

Getting Back on Track: Predicting High School Success Early

Introduction

Providence strives to prepare all of its students for college and career. However, the most vulnerable students are unable to achieve even basic high school success and earn their diploma.

There is a rich body of research describing the importance of successful transitions into high school and performance in students’ first year in ensuring high school graduation. Providence has a powerful opportunity to use data collected prior to high school to identify students with the lowest odds of graduating^[1].

This report will outline an approach to predicting two outcomes– ninth grade retention and graduation– based on inputs available even before their freshman year starts. It will also demonstrate that combining this data with student results from their first quarter in ninth grade produces an even more accurate prediction of both retention and graduation. Based on these findings, it is believed that Providence could identify students most in need of supports right from the first day of high school enrollment. The increased predictability observed when using course performance from the first quarter in ninth grade suggests that early interventions have the potential to get students on-track and highlights the importance of a smooth transition.

The conclusion of this report will present a plan to operationalize these predictive analytics. The plan includes the business rules utilized to calculate the predictive analytics and process maps which suggest a high-level architecture to ensure the data is available to key decision-makers like principals, teachers, and interventionists. It will also demonstrate several presentations of the data that are clear and effective at conveying the meaning behind these data. It will lay the ground work for district and school RTI professionals to begin utilizing this data to effectively intervene and ensure more students are on track. Finally, it will propose a mechanism for district and school-level tracking of readiness for high school success that can be monitored over time to determine system effectiveness.

1. Over 95% of first-time, high school freshman in Providence attended 8th grade in the prior year in a Providence middle school.