

Pathways to Success:
Individualized Interventions for Students with Special Needs in an Alternative Program

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ABSTRACT

Many students with special needs fall behind grade level and need additional support, but their schools often fail to provide them with the services they need to make meaningful academic gains. To address this need, we developed Pathways, an intensive short-term educational program that provides targeted remediation and individualized support to students with special needs who are significantly behind grade level. By comparing student academic growth on NWEA's MAP assessment and behavioral growth based on internal data, our initial evaluation of the program shows that students have made progress toward their age-appropriate grade level. These results suggest that this type of intensive, individualized educational program might prove beneficial to other school systems that are attempting to increase achievement for students with special needs.

INTRODUCTION

Students with learning disabilities graduate from high school, attend four-year universities, and complete post-secondary degrees at much lower rates than their peers.¹ Only 61% of students with disabilities graduate high school within four years, compared to 80% of the total student population,² and only 34.2% obtain a four-year degree, compared to 51.2%.³ There is no group of young people in this country at greater risk and more in need of academic support than students with disabilities.

Research has demonstrated that interventions combining intensive, individualized instruction with regular monitoring of student progress tend to be the most effective in

¹ Brand, B., & Valent, A. (2013, March). *Improving College and Career Readiness for Students with Disabilities* (Rep.). Retrieved [http://www.ccrscenter.org/sites/default/files/Improving College and Career Readiness for Students with Disabilities.pdf](http://www.ccrscenter.org/sites/default/files/Improving%20College%20and%20Career%20Readiness%20for%20Students%20with%20Disabilities.pdf)

² Stetser, M. C., & Stillwell, R. (2014, April). *Public High School Four-Year On-time Graduation Rates and Event Dropout Rates: School Years 2010-11 and 2011-12*(Rep.). Retrieved <http://nces.ed.gov/pubs2014/2014391.pdf>

³ Brand & Valent (2013)

improving outcomes for special education students.⁴ It has also been shown that students with special needs respond well to explicit instruction with multiple opportunities for guided practice.⁵ Additionally, a student's ability to succeed in the general education classroom varies widely depending on the specific nature of his or her disability and the types of interventions he or she is receiving.⁶ Thus, while debate continues over the possibility of full inclusion for all students with special needs and the proper implementation of the 'Least Restrictive Environment' clause of the Individuals with Disabilities Education Act⁷, it appears that the type, rigor, and individualization of instruction are the most important factors to a student's success in school regardless of classroom placement.

The Pathways program is designed to meet the needs of a small group of students with disabilities who have significant academic deficits by providing this type of rigorous, individualized learning environment over the course of one or two years. Pathways teachers use research-proven instructional methods and regular formative and summative assessments to measure student academic, social, and emotional growth. We hypothesize that the combination of interventions in the Pathways program will have a significant effect on the academic and behavioral performance of students with disabilities who are enrolled in the program. We also hope that our work at Pathways can provide valuable information for schools on strategies to better educate students with disabilities who need deep academic remediation and behavioral coaching. Currently, the strategies we are developing in the Pathways program are shared with special education teachers across the Democracy Prep Public Schools network in order to begin planning the transition of Pathways students back into the general education classroom once they complete the program.

⁴ Hocutt, A. (1996). Effectiveness of Special Education: Is Placement the Critical Factor [Abstract]. *The Future of Children*, 6(1), Spring. Retrieved from http://www.princeton.edu/futureofchildren/publications/docs/06_01_04.pdf

⁵ Archer, A. L., & Hughes, C. A. (2011). *Explicit Instruction: Effective and Efficient Teaching*. The Guilford Press.

⁶ Hocutt (1996)

⁷ Crockett, J. B., & Kauffman, J. M. (1999). *The Least Restrictive Environment: Its Origins and Interpretations in Special Education*. Mahwah, NJ: Lawrence Erlbaum Associates.

METHODS

In order to estimate the effectiveness of the Pathways program, we examined measures of student academic and behavioral growth, including growth on the Measures of Academic Progress (MAP) assessment, changes in student attendance and punctuality, and changes in student suspension and send-out⁸ rates. We also collect quantitative data on academic performance through internal assessments every ten weeks to determine student grouping and qualitative data on student social and emotional growth using a scorecard adapted from the Character Growth Card developed by Character Lab,⁹ but we have excluded these assessments for the purposes of this analysis as they are primarily formative in nature.

All middle school students in Democracy Prep Public Schools take the MAP assessment at the beginning, midpoint, and end of the academic year, including Pathways students. MAP is a personalized assessment that adjusts to each student's learning level, resulting in a normed measure of a student's progress towards an individualized growth target in mastering Language, Reading and Math standards over time. Moreover, the Pathways program has a specific focus on remediating math and reading/literacy skills for students, using the concrete-representational-abstract instructional approach¹⁰ in mathematics and explicitly teaching sub-skills such as fluency and accuracy to improve overall reading comprehension. For this reason, we have chosen MAP data in mathematics, reading, and language usage as our primary indicators of student academic growth in order to allow us to compare the progress of students in the Pathways program with students in Democracy Prep Schools who were eligible for Pathways based on academic needs but who did not participate in the program. We also were able to analyze the growth for each

⁸ At Democracy Prep Public Schools, a "send-out" occurs when a student receives three behavioral corrections within one class period or when a student exhibits behaviors that are dangerous or extraordinarily disruptive to the class.

⁹ Character Lab is a nonprofit that develops and supports research-based character education. (<https://characterlab.org/what-we-do>)

¹⁰ The Access Center, *Concrete-Representational-Abstract Instructional Approach* (Rep.). (2004, October 01). Retrieved <http://165.139.150.129/intervention/ConcreteRepresentationalAbstractInstructionalApproach.pdf>

Pathways student pre-participation and during participation in the Pathways program by comparing their mid-year growth for the 2014-15 academic year (pre-Pathways) to their growth over the first half of the 2015-16 year. MAP data was collected electronically as the students took each exam; however, it was limited by some students missing one of the exam windows (fall 2014, winter 2015, fall 2015, or winter 2016).

In order to assess changes in student behavior, we examined changes in student attendance rates, punctuality, and suspension and send-out rates. This data was collected by teachers and school operations staff through our online student information systems. We averaged attendance data (number of days present divided by number of days enrolled) for each Pathways student for the 2014-15 academic year to obtain a daily attendance rate, then did the same for the 2015-16 academic year through mid-February. We calculated the percent difference from last year to this year to determine which students have had better attendance since they began attending Pathways. We used the same methods to analyze punctuality data.¹¹

In analyzing suspension and send-out data, we aggregated the number of send-outs Pathways students received during the 2014-15 year in September through January before participating in Pathways, then compared this number to the total number of send-outs that Pathways students have received for the 2015-16 school year through January. We used the same method to analyze suspensions for Pathways students in order to see if students are receiving fewer send-outs and suspensions in Pathways than they did last year in Democracy Prep schools. This data is limited by subjectivity, as teachers and principals at each Democracy Prep school may apply slightly different standards to discipline than the teachers in the Pathways program.

¹¹ For both attendance and punctuality, one Pathways student was excluded from the data set, as we were unable to obtain data for the 2014-15 school year for this student.

RESULTS

For this mid-year evaluation of Pathways, our analysis shows mixed academic results and positive behavioral results for students who participated in the program.

Academic Growth – MAP Assessments

Although randomization was not possible in this study, as students were specifically selected for the Pathways program based on the requirements of their IEPs, we tried to simulate a control group by comparing the growth of Pathways students to other Democracy Prep students who were eligible for Pathways based on academic needs but who were not selected to participate in the program for various reasons.¹² As illustrated in Figure 1, students in the Pathways program met their growth targets at nearly double the rate of non-Pathways students (63% and 35%, respectively) in language usage, slightly outperformed non-Pathways students in reading (62% and 58%), and performed worse than non-Pathways students in math (31% and 66%). These results suggest that while the Pathways program is successfully addressing the standards measured on the MAP assessment in reading and language, it is not yet addressing the full spectrum of standards in mathematics. This is likely due to the curricular method that Pathways employs in which students focus deeply on remediating one mathematics topic at a time, improving student mastery of topics for long-term success but not necessarily yielding immediate assessment results.

When comparing the progress of Pathways students pre- and post-participation in the Pathways intervention, we found similar results. Figure 2 shows that in the 2015-16 school year, after beginning Pathways, a larger percentage of students met their mid-year growth targets in language usage (63%) and reading (62%) than the percentage of students who met these targets in

¹² In order to participate in Pathways, a student's parents had to opt-in to the program. Students also had to have an existing Individualized Education Plan that required the student to receive special education services for 60% or more of the school day.

the 2014-15 school year, before participating in the Pathways program (40% in language usage and 40% in reading). However, the results in mathematics were again lower: 31% of Pathways students met their mathematics growth targets during their participation in the Pathways program, whereas 53% of student met their mathematics growth targets in the year prior to joining Pathways. However, it should again be noted that the curricular methods employed by Pathways are geared towards long-term mastery and it is likely that a larger percentage of students will meet their growth targets at the end of this academic year, after a larger number of mathematics standards have been covered, than the percentage reflected in the data here.

Behavioral Indicators – Attendance, Punctuality, Suspensions and Send-outs

As Figures 3 and 4 show, the majority of Pathways students have improved their average daily attendance and punctuality in the 2015-16 academic year. Over 67% of students have improved attendance and nearly 77% are more punctual on a daily basis. Although we use attendance and punctuality here as a measure of behavior, attendance in the middle school years is also an indicator of on-time high school graduation¹³ and is thus directly tied to a student's academic progress.

The number of send-outs and suspensions for Pathways students has decreased from the number of send-outs and suspensions that the same students received in the year prior to their participation in Pathways. As Figure 5 illustrates, the number of send-outs for Pathways students in 2015-16 is nearly half the number of send-outs during the same time period in the 2014-15 school year, and suspensions have also decreased.¹⁴ As suspensions are a direct result of the administration of behavioral consequences, the decrease in suspensions suggests a general trend

¹³ Hein, V., Smerdon, B., & Sambolt, M. (2013, November). *Predictors of Postsecondary Success* (Rep.). Retrieved http://www.ccrscenter.org/sites/default/files/CCRS_Center_Predictors_of_Postsecondary_Success_final_0.pdf

¹⁴ It is important to note that the Pathways suspension policy differs from the general Democracy Prep policy in that Pathways students only receive in-school suspensions, during which they are provided with additional academic and emotional support.

in improved behavior amongst students who participate in the Pathways program. Although not a focus of this study, it is also interesting to note that there has been no student attrition as of yet from the Pathways program.

DISCUSSION

While Pathways is still a nascent program, early indicators of academic and behavioral changes in Pathways students suggest that intensive transitional programs may be able to serve as a compromise in the debate over inclusive versus separate educational environments for students with disabilities. If significant gains can be made over the course of one or two years, then students may be able to rejoin a general education classroom with a gradual release of support from Pathways. A program like Pathways could be considered an option within the full continuum of educational services for children with special needs¹⁵ and could be a step towards policy changes that recognize that the Least Restrictive Environment for each student is different and changes over time.

As is the case with many interventions in education, students were not chosen randomly to participate in the Pathways program, so true experimental design is not possible. There are only a small number of scholars who participate in Pathways, resulting in a small sample size that was further reduced when students missed exams due to attrition and administrative factors. Students who exited Democracy Prep when they were not selected for Pathways were excluded from our analysis; we are unfortunately unable to test for how this may skew our findings. We have no reason to suspect that the incidence of operational issues, such as tests not being clicked through to completion or missingness related to proctoring issues, was at all related to outcomes

¹⁵ Hocutt (1996)

on the test. Further studies would need to be done on a larger scale in order to determine whether the results seen here could be reproduced outside of Democracy Prep.

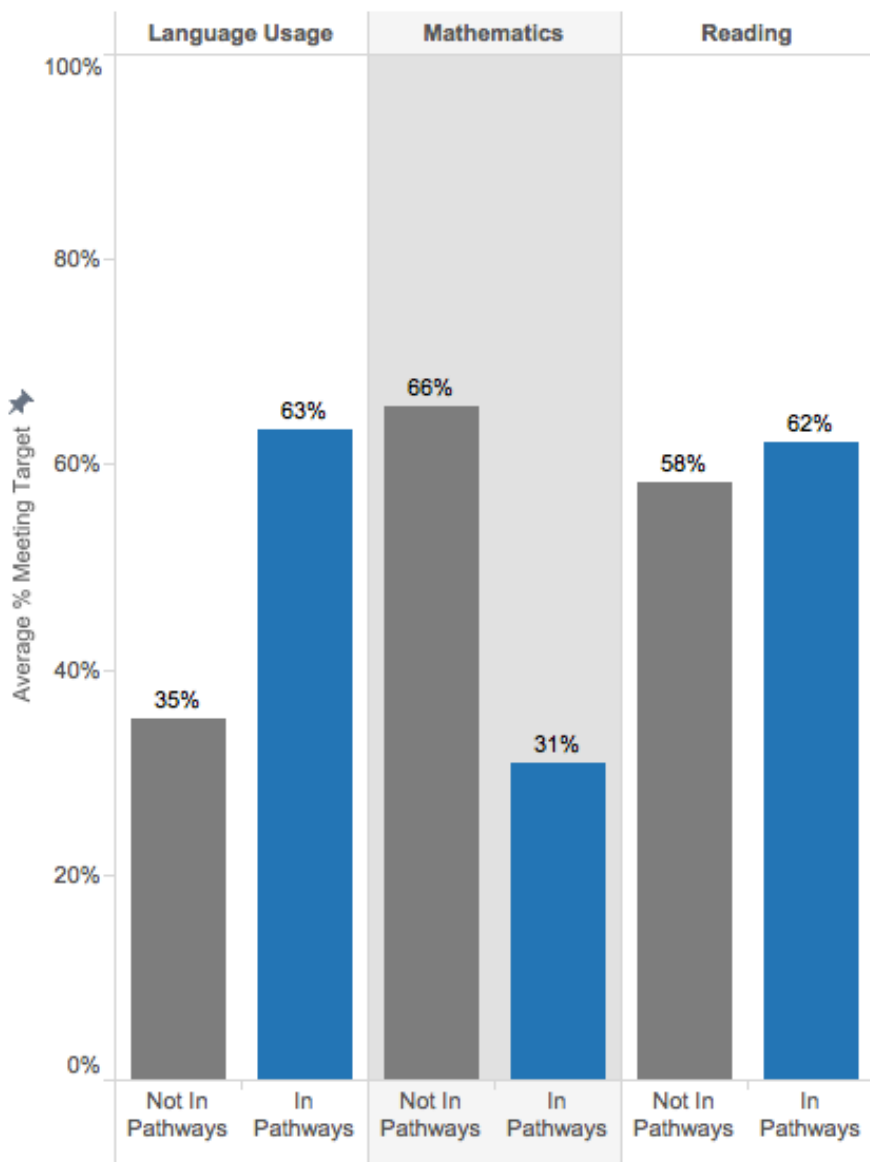
Our study looks at the overall impact of the Pathways program at the midpoint of its first year, but we cannot yet predict the ultimate impact of the program, which is intended as a multi-year intervention that continues providing support to students with special needs as they transition back into their schools. Additional analysis of academic and behavioral data at the end of this year and longitudinal studies of students who participate would help us determine if Pathways has a lasting impact on student success and on special education services in our schools. Democracy Prep has been and continues to be committed to transformational change for *all* students, and Pathways is our next step in changing perceptions of what is possible for young people who learn differently.

Appendix

Figure 1

Did Pathways students grow more than students who were candidates for Pathways but did not participate in the Pathways program this year?

The tables below show the percent of students in each group (Pathways vs. Non-Pathways) who met their growth target from the fall to winter assessment for each subject.



Note that a student's growth target changes from year to year based on a student's level on the fall assessment. Targets are normed to a national standard for students at each level.

Figure 2

Did the Pathways students grow more on the MAP assessment this year from the fall to winter assessment than they did last year from fall to winter?

The chart below shows the percent of Pathways students who met their growth target from fall to winter in the 2014-15 school year (pre-Pathways) and in the 2015-16 school year (during Pathways).

Note that a student's growth target changes from year to year based on a student's level on the fall assessment. Targets are normed to a national standard for students at each level.

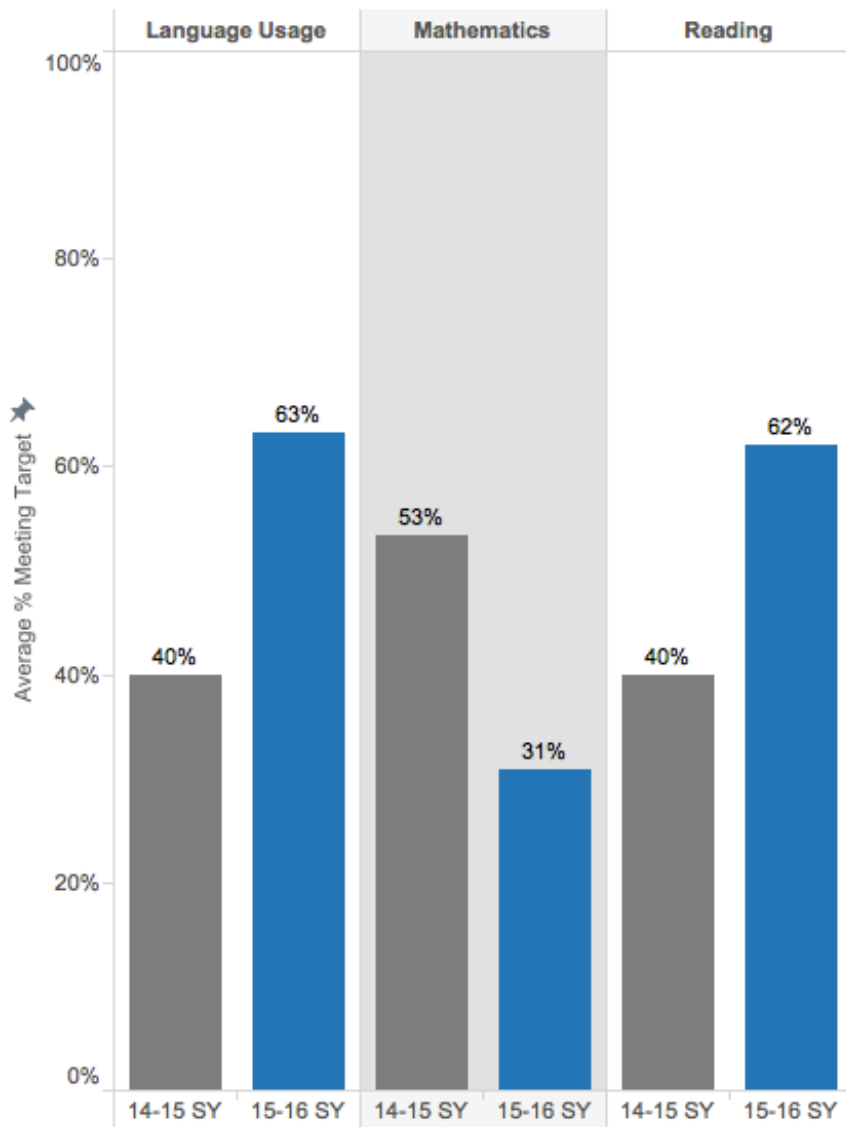


Figure 3

This chart illustrates the percentage of Pathways students who exhibited better attendance patterns in the 2015-16 academic year (after beginning to attend Pathways) as compared to the 2014-15 academic year (before attending Pathways).

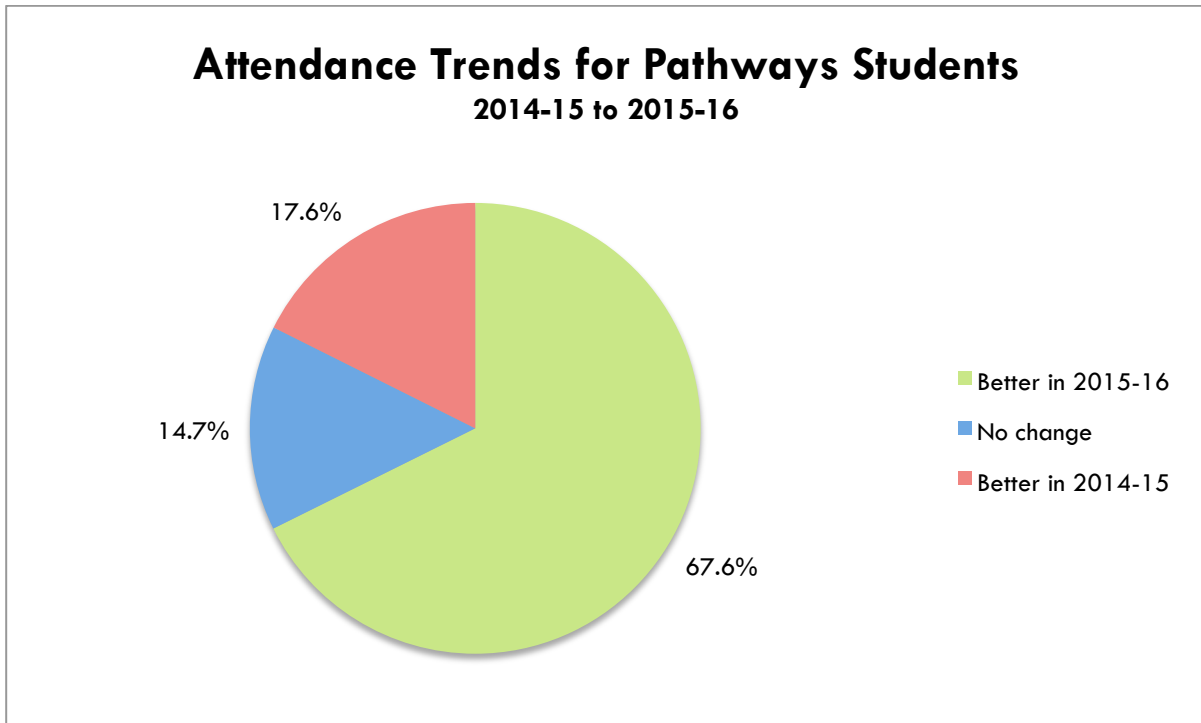


Figure 4

This chart illustrates the percentage of Pathways students who exhibited better punctuality patterns in the 2015-16 academic year (after beginning to attend Pathways) as compared to the 2014-15 academic year (before attending Pathways).

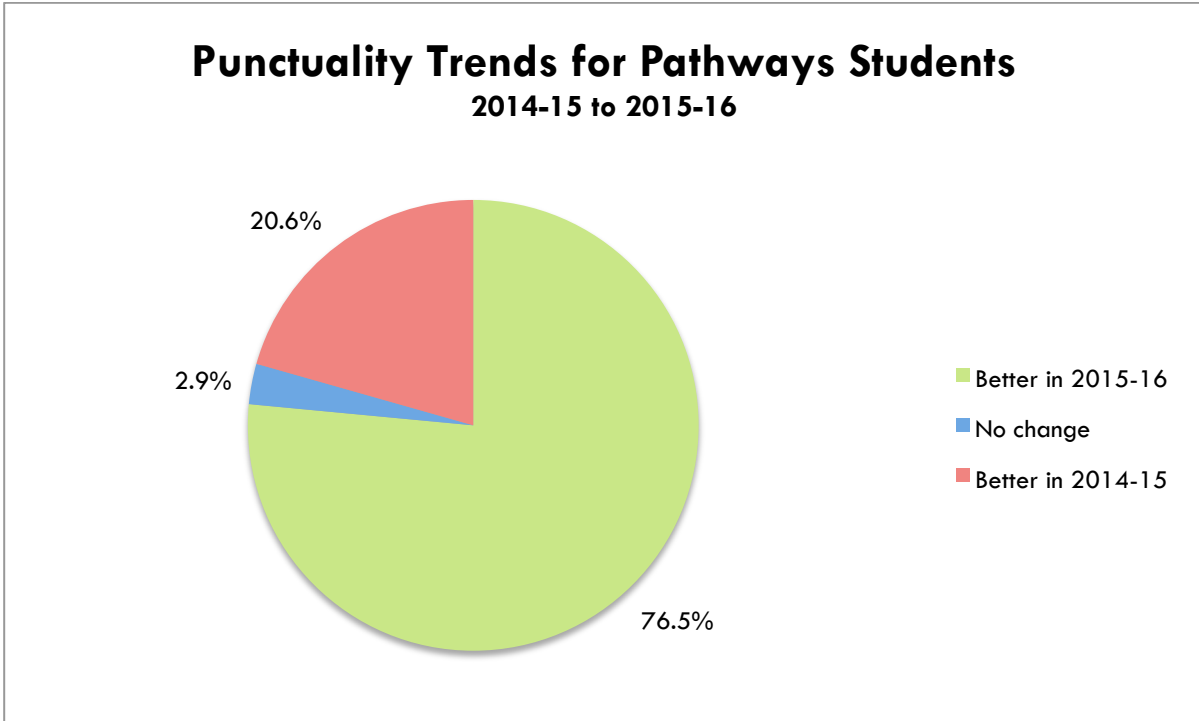
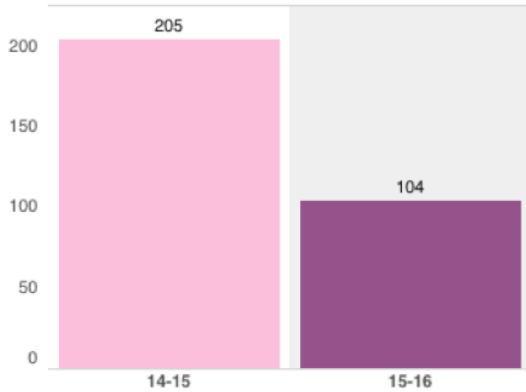


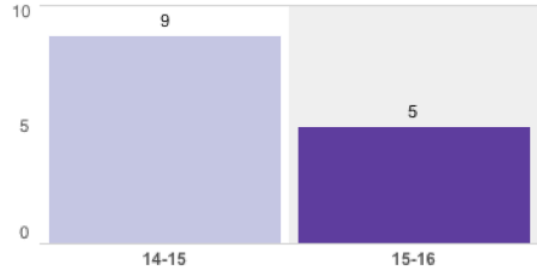
Figure 5

The visualization below highlights the overall total number of send-outs and suspension days for students in months September through January, comparing totals from the 2014-15 academic year to this current year. It is critical to note that in the 2014-15 school year, these scholars attended four separate schools, with their own school cultures and culture management. Still, this may serve as a rough comparison point between last year and this year.

Total Number of Sendouts
14-15 compared to 15-16



Number of Days Suspended
14-15 compared to 15-16



** It is important to note that at Pathways, no scholars have been given an outside suspension in the 2015-2016 academic year. While both years include all suspension codes, the suspensions in the 14-15 year were both inside and outside suspensions.