Executive Summary
Configuring The 21st Century Classroom
Technology integration and its effects on students, teachers, and parents
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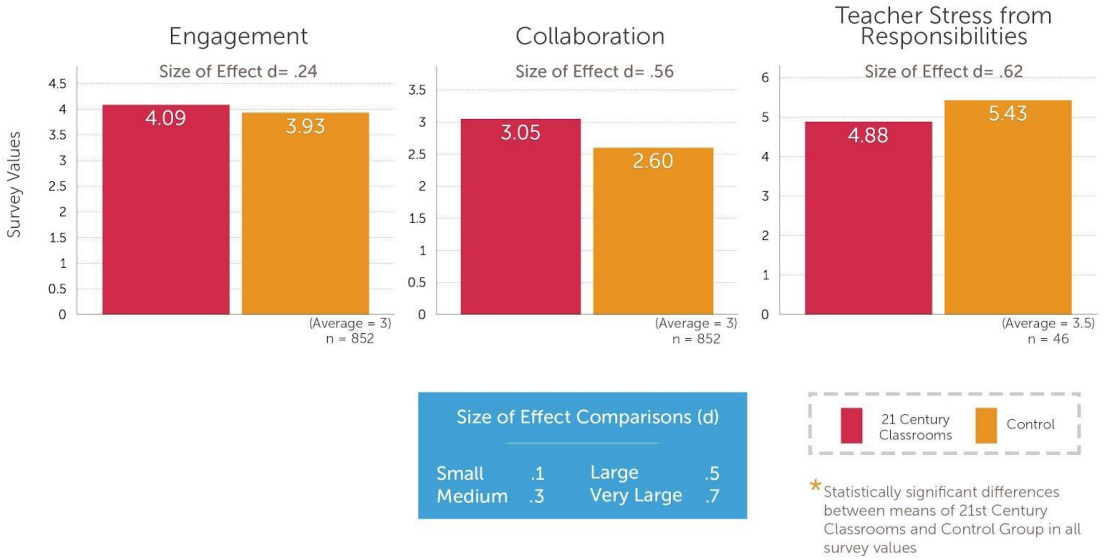
Configuring the 21st Century Classroom is a project that the West Ada School District has undertaken as a part of its participation within the League of Innovative Schools. This project began during the 2012-2013 school year and is continuing today. As part of this innovative project, research is being performed looking at how classroom technology influences students, teachers, as well as parents. The purpose of this endeavor is to determine what types of technology and its classroom use motivates and engages students to higher levels of learning, enables parents to become more involved in their students' learning, and makes the already difficult job of teaching more effective and productive. By answering these questions, it becomes possible to create technology-rich learning environments that are beneficial to all parties involved and to ensure our students are using the tools of the *21st Century to* acquire *21st Century* skills.

After the first year of our study we concluded that "the teacher has the greatest impact" on classroom outcomes. Large variations found at the teacher level were found for outcomes such as student standardized test scores, student reported engagement, as well as measures of collaboration and problem-solving-- all backing up the previous claim. We determined that "the effective use of technology is certainly something that will take time and collaborative effort in order [for teachers] to create lessons and pedagogy that can maintain continual engagement with [increased outcomes] for our students." Following the second year of our study significant differences began to appear, which we postulate are directly due to the *collaboration* and *culture-building* resulting from teachers working toward a common goal. Though no significant differences were found between these groups on standardized test measures, the data below indicate that technology-rich instruction can indeed be *more* collaborative in nature than a traditional classroom. This increased collaboration and use of *relevant* tools is shown to heighten student engagement and interest. This brings into question the possibility that our standardized tests may not be capable of detecting outcomes related to these higher levels of engagement and the building of *21st Century Skills*.

Figure 1. Student and teacher survey comparison- 21st Century Classroom vs. Traditional



This increased collaboration and engagement however, does not occur by simply emplacing the technology into classrooms. Targeted and sustained teacher training accompanied by ample time for peer-to-peer collaboration seems to be *essential* to allow teachers to become comfortable with these tools- as well as to develop this new student-centered pedagogy. It is the creation of these collaborative environments that we feel is leading to positive outcomes within these classrooms.

The results also indicate that after an initial period of difficulty, *teacher stress* can be decreased due to the technology tools. This positive outcome came about as teachers became "facilitators of learning," orchestrating student-centered activities, rather than simply presenting information. The technology also performed some of the mundane classroom tasks freeing the teacher to spend more time working directly with students. In short, the technology helped them become more effective at their jobs- the ultimate purpose for *any* technological endeavor.

Parent surveys indicated that our community sees the need for technology in our classrooms as well. Our research indicates that, as many parents are initially unsure of how these new tools fit into what *they* envision as a working classroom, these mindsets change over time as they become familiar with new classroom models and new classroom tools. In fact, the majority of parent comments from the technology-rich classrooms were highly positive toward technology integration. These parents spoke of the concern they felt as students would possibly move from high-tech classrooms back to more traditional ones. This contrasted the remarks by parents within more traditional classrooms in which comments were more neutral or apprehensive about the use of these tools. Most parents were cognizant, however, of their students' need to become fluent in the typical tools of today's modern society in order to become *career and college ready*.

Based on the information gleaned from West Ada's *21st Century Classrooms* project, in combination with several other technology-based projects occurring within the district, we now have a clearer view of what technology integration will look like in our classrooms and what it will take to get there. It is obvious that the use of these tools will provide our students with 21st Century skills, individualized learning experiences, and ultimately help teachers perform their jobs more effectively. The *culture* that is created based upon the integration of these new tools is a powerful motivator for student and teacher alike. Just as a city, with its increased and densely-packed population is a source of innovation and creativity, so too can a school or district become a center for innovation if a "tipping point" can be reached by teachers *engaged* in the process.

As West Ada School District implements these new models and tools, we must be sure to harness the information created in an attempt at preventing those who come after from re-inventing the wheel- which in most cases leads to struggle, frustration, and ultimately reversion back to previous practice. The latter cannot be an option if we are to engage our "digital native" students to higher levels of learning in student-centered ways. As Michael Fullan (2008) states however, "learning is the work." With consistency and a culture of innovation, followed by the spread of this information through *systems* that enable collaboration and connecting with peers, teachers will build effective models "from the ground up." This research is a small piece of the puzzle aimed at showing results that are occurring throughout the process.