

# Case Study: Culture and Technology Catalysts for Student Achievement

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Lockport City School District (LCSD) in Lockport, New York serves approximately 5,000 students in eight buildings, including an alternative high school. LCSD is not officially categorized as a high needs district, but their free and reduced lunch rate is close to 60%. It is a small city school district where the tax base has decreased, as a once booming manufacturing plant was significantly downsized.

The District is in the process of implementing a district wide technology plan including 1:1 implementation. Currently, all elementary schools have iPads for each student and the implementation of the District's digital learning initiative will be expanded to junior high school and high school levels.

## Challenge

After implementing a 1:1 iPad plan for three years, the District wants to know how the integration of technology improved student outcomes.

## Background

The story officially began in 2010, when the District applied for a competitive grant known as the Enhancing Education Through Technology state grant. The District was awarded \$200,000 which was used to purchase approximately 250 iPads, numerous instructional "apps", and support an abundance of professional development opportunities for teachers in grades kindergarten through twelve. In addition, the University of Buffalo was hired as the external evaluator for the project. The grants measurable goals included evidencing an increase in student achievement on New York State assessments in English Language Arts and Mathematics for students in grades 3-8 who were assigned iPads.

## Approach

In 2013, when the original first graders were in 3rd grade, the University of Buffalo was asked to evaluate the effectiveness of technology in the classroom. The evaluation looked first at the performance of those students using iPads for their first two years versus those who hadn't. Looking at the 2013 ELA state assessments across Lockport, 23% of students scored as proficient on New York State assessments, whereas the iPad students scored at 47%. In math, the Lockport average was 22% whereas the iPad students scored a 44%. This is compared to statewide results of 31% for ELA and 34% for math.

At the end of 2014, the results were even more impressive with iPad students scoring 57% proficient as compared to 33% for Lockport and 32% for the state in ELA, and 65% proficient compared to 30% proficient at Lockport and 42% proficient at the state level in math.

The district had seen dramatic differences between those students who used iPads in the classroom and those who did not.

## Causality

The district leadership in Lockport attributes the improved student outcomes to the presence of iPads, but only as an indirect cause. The more direct cause is identified as the change in teacher practice, moving from primarily direct instruction to more time on task for students. Before the iPad implementation, 67% of class time was lecture, but after the implementation it was only 21%. Student time on task and engagement in learning changed from 15% of class time to 76%.

In effect, the presence of iPads served as both an enabler and a catalyst for changes in teacher practice and this change in teacher practice was the more proximal cause of increased student achievement.

Another indirect cause for the changes in teacher practice was the existing culture. Superintendent Michelle Bradley has been with the district for 28 years and her leadership led to a very specific culture of vision and distributed leadership that focused on learning first.

As Bradley put it, their vision includes “improved student outcomes AND more engagement and learning AND preparing students for what they will encounter when they graduate high school AND making teachers more efficient AND seeing higher levels of collaboration.” It had many prongs, but at heart was the focus on better and deeper learning.

The culture of distributed leadership is an intentional one at LCSD, and nurtured the initial iPad work started at the grassroots level with teacher input, willingness to take the risks and do the work for a successful implementation. Teachers further exhibited distributed leadership as they worked together to go through hundreds of apps to determine which ones aligned with state standards and were useful for specific learning targets - not only did they take leadership and ownership through this process, but they also generated and experienced the best possible form of collaborative professional development.

## Results

Lockport found that the presence of iPads dramatically improved student performance, but the root cause was the change in teacher practice. The evolution of teacher practice from lecturer to guide was made possible both by the availability of iPads for each student and a culture that supported decision making at the grassroots level and productive risk taking.



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