

CaseSTUDY



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Wake County Public School System: Are We Measuring the Right Outcome?

Like many districts in the United States, North Carolina's Wake County Public School System has invested recently in the expansion of instructional technology and now offers a range of digital resources in its schools. In 2015, Matthew Lenard, the director of data strategy and analytics, became interested in evaluating district-wide technology initiatives. He knew that the developers made claims about the technologies' effects and was interested in verifying whether the claims were true. In the absence of other evidence, Lenard noted that purchasing decisions were often influenced by vendor claims. Lenard felt that it was his job to "test [vendor] claims to the best of our ability." Evaluating individual ed-tech applications sometimes fell outside of the primary research agenda of his department, but the Ed Tech Rapid Cycle Evaluation Coach would allow him to conduct a quick-turnaround, low-cost evaluation.

Wake County Public School System

Location:

Central North Carolina

Number of schools:

177

Number of students:

Nearly 160,000

Student population:

48% White
 24% Black
 17% Hispanic or Latino
 8% Asian
 32% economically disadvantaged

THE INITIATIVE

Lenard reached out to other central services staff to learn which educational technologies they were implementing in the district and would be interested in evaluating. They decided to evaluate a digital literacy resource that the district had offered in all of its elementary schools since 2014. The software application offered students access to e-books on any device. Teachers and students were excited about the technology, but the district did not know whether it had any effect on student outcomes.

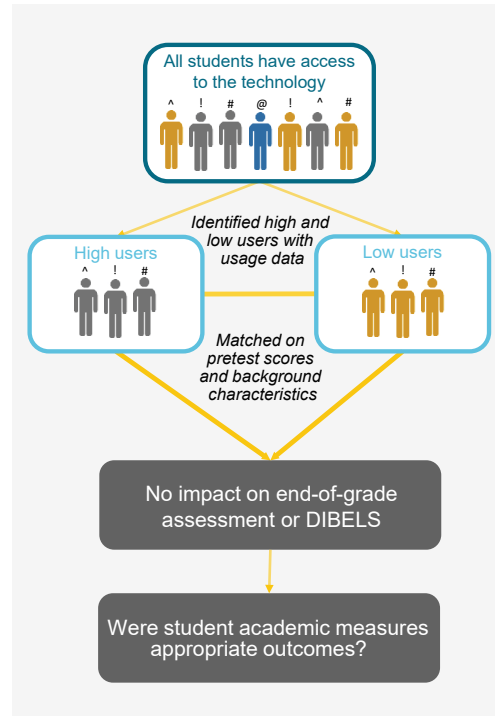
Eager to begin the evaluation, Lenard decided to examine the technology's effect on students' reading and science test scores. As Lenard noted, "Student achievement data is what people care about." Because Wake County, like most districts, routinely administers standardized tests, the data were readily available.

THE DETAILS

With help from Mathematica Policy Research and the Ed Tech Rapid Cycle Evaluation Coach, Lenard examined whether students who used the software more frequently performed better on reading and science assessments than students who used the software less often. The evaluation team used the technology's usage data to determine which students were high versus low users, and students' background characteristics and pretest scores to match the high users to similar low users. (High users were defined as the top 40 percent in terms of usage time, and low users were defined as the bottom 40 percent.) To be more confident in the results, student achievement was measured in several ways, including with the state end-of-grade exam as well as the DIBELS (Dynamic Indicators of Basic Early Literacy Skills). The team also conducted the analysis using different definitions of high and low users, and the findings were the same.

The results showed that the technology was not having an effect on student achievement. There was a zero percent chance that the technology increased student achievement by more than 0.1 standard deviations on any of the reading and science assessments.

Lenard is optimistic that this experience will improve how the district approaches future evaluations. "It was unfortunate that we didn't identify a clear theory of action from the start, but going forward, that's an important lesson learned."



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Lenard was disappointed but not surprised at the results. He planned to use the evaluation results as a starting point for conversations with his colleagues about the technology. Thinking that the evaluation might have focused on an outcome that did not align with the district's goals for the technology, Lenard decided to begin with a discussion about the technology's purpose. Lenard wondered, "Is [the technology] designed to increase comprehension, or is it a substitution for brick-and-mortar literacy resources? I need to have follow-up conversations with the literacy and technology teams."

After the conversation with his colleagues, Lenard concluded, "When we started this, I think there was an assumption that the purpose...was to increase student achievement. But after sharing the brief back with staff, I was told that it's simply a large, on-demand digital library. The consensus now is around the library theory of action and so there's... resistance to viewing [the technology] through the achievement lens."

THE WAY FORWARD

When he conducts a future ed-tech evaluation, Lenard plans to spend additional time meeting with staff involved in the program implementation so that everyone is clear about the program's goals and relevant outcomes. Lenard is optimistic that this experience will improve how the district approaches future evaluations. "It was unfortunate that we didn't identify a clear theory of action from the start, but going forward, that's an important lesson learned."

Wake County's Plan for Future Evaluations

Discuss goals for the intervention and evaluation

Develop a theory of action

Identify an outcome linked to the theory of action

Conduct the evaluation

Review what was learned and discuss next steps

