



Matchbook Learning had a choice: truncate its vision of being truly centered around the needs of students only to the extent that a third-party data tool would allow OR build a tool that would not compromise on its student-centered vision. Matchbook Learning chose to develop Spark—an evolving data tool that analyzes student achievement based on multiple points of learning data from online resource and assessment providers—to serve the changing, unique needs of Matchbook Learning’s educational environment.

“We couldn’t find a tool on the market that matched our vision for our classrooms,” said Al Motley, Chief Technology Officer at Matchbook Learning. “Instead of adapting our school model to the capabilities of existing data tools, we designed a tool that would be as flexible as we are with our learning environment.”

The tool is being implemented first at Merit Prep Newark—a school founded in 2012 with less than 100 low-income and under-performing sixth graders. Merit Prep now serves about 320 students grouped in sixth through eighth grade cohorts of about 80 students each, taught in blended learning classrooms.

## How is it different?

In Merit Prep Newark’s blended environment, students use online learning and assessment resources from numerous providers. Unlike most technology on the market, Spark aggregates assessment data from those various providers on a daily basis. If a student completes assessments or content in Illuminate, Compass Learning, eScience3000, or another program, all of the data rolls into Spark. Algorithms within Spark collect, analyze, and organize the scores to



provide teachers with a one-stop view of a student’s proficiency. Teachers can see a student’s overall proficiency on every Common Core State Standard — based on all assessments—and on each individual provider’s assessments.

Spark currently doesn’t have as many features as other popular data analytics tools, and this is purposeful. “We knew that we needed a tool to match our unique environment, but we also knew that it would be difficult to build something that was both smart and inexpensive,” Motley said. “So we focused on building a really solid foundation that addressed our immediate needs but could grow as we did.”

## What is the advantage for students?

Because Spark reflects Matchbook Learning’s educational philosophy, the technology supports teachers’ key pedagogical decisions such as a) where learners start, b) what the learning pathways are, c) how mastery will be demonstrated, captured, and reported, and d) how dynamic grouping will occur for small group instruction. Spark saves teachers the time that it would take to aggregate the data for each

student (estimated between 15 and 75 minutes for each student). Teachers instead use that time to facilitate learning in the classroom, to use small group instruction to go deeper into instructional units, or to provide connections across subjects.

Currently, Spark is aligned to the Common Core State Standards. Motley said they couldn’t find any data tools on the market that supported mastery-based grading for those standards. Other standards can be added to Spark based on what works best for Merit Prep’s students.

## How does it improve learning?

Spark presents student achievement data in percentages and as icons representing performance bands (i.e., 10-30%, 40-60%, etc.). The icons include play, fast forward, rewind, pause, double fast forward, and double rewind. This approach gives teachers an easy way to decide which students might best be grouped together in instructional cohorts for small group instruction, or whether students could benefit from one-on-one instructional time. Strategic grouping gives students the opportunity to be challenged by

and/or supported by their peers. Spark not only provides the data to inform these decisions, but also tracks the assignment of students to groups, and the assignment of groups to teachers.

## What is the advantage for instructors and administrators?

Spark has the capacity to be a one-stop-shop for teachers to input many kinds of student-level data. The tool will eventually become a repository for attendance records, behavior records, teacher feedback, and other useful information. Spark is also central to Matchbook Learning's weekly professional development sessions. The data help teachers plan for the next week and direct teaching approaches. Spark also provides Matchbook Learning a way to scale its model to future schools, both those managed by Matchbook Learning and others that replicate its school model. Spark collects achievement data that helps educators refine their practices and improves the quality of the whole model as it scales. Matchbook Learning plans to implement Spark in all of its schools in the fall of 2015.

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**Al Motley, Chief Technology Officer**

## What are the challenges?

Motley said that the greatest challenge was aggregating data from multiple providers whose systems all had different complexity, access, and data capabilities. “There was no standardization or regulation to help

ensure that the data would be exported in a particular format,” he said. The team worked for many months to convince providers that even though Merit Prep was a small school, creating a data export for Spark would ultimately blaze the path for other schools to make similar requests.

“Even though we were a small account, and this type of functionality wasn't in the providers' roadmaps, we were successful in building a model that will ultimately benefit educators in the long term,” Motley said. To other schools looking to aggregate data from multiple providers, he suggests starting early to build relationships with providers—this improves the likelihood that they will dedicate resources to development and maintenance of the project.

## What's next?

Spark was designed to easily accommodate new features, and in a future iteration, students will be allowed to log into Spark to track their progress. Matchbook Learning hopes that this will help build student ownership of learning and serve as a motivational factor in student engagement. Also, all student activity will become accessible to families through Spark, which will present student achievement in a way that is unique to Matchbook Learning's school model.

Matchbook Learning is also planning to integrate teacher coaching and observation data through Spark, with the ability to better support and coach teachers based on student achievement data aligned to changes they have made in their instructional practices. These data are the result of observing teachers 40 times per year and offering 20 coaching sessions per year to support them. “Aggregating this data in Spark has shown to be extremely valuable to boosting

student performance and teacher best practices,” Motley said.

In addition, Matchbook Learning will work with a data design and product development company to improve Spark based on teacher, student, and parent feedback.

## ARTIFACT:

A Teacher's View of Progress for Individual Students and Groups  
(proposed for Spark 2.0)



## USE IT:

- A demo site of Spark is under construction.
- Evaluate existing tools on the market based on key indicators: Rigor of Content, Data Integration, Resources and Support for Teachers, Customer Service and Service-Level Agreements, Student and Teacher Feedback. (The [Curriculum Evaluation Rubric](#) from Rocketship Education may serve as an example format for evaluating tools.)

## FOR MORE INFORMATION:

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