparison. Paired nonparticipants were matched with tutored students, case by case, on the following criteria:

* Same school (to hold school climate and staff influences constant).
* Same grade level (to impose similarity in curriculum).
* Same first quarter grade in a given subject area (e.g., both students earned a C+ in Math) to ensure comparability at the outset.
* Same lunch program status (to reduce poverty-related disparities).
* Same ELL program status (to reduce differences attributable to language acquisition).
* Same disability status (to reduce differences attributable to general learning difficulties).

These selection criteria assured the availability of highly similar student groups, whose difference in end of year outcomes was mainly attributable to participation in after school tutoring.

In addition to determining possible differences between students who were tutored compared with those who were not, additional data were collected to allow consideration of more nuanced questions:

1. Did tutoring programs in some schools outperform others, and might those differences be tied back to different program features or implementation practices at each?
2. Were there differences in gains that resulted from the *amount of time* spent in tutoring services?
3. Were there differences in the opinions of student participants, as indicated via short survey, which might be related to the amount of benefit received?
4. Were there cost/benefit differences among the schools that might be highlighted by comparison of expenditures with outcomes?

A Review of Fall to Spring Changes, at Large

Before examining gains made by participants and their paired comparisons, it is instructive to consider what amount of change was observed from fall to spring in core subject classroom grades for *all* students in grades 6 – 12.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Table 1: Fall to Spring Changes in Average Class Marks, Core Courses, 2012-13** | | | | | | | | | | | |
|  | **Language Arts** | | | **Math** | | | **Science** | | | **Social Studies** | | |
| **Grade** | **Fall** | **Spring** | **#** | **Fall** | **Spring** | **#** | **Fall** | **Spring** | **#** | **Fall** | **Spring** | **#** |
| 6 | B- | B- | 1,170 | B- | B- | 1,285 | B | B- | 1,314 | B | B- | 1,316 |
| 7 | C+ | B- | 1,210 | C+ | C+ | 1,313 | C+ | C+ | 1,327 | B- | B | 1,316 |
| 8 | C+ | B- | 1,194 | C+ | C+ | 1,261 | B- | B- | 1,280 | C+ | B- | 1,280 |
| 9 | C+ | C | 1,410 | C | C | 1,316 | C | C | 1,400 | C+ | C | 879 |
| 10 | C+ | C+ | 1,002 | C- | C | 1,029 | C | C | 1,024 | C+ | C+ | 946 |
| 11 | C+ | C+ | 797 | C- | C | 814 | C+ | C+ | 773 | C+ | C+ | 662 |
| 12 | B- | B- | 808 | C | C | 572 | C+ | B- | 477 | B- | B- | 745 |

District wide, across grades 6 – 12, and in all subject areas, classroom marks changed very little from the fall of 2012 to the spring of 2013. Marks averaged at the C+/B- level, and changed no more than the amount of one qualifier (e.g., C+ to B-, or about 3 percentage points in total point distributions) throughout. Correlations between fall and spring marks, for all students, were .69 in Language Arts, .73 in Math, .69 in Science, and .69 in Social Studies (all moderate to high). For core courses, then, stability appears to be the norm, and fall marks are generally predictive of spring marks. Again, please note that multiple marks within a subject area have been reduced to a single average, and that ELL and Special Education courses are not represented.

Delivery of Tutoring Hours

Against this generally static picture of fall-to-spring student marks, tutoring interventions might be hoped to show a more dynamic pattern. An essential step to understanding any effect is to determine *how much* of the intervention was delivered. The tables below document, per school and by subject area, how many students were served and how many contact hours were delivered by the tutoring programs.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 2: Students Attending Language Arts Tutoring for 2012-13, per School and by Month** | | | | | | | | | | | |
|  | **Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Unique Students** | **Total Contact Hours** |
| **HS W** |  |  | 11 | 6 |  | 2 |  |  |  | 13 | 56.00 |
| **HS X** |  |  | 3 | 3 |  |  |  |  |  | 6 | 6.00 |
| **HS Y** | 20 | 94 | 69 | 68 | 49 | 45 | 28 | 32 | 8 | 262 | 513.00 |
| **HS Z** |  |  |  |  | 26 | 53 | 31 | 37 | 34 | 117 | 557.00 |
| **MS A** |  |  |  | 19 | 3 | 9 | 66 | 18 |  | 92 | 286.00 |
| **MS B** | 21 | 22 | 20 | 12 |  |  | 3 | 1 |  | 58 | 137.70 |
| **MS C** |  | 3 |  | 5 |  |  |  |  |  | 8 | 12.00 |
| **MS D** |  |  | 24 | 15 | 24 | 29 | 15 | 14 | 7 | 69 | 422.00 |
| **MS E** | 5 | 41 | 75 | 75 | 60 | 11 | 71 | 12 | 30 | 213 | 775.50 |
| **MS F** |  |  | 8 | 7 | 1 |  |  |  |  | 13 | 24.50 |
|  | 46 | 160 | 210 | 210 | 163 | 149 | 214 | 114 | 79 | 851 | 2,789.70 |

Notes: Although the average hours of Language Arts tutoring attended per student was 3.2, this was skewed by a handful of students who attended 10, 15, or even 20 hours. Just over 62% of the students attended for two hours or less, and about 72% attended for three hours or less.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 3: Students Attending Math Tutoring for 2012-13, per School and by Month** | | | | | | | | | | | |
|  | **Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Unique Students** | **Total Contact Hours** |
| **HS W** |  |  | 25 | 21 |  | 30 | 3 | 10 |  | 54 | 346.00 |
| **HS X** |  |  | 83 | 39 |  |  | 10 | 27 | 8 | 121 | 255.00 |
| **HS Y** | 39 | 148 | 82 | 103 | 41 | 41 | 28 | 35 | 8 | 298 | 651.00 |
| **HS Z** |  |  |  |  | 23 | 50 | 44 | 44 | 21 | 112 | 428.30 |
| **MS A** |  | 51 | 86 | 24 | 5 | 21 | 69 | 31 | 22 | 175 | 1000.00 |
| **MS B** | 12 | 28 | 36 | 11 | 25 | 28 | 29 | 8 | 21 | 116 | 332.00 |
| **MS C** |  | 30 | 10 | 45 |  | 27 | 19 | 17 | 6 | 104 | 311.00 |
| **MS D** |  |  | 20 | 22 | 16 | 23 | 23 | 14 | 6 | 72 | 376.00 |
| **MS E** | 13 | 88 | 33 | 35 | 33 |  | 12 | 9 | 8 | 153 | 440.00 |
| **MS F** |  |  | 12 | 42 | 45 | 38 | 22 | 6 |  | 82 | 296.50 |
|  | 64 | 345 | 387 | 342 | 188 | 258 | 259 | 201 | 100 | 1287 | 4,435.80 |

Notes: The average hours students attended Math sessions was about 3.4, although this also was skewed. About 60% of the students attended two hours or less, and about 70% attended three hours or less.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 4: Students Attending Science Tutoring for 2012-13, per School and by Month** | | | | | | | | | | | |
|  | **Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Unique Students** | **Total Contact Hours** |
| **HS W** |  |  | 7 | 9 |  | 25 | 25 | 31 | 11 | 73 | 274.00 |
| **HS X** |  |  | 18 | 19 |  |  |  |  |  | 32 | 60.00 |
| **HS Y** | 26 | 136 | 79 | 109 | 99 | 99 | 85 | 126 | 48 | 422 | 927.50 |
| **HS Z** |  |  |  |  | 1 | 9 | 12 | 16 | 8 | 37 | 96.00 |
| **MS A** |  |  |  | 15 | 2 | 6 | 23 | 19 |  | 52 | 170.00 |
| **MS B** | 16 | 27 | 15 | 17 | 24 | 12 | 59 | 36 | 2 | 162 | 358.25 |
| **MS C** |  |  |  |  |  |  |  |  |  |  | 0.00 |
| **MS D** |  |  | 7 | 8 | 13 | 17 | 6 | 13 | 6 | 48 | 180.00 |
| **MS E** | 18 | 43 | 29 | 28 | 11 | 7 | 41 | 17 | 16 | 137 | 388.50 |
| **MS F** |  |  | 8 | 12 | 11 | 17 | 7 | 17 | 6 | 43 | 195.75 |
|  | 60 | 206 | 163 | 217 | 161 | 192 | 258 | 275 | 97 | 1006 | 2,650.00 |

Notes: The average hours students attended Science sessions was about 2.6, although two thirds attended less than two hours and 80% attended three or less.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 5: Students Attending Social Studies Tutoring for 2012-13, per School and by Month** | | | | | | | | | | | |
|  | **Sep** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Unique Students** | **Total Contact Hours** |
| **HS W** |  |  | 1 | 3 |  | 8 | 15 |  |  | 22 | 58.00 |
| **HS X** |  |  |  |  |  |  |  |  |  | 0 | 0.00 |
| **HS Y** | 8 | 79 | 43 | 59 | 40 | 35 | 36 | 47 | 22 | 240 | 425.50 |
| **HS Z** |  |  |  |  | 1 | 32 | 13 | 19 | 4 | 52 | 131.50 |
| **MS A** |  |  |  | 40 |  | 3 | 16 | 6 |  | 57 | 166.00 |
| **MS B** |  |  | 11 | 11 | 15 | 28 | 38 | 29 | 8 | 106 | 254.50 |
| **MS C** |  | 5 |  |  |  |  |  |  |  | 5 | 7.50 |
| **MS D** |  |  | 23 | 17 | 15 | 23 | 19 | 29 | 11 | 75 | 424.00 |
| **MS E** | 12 | 44 | 20 | 43 | 26 |  | 7 | 4 | 1 | 99 | 297.00 |
| **MS F** |  |  | 7 | 9 |  |  | 8 |  |  | 16 | 39.60 |
|  | 20 | 128 | 105 | 182 | 97 | 129 | 152 | 134 | 46 | 672 | 1,803.60 |

Notes: Average hours attended for Social Studies sessions was about 2.7. Two thirds of students attended two hours or less, and about 78% attended three hours or less.

Group Differences

Four sets of matched samples were examined, one for each subject area in which tutoring was offered. When constructing matched groups, especially when matching on more than one attribute, an identical match is not usually found for every participating student. In this study, where matches were required on six distinct attributes (school, grade level, first quarter grade, lunch status, ELL status, and disability status), nonmatches were common. In each of the four subject areas examined, however, matching was successful with about 60% of tutored students. As a *sample* of participants, 60% is very robust, and considerable confidence in results is warranted.

Because student membership differed from subject area to subject area, separate analyses were conducted. The analyses examined fall to spring changes on the 0 – 12 point scale corresponding to letter marks for classroom first quarter and end of year. On this scale, one point corresponds to a letter grade qualifier (e.g., the difference between C+ and B-), or about three percentage points on a numeric grade distribution. Changes of + or – one point, then, represent small increments; a change of 3 increments on this 12 point scale would be required to register as much as a full letter grade change.

Table 6, on the following page, displays group sizes and the amount of *change* observed (gain or loss) from fall to spring at each school and in total, in each subject area.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 6: Fall-to-Spring Changes in Core Marks for Tutored and NonTutored Students, by School** | | | | | | | | |
|  | **Language Arts** | | **Math** | | **Science** | | **Social Studies** | |
|  | **Tutored** | **Non** | **Tutored** | **Non** | **Tutored** | **Non** | **Tutored** | **Non** |
| **HS W** | 1.500 | 1.130 | 1.231 | 1.057 | 0.842 | 0.842 | 0.327 | 1.788 |
| **HS X** | 0.625 | 1.000 | 1.883 | 1.599 | 0.714 | 0.714 |  |  |
| **HS Y** | 0.424 | 0.331 | 1.284 | 1.270 | 0.078 | 0.078 | -0.309 | -0.282 |
| **HS Z** | -0.191 | -0.083 | 0.155 | 0.569 | -1.397 | -1.397 | -0.833 | 0.500 |
| **MS A** | 0.207 | 1.534 | -0.889 | 0.403 | 0.405 | 0.405 | -0.362 | 0.766 |
| **MS B** | 1.051 | 0.812 | -0.079 | 0.135 | 0.615 | 0.615 | -0.083 | -0.375 |
| **MS C** | 0.917 | 0.167 | 0.392 | 0.843 |  |  | 1.667 | 0.667 |
| **MS D** | 0.205 | 0.674 | 1.308 | 1.404 | 1.114 | 1.114 | -0.082 | -0.245 |
| **MS E** | 1.056 | 0.741 | -0.055 | 0.033 | -2.228 | -2.228 | -0.597 | 0.081 |
| **MS F** | -0.583 | -0.917 | 0.651 | 0.078 | 0.786 | 0.786 | -0.200 | -0.533 |
| **Total** | 0.521 | 0.539 | 0.588 | 0.739 | 0.068 | 0.103 | -0.052 | 0.263 |

No significant differences were found between tutored and nontutored groups on any of the four outcome measures. Essentially, the analyses show no meaningful differences between the tutored students and their matched, nontutored peers. Notice, in fact, that while changes in both groups were very small, the nontutored students actually showed a slightly greater gain in every subject area. This will be mentioned again in the discussion.

Differences Among Schools

Significant differences in fall-to-spring changes, overall, were indicated among schools (e.g. the difference between Eisenhower and Wyandotte or Northwest in Science), but there were *no significant differences in tutoring effectiveness* among schools. That is, schools showed similar gains or losses with both groups. Because none of the schools demonstrated any greater success with their programs, there is no indication that the approach or implementation features at any of the schools was more effective.

Amount of Time Tutored

In every subject area, the average amount of tutoring time accessed by students was very low, typically two or three hours. In each area, however, small numbers of students persisted with the program and attended 10 hours or more. A natural question is whether students who *attended* more experienced greater *benefits*; that is, were there greater changes in their fall to spring grades? This possibility was examined by determining the correlations between attendance and grade changes, and by looking separately at gains made by students who attended more sessions.

Correlations between hours attended and change in grades:

**Subject Area Correlation Interpretation**

Language Arts *r* = .03 (negligible)

Math *r* = .04 (negligible)

Science *r* = .03 (negligible)

Social Studies *r* = -.01 (negligible)

Although the relationship between hours attended and amount of grade change was negligible in all subject areas, this could be because higher attending students were heavily outweighed by students who attended only two or three hours. Accordingly, gains were examined separately for just those students in each subject area who *attended tutoring for ten hours or more*:

**Subject Area Number of Students Amount of Change**

Language Arts 23 1.06 (about one increment)

Math 47 0.78 (nearly one increment)

Science 16 0.13 (no change)

Social Studies 9 -0.11 (no change)

From both these inquiries, it appears that the amount of time engaged in tutoring was not clearly related to changes in classroom grades; more tutoring did not yield substantially greater results. Even students who engaged in 15 or 20 hours of tutoring (very few) showed very modest grade changes. Note these are very small groups and results are not conclusive. Conversely, there were students in both the tutored and nontutored groups who showed increases of a full letter grade or more from fall to spring, as well as students whose marks declined by similar amounts.

Student Opinions of the Tutoring Program

During May of 2013, a brief survey was distributed to all secondary students online, with the request that they complete the items if they had participated in After School Tutoring at any time during the school year. Of the 2,323 students who participated tutoring in one or more subject areas, 471 (20.3%) responded. A series of questions was presented to help understand why students chose to participate, and how much they thought the program had helped them. Open ended questions were not possible, so insight is limited.

Why did you decide to attend after school tutoring?

8.1% School staff told me I would have to attend.

17.0% School staff suggested it would be helpful for me.

47.8% I decided I needed to attend.

4.9% A friend suggested it would be helpful.

22.3% Some other reason.

Did after school tutoring help you with your school work?

13.4% Probably not.

49.0% It helped me a little.

37.6% It helped me a lot.

If tutoring helped you, in what way did it help you the *most*?

13.6% It didn’t help me much.

22.3% Helped me with my daily work.

38.3% Helped me improve my grade.

14.9% Helped me prepare for classroom tests.

11.0% Helped me improve other test scores.

Would you recommend after school tutoring to a friend who needed help?

87.0% Yes

13.0% No

Student responses on the question of how much the tutoring had helped them were converted to a three-point scale (1 = not much, 2 = a little, 3 = a lot). Student responses to this question were correlated with actual changes in grades to see if there was any correspondence: essentially, there was not. The relationship of student impressions with actual gains in each subject area was no higher than .07 (negligible). About 86% of the participating students felt the program had helped them to some extent, even though such help was short-lived or nonexistent. This is consistent with the way people evaluate experiences, in general. If one has willingly invested time and effort in something, one will defend the belief (even to oneself) that the experience was of value. Student beliefs were sincere, if unfounded.

Site Differences in Program Costs

Total program costs were reported by each school at the end of the year for purposes of reimbursement. These costs were not broken down into components. It is assumed that the largest share of these costs was teacher compensation, but administrative expenses, costs for materials, or other components could have been included. In either case, the approach taken here is to simply examine the total cost at each school as it relates to total reported student contact hours.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Program Expenses Compared with Student Contact Hours** | | | | | | | |
| **School** | **Reported Expenses** | **Language Hours** | **Math Hours** | **Science Hours** | **SocialSt. Hours** | **TOTAL HOURS** | **Cost per Hour** |
| **HS W** | $8,091.16 | 56.00 | 346.00 | 274.00 | 58.00 | 734.00 | $11.02 |
| **HS X** | $2,382.80 | 6.00 | 255.00 | 60.00 | 0.00 | 321.00 | $7.42 |
| **HS Y** | $4,522.14 | 513.00 | 651.00 | 927.50 | 425.50 | 2,517.00 | $1.80 |
| **HS Z** | $3,196.06 | 557.00 | 428.30 | 96.00 | 131.50 | 1,212.80 | $2.64 |
| **MS A** | $2,248.12 | 286.00 | 1,000.00 | 170.00 | 166.00 | 1,622.00 | $1.39 |
| **MS B** | $4,283.86 | 137.70 | 332.00 | 358.25 | 254.50 | 1,082.45 | $3.96 |
| **MS C** | $1,869.98 | 12.00 | 311.00 | 0.00 | 7.50 | 330.50 | $5.66 |
| **MS D** | $7,305.34 | 422.00 | 376.00 | 180.00 | 424.00 | 1,402.00 | $5.21 |
| **MS E** | $6,237.34 | 775.50 | 440.00 | 388.50 | 297.00 | 1,901.00 | $3.28 |
| **MS F** | $3,411.78 | 24.50 | 296.50 | 195.75 | 39.60 | 556.35 | $6.13 |
| **Total** | **$43,548.58** |  |  |  |  | **11,679.10** | **$3.73** |

Review of the figures submitted for both expenses and contact hours suggests that the cost per hour of student contact ranged from as low as $1.39 to as high as $11.02 across schools, with an average cost of $3.73. An appropriate range is not known to the evaluator, but the wide variance suggests further inquiry might be helpful. A cost-benefit analysis had been intended, but given the overall lack of program effect there seemed no promising method of approach.

Discussion

It is perplexing when an intervention involving a great deal of thought and planning, the investment of significant resources, and the devotion of thousands of hours of student and staff time does not demonstrate an obvious and meaningful benefit. There are several possible reasons why the after school tutoring program may have shown minimal impact.

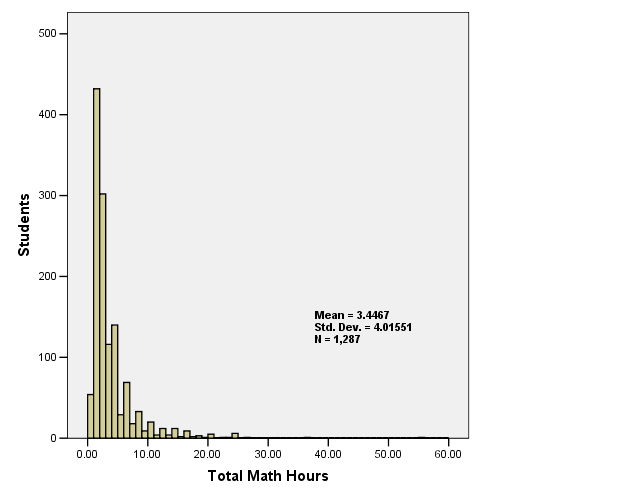
1. Not enough student contact. Interviews with school personnel had created the impression that students were attending repeated sessions and accumulating significant contact hours. However, attendance records indicate that just 1-3 sessions was by far the most typical investment of student time. There is likely a threshold for participation that greatly exceeds this amount in order to be beneficial. Not enough students invested meaningful amounts of time in order for this to be determined.
2. Inappropriate outcome variable. It is possible more of an effect could have been observed if outcomes had been chosen that were more immediately relevant to the classroom, such as homework completion, class participation, or quiz performance immediately following tutoring sessions. However, while such events are important, they are merely intermediate steps, and if they are not incremental in improving performance at the course level they cannot be viewed as independently important. Improvement of classroom grades was an expected outcome in every school’s program; actual outcomes were apparently limited and transitory.
3. Unaddressed but relevant student differences. Although students were matched on half a dozen factors relevant to performance, it is still possible that tutored students differed from their nontutored peers in ways that were not evident. At the outset, first quarter grades for students who attended tutoring averaged C+ in Language Arts, C- in Math, C+ in Science, and C+ in Social Studies. These marks are not meaningfully different from averages observed of the entire district population at that point. Then why would we suspect any differences among the tutored students? The only evident point is this: Tutored students were either self-referred or referred by their teachers, while their matched peers were not, and this could relate to other important differences. A hint of this possibility may be seen in the fact that nontutored students actually demonstrated slightly larger gains (though not significantly larger) than tutored students.

Of the possibilities reviewed above, the first seems the most plausible. Consider the *average* hours invested by students in Math tutoring: 3.4, as noted with Table 3. Although the average is 3.4, *typical* investment was one to three hours (see Figure 1 on the following page). There seems little reason to expect meaningful impact from a one to three hour intervention on a yearlong outcome measure.

Recommendation

The program change most likely to improve intervention outcomes in the future is simple but difficult: Significantly increase the amount of contact time required of, and support available to, each student – perhaps by a factor of ten – and extend sessions throughout the school year in order to reach a critical threshold. Even if this were done for far fewer students, a measurable effect would be more probable and much more could be learned about what works and what doesn’t work in these programs.

Figure 1. Total Hours of Math Tutoring by Individual Students



Appendix A

Program descriptions compiled from staff interviews during January, 2013.

**After School Tutoring for 2012-13**

**Interviewed:** Principal B **School:** Middle School B **Date:** 1/15/13

Teacher B (via e-mail) 1/24/13

**What subjects or content are provided?** All Core classes; Math, Reading, Science & Social Studies. If students are successful in class, they will do well on the assessments.

**How are students selected?** Kids have to be engaged and trying. Then, if regular school interventions are not succeeding and extra time is needed, teachers will recommend them for after school. Some students rotate through help in one or more subject areas, other tend to stay on. As long as needed.

Our primary method is to prioritize who would benefit the most with no more than 12 students per teacher. This is done by:

Speaking with our SPED teacher for his recommendations

Observing who is trying in class, but needs extra help

Checking grades for zeros and/or failing

Those with a history of willing to work and not waste time

**How many students are participating or are anticipated?** Couple dozen at any one time.

**When and for how long are sessions offered?** Teams decide the scheduling. May be one hour twice a week, two hours once a week, etc.

Our team, the core teachers and our assigned SPED teacher stay on Mondays for two hours to tutor, allow make-ups, re-take tests, finish assignments, etc. The two-hour session is broken into two 1-hour blocks. If a student stays, he/she must stay in the first room for an hour before switching to another teacher. Sometimes they will stay with the same teacher for the entire time period. We feel if they do not need an hour, which includes settling in and getting work out, they should not take the space. In other words, if they just need a question answered or to pick up an assignment, they do not stay.

**How is content matched to student needs?** Entirely based on the students’ curriculum. Keep students caught up and successful in their daily work. Content is matched by the teacher to what the individual student needs at that time.

**How are teachers chosen?** All Core teachers are assigned. Called as needed. Tier 1 instruction in this school is good, which supports and allows this to work.

**How is progress monitored?** Completion of daily work. Progress is watched with grade percentages, zero counts, and participation in class.

**What would be the best outcome measures at the end of the year?** Impact is expected in classroom grades. If the curriculum is delivered, it will transfer to assessments; so successful daily work is the focus.

**What else should I know?** Being able to get staffing for kids’ different needs is critical. Staff for Reading and Math is essential. Principal developed the tutoring plan with staff. The “opt out” kids are the ones that drive us crazy. What are their real issues?

Gear Up (with KU) has implemented the ZAP (Zeros Aren’t Permitted) program with incentives to have no zeros.

Personally, with the population we serve, I feel that a homework lab needs to be created. We are already paying teachers up to two hours per week to tutor and they have willing agreed to meet the need. What I see as a problem is that the 8th grade stays only on Mondays, one or two teachers from another team might stay Thursdays, and then one might stay Friday. Students have a difficult time with set nights because of their life outside of school.

Students from all grade levels would be welcome (in the cafeteria) to a place of quiet, with laptops available, school supplies available, and a core teacher in each content to answer questions. This way the student could choose the night convenient to them for staying and still get the help needed. So many students say they can’t complete homework at home because of something, which I believe is true for the most part. This, I believe would improve a school’s culture and definitely grades and learning.

As for the time between 3:00 dismissal and 3:30 teacher dismissal there is only time to pass out work, not tutor or complete assignments.

**After School Tutoring for 2012-13**

**Interviewed:** Principal C **School:** Middle School C **Date:** 1/10/13

**What subjects or content are provided?** Reading and Math, only.

**How are students selected?** By teachers, from review of MAP and common assessments. Student self-referral also allowed.

**How many students are participating or are anticipated?** About 30-50 at any particular time.

**When and for how long are sessions offered?** Began at end of 1st quarter. Participation may last 1-3 weeks, or longer for any student. Sessions offered Mon, Tue, & Thu, 3:30-5:00; may reduce to 1 or 2 per week during basketball.

**How is content matched to student needs?** By indicators covered on common assessments. Usually there will be two teachers in a subject area, each covering different indicators. Individualized “to a degree.”

**How are teachers chosen?** Reading & Math teachers were given first option. Science teachers support Math and Social Studies support Reading if needed. Have been able to cover so far.

**How is progress monitored?** Analysis of daily work (in class). Also quarterly summatives, although there is some difficulty matching those to the pacing guide.

**What would be the best outcome measures at the end of the year?** Outcomes are expected to show up mostly on the MAP and in classroom grades.

**What else should I know?** Still trying to increase attendance, reach more students.

**After School Tutoring for 2012-13**

**Interviewed:** Principal D & Teacher D **School:** Middle School D **Date:** 1/10/13

**What subjects or content are provided?** Any subject, on request.

**How are students selected?** Opened up early in the year to any student, with signup by parents. Open to teacher referral if struggling. Involves lots of observation for students falling behind.

**How many students are participating or are anticipated?** Typically about 20 students per session, usually the same ones from day to day.

**When and for how long are sessions offered?** Tue and Thu, 3:00-5:00.

**How is content matched to student needs?** Students bring work they need to complete; this is not a supplement. If no work is needed that day, they can work on Odyssey.

**How are teachers chosen?** At least one Reading and one Math teacher, plus one Sped teacher, are involved at all times. Others as needed. Tends to be a standard group with some fill-ins as needed. Keep the content areas covered.

**How is progress monitored?** 1st and 2nd quarter grades were examined, and will continue each quarter. Grades should come up.

**What would be the best outcome measures at the end of the year?** Classroom grades should come up. Also MAP scores should improve from working with Odyssey.

**What else should I know?** Didn’t have enough opportunity with students 1st quarter; hope to see changes from work in 2nd quarter. Would like to bring in more students. Hard to give the individual attention needed with a group larger than 25.

**After School Tutoring for 2012-13**

**Interviewed:** Principal X **School:** High School X **Date:** 1/8/13

Teacher X (via e-mail)

**What subjects or content are provided?** Math & English. (Ad hoc assistance available for Science and Social Studies, as well.) Program is tailored by Teacher Leaders to cover missing skills. Students stay after with a teacher focusing on a particular skill or skills they need. Sections are created to meet common needs.

**How are students selected?** Teachers in the PLCs recommend students, based on their performance on common assessments. Students may also self-select.

**How many students are participating or are anticipated?** A few dozen at this time, with hopes to pick up.

**When and for how long are sessions offered?** Mondays, Tuesdays, and Thursdays for one hour after school. Students may stay to complete work in specific areas, may move on to other teachers for different content, or may stop when ready.

**How is content matched to student needs?** Common assessments are the main driver, followed by teacher observation and quarterly summatives.

**How are teachers chosen?** All teachers rotate through. Six slots available in Math, still getting language arts off the ground.

**How is progress monitored?** Observation and further discussion in the PLCs.

**What would be the best outcome measures at the end of the year?** Possibly attendance; more likely improvement in classroom grades.

**What else should I know?** Popular with students and staff. More individual attention for students, different student/teacher matches than during daily instructions. Problems are drilling down and identifying the needs. Even the kids sometimes don’t know what they don’t know.

**After School Tutoring for 2012-13**

**Interviewed:** Principal E **School:** Middle School E **Date:** 1/10/13

Teacher E (via e-mail)

**What subjects or content are provided?** Reading, Math, Science, Social Studies + Electives. “I Care” tutoring; all subjects are equally important.

**How are students selected?** Teacher referral in Core classes, based upon observations, homework, grades, common assessments, and MAP. Staff hold quarterly data meetings for review. Self-referral also allowed.

**How many students are participating or are anticipated?** Typically 30-50students, or about 10% of the student body. Among those selected, participation runs about 70%. Talk with parents if not satisfactory.

**When and for how long are sessions offered?** Tue and Thu, 3:00-4:30.

**How is content matched to student needs?** Student deficits are known within each PLC. Small student groups are organized around specific standards. No whole-group instruction; multiple groups may run at same time with same or different teachers.

**How are teachers chosen?** Teachers rotate through the slots. May skip if conflicts for coaching, etc. PLCs determine schedules by grade level. Most of the nuts and bolts is done in the PLCs.

**How is progress monitored?** Monitored by work completion in the sessions, then by observation in classes and discussion in PLC.

**What would be the best outcome measures at the end of the year?** Common assessment and classroom grades.

**What else should I know?** Had a rough start but proving successful. Hope to expand next year.

**After School Tutoring for 2012-13**

**Interviewed:** Principal A **School:** Middle School A **Date:** 1/11/13

Teacher A (via e-mail) 1/25/13

**What subjects or content are provided?** Math and Reading.

**How are students selected?** Referred by teacher if student is missing two or more homework assignments. A few decline; then parents are contacted. There are some self-referrals.

**How many students are participating or are anticipated?** Average about 20 students, with some turnover.

**When and for how long are sessions offered?** Tue and Thu, 3:00-5:00.

**How is content matched to student needs?** Content = missed assignments. Catch up on daily work.

**How are teachers chosen?** Volunteers. No trouble filling slots. Teachers rotate through.

**How is progress monitored?** Completion of daily work. Homework charts. If students fall behind again, they return.

**What would be the best outcome measures at the end of the year?** MAP improvement. Also higher completion of homework and final grades.

**What else should I know?** Getting students to understand the importance of completing daily work. This is a safe, informal place to disclose what they don’t know how to do, and to get help.

Participation is down so far this semester (late January), which could mean students are turning in their work better, or that less homework is being assigned, so far. Attendance should pick up soon when Progress Reports come out.

**After School Tutoring for 2012-13**

**Interviewed:** Principal W **School:** High School W **Date:** 1/18/13

Teacher W (via e-mail) 1/28/13

**What subjects or content are provided?** The four Core subjects. Just met for a data review, and may back away from Social Studies because of lighter demand.

**How are students selected?** Students bring in work where they are behind. Opportunity for reteaching and getting caught up. Started out targeting students with 45-60% completion rate, but now need to open to more. Self referral or teacher recommendation based upon performance range.

Some students have declined, individual letters of invitation are sent home. Maybe half those who need to participate actually do.

**How many students are participating or are anticipated?** Varies by week. Usually 25-30 any day. Attendance is lower at the start of each semester, then picks up closer to the end.

**When and for how long are sessions offered?** Four afternoons per week, 3:00-5:00. Math: M, T, Th. English & Science: T & F.

**How is content matched to student needs?** Classroom performance.

**How are teachers chosen?** Program was shared with entire staff and volunteers were solicited. The original group persists.

**How is progress monitored?** No extra assessments, but watching student daily work and classroom grades.

**What would be the best outcome measures at the end of the year?** We would hang our hats on the number of grade level repeaters; or the number ready for the next grade. Also classroom grades.

**What else should I know?** We have little leverage with the kids who most need support. How can we reach them? How can we motivate students not to dig themselves into a hole in the first place?

**After School Tutoring for 2012-13**

**Interviewed:** Principal Y (by e-mail) **School:** High School Y **Date:** 1/7/13

Teacher Y (by email)

**What subjects or content are provided?** Four Core areas.

**How are students selected?** Teachers select small groups (8-10 students) to meet with them for a targeted intervention in an area where the teacher sees a deficit. Students and parents are contacted in advance.

**How many students are participating or are anticipated?** We are tracking this via the excel document. We have the capacity to reach 280 students per week via 9th Hour Intervention. So far we are well below that mark. We have also tried several different methods for reporting attendance in an effort to ensure that we are counting targeted students only. As of yet it is hard to tell how accurate our reporting system is in accomplishing that, however we are continuing to improve the process.

**When and for how long are sessions offered?** Math & English on Mondays; Social Studies & Science on Tuesdays, 2:30-3:30.

**How is content matched to student needs?** Teacher discretion, all that we are asking is that teachers identify students who are in need of support or are deficient in a specific area. Content and resources for each intervention are determined by the teachers.

**How are teachers chosen?** All Core teachers are expected to participate.

**How is progress monitored?** At the end of the year we plan to look at previous year’s performance and current year performance for students who were routinely targeted and who participated to gauge if there was a change in success/performance this first year. Our goal is to begin using ACT scores as well, but we need to get scores for all students as a baseline before we can start to do that.

**What would be the best outcome measures at the end of the year?** Improvements in final course grades and in ACT scores. Increased passing rates, decreased retention, increased graduation rate.

**What else should I know?** This first year we have struggled with teacher buy-in and participation. If we could get all core teachers to target and contact the intended number of students we are confident this intervention will lead to increased student success directly in cores and indirectly in all classes. In spite of continued and consistent amounts of leadership team support, teachers struggled to identify/target students, to make parent contacts, to dedicate that hour of time to those specific students and to create activities that would fill the gaps for the targeted students. This is to be expected to some extent when beginning a new program and implementing new expectations and we are continuing to provide support in an effort to improve this process overall.

**After School Tutoring for 2012-13**

**Interviewed:** Principal F & Teacher F **School:** Middle School F **Date:** 1/14/13

**What subjects or content are provided?** Differs by grade level:

6th grade – Math and Reading

7th grade – Science, Math, and Reading

8th grade - Math

**How are students selected?** Teacher selection re achievement and behavior. Met in grade level PLCs, reviewed Fall MAP, discussed students individually to prioritize needs. 6th grade team got very specific in forming Math groups

**How many students are participating or are anticipated?** Typically about 50 students. Generally a steady group of kids, about 80% consistency. A few decline.

**When and for how long are sessions offered?** Mon, Tue, & Thu. Time depends on recommendation of team. May be half hour, 1 hr. or 2 hrs. depending on need.

**How is content matched to student needs?** Reading: what comprehension strategies are missing? Use District curriculum guide, but fill in missing pieces that all readers need. Math: goes more basic, helping to fill in holes for what was missed previously. Science: follow curriculum and supplements.

8th grade Math has about 20 students, divvy up into smaller groups.

Default is small groups, with some 1 on 1.

**How are teachers chosen?** Volunteer basis. Principal work with teachers to obtain extra support for students at less than a “C” level.

**How is progress monitored?** Teachers do individual formative assessments. Also look at MAP results and progress on MAP ladders. STS formatives are used in English and math. Common assessments are used some.

**What would be the best outcome measures at the end of the year?** Winter to Spring MAP comparison, and classroom grades.

**What else should I know?** The project is tailored to meet needs of individual students. Student/teacher ratio is kept low. Students are already grouped by need. ESL teacher has been incorporating technology into the groups’ work. 8th grade teachers focus on ACT skills and Explore prep.