

Executive Summary

Brief Overview

From December 2011 through May 2014, the Getting To Outcomes[®] (GTO)¹ evaluation team conducted a comprehensive evaluation of Richland County School District Two's 1TWO1 computing initiative. The initiative was organized using a systematic three-year rollout process where each student in grades 3 – 12 received a personal computing device (e.g., Chromebook). Teachers and administrators were provided with extensive support and ongoing professional development to ensure that the technology was used as a tool to improve instructional practices, student engagement and important 21st century learning skills (e.g., collaboration, digital citizenship). This report describes the results of the comprehensive process and outcome evaluation.

The evaluators conducted an extensive formative and process evaluation that included timely feedback through regular meetings with the district's core technology team. This highly collaborative evaluation used formative data to assist the district in supporting the implementation rollout over time. The evaluators collected process evaluation data throughout the implementation period to promote data-informed mid-course corrections, and used summative data to assess early outcomes for teachers and students. Although there is a likelihood of changes in longer-term outcomes, (e.g., standardized test scores, graduation rates), reporting these ultimate outcomes is premature because of the time it takes to achieve these outcomes. In addition, the reader is strongly advised to interpret these results as only preliminary, given the short amount of time from baseline to outcome measurement, particularly in phase three of the rollout.

The evaluation plan was developed after detailed discussions to ensure an accurate logic model of the district's 1TWO1 initiative. This logic model included an emphasis on providing ongoing professional development to teachers/staff to ensure high-quality skills for technology integration into curricula and lesson plans. This type of innovative teaching integrated with technology was operationalized as "Personalized, Authentic, Collaborative, and Tech-Integrated" (or PAC-Tech). Potential changes in student behaviors/skills hypothesized by the logic model include several key outcomes related to student engagement, interest in learning, and competencies in 21st century learning skills.

The local evaluation team partnered closely with Richland Two's Instructional Technology staff at each phase of the project. The Getting to Outcomes[®] Accountability Model, co-authored by Drs. Abe Wandersman and Pam Imm, was utilized to ensure high-quality evaluation and continuous improvement processes throughout the three-year evaluation process. (See page 8

¹ Getting To Outcomes is a Registered Trademark by the University of South Carolina and the RAND Corporation.

for the GTO accountability questions that were used to guide the evaluation). The GTO model is one example of an empowerment evaluation approach that was designed to increase the likelihood of achieving the desired outcomes by teaching key stakeholders to use the logic and tools of evaluation in their planning and implementation monitoring. The GTO evaluation team was comprised of community psychology and educational consultants and led by Drs. Abraham Wandersman and Pam Imm.

Evaluation Questions and Methods

The evaluation plan included a variety of data collection methods that were used to answer the evaluation questions. These overarching questions are presented below with specific results described in the full report:

1. How much did the students' access to technology inside and outside of the classroom increase over the 1TWO1 rollout period?
2. How did the use of computing devices by students change over the course of the 1TWO1 rollout? What was the quality?
3. How much support for 1TWO1, including professional development and the use of a Quality Implementation Process, did teachers receive over the 1TWO1 rollout period? What type of support was provided and was it effective for changing classroom instruction?
4. How did teacher instruction quality change as a result of implementing 1TWO1?
5. How well did the 1TWO1 computing initiative meet the goals and the desired outcomes?

To address these questions, the evaluators worked with the district to implement the most appropriate evaluation methods for data collection and review. These included a student survey that was administered to students in grades 3-12 for three years (May 2012, May 2013, May 2014). Anonymous teacher and parent surveys were collected during the same time periods. Additionally, six teacher focus groups that included 53 teachers across 32 schools, and seven youth focus groups that included 72 students in grades 4-12 were also conducted during the three-year period. Additional data collection processes were classroom observations (over 200 observations of 45 minutes each), interviews with district-level Technology Integration Specialist staff (TIS), and assessment of 21st century skills/competencies for 5th and 8th grade youth utilizing the assessment platform from learning.com.

Throughout the evaluation period, the evaluators provided timely information to the district to ensure data-informed decision making and make modifications for improvements. These reports are available at <http://sites.google.com/site/gto1two1evaluation>. Summary results are highlighted in this Executive Summary and include suggestions/recommendations for consideration as the district moves forward with large-scale initiatives that require significant changes in teaching and learning. These recommendations are presented after a summary of

accomplishments of the rollout process (including device usage) and early outcomes.

Key Findings: Rollout and Device Usage

- *Device Distribution:* Through the three-year rollout period, 20,496 devices were distributed to students in grades 3-12 ensuring that every student had access to a mobile computing device. By year three, all students had received their devices for in-school use and five schools allowed students to take devices home.
- *Downtime:* By year three, a minimal number of teachers and students reported experiencing trouble due to problems such as failure to connect to the internet. One ongoing challenge discussed by teachers in the focus groups was the inability to access certain websites because of district policies.
- *Equitable Access to Devices:* Although students have access to devices in school, survey data indicated that approximately 7-12% of students reported not being able to complete homework at home because of a lack of internet access. The district is creating mobile hotspots in communities and neighborhood settings to ensure that all students are able to access the internet for homework, collaborative work, and communication.
- *Quality of Technology Integration:* When using devices, teachers were less likely to lecture and more likely to serve as a facilitator of learning, and students were more likely to work collaboratively and to receive differentiated instruction.
- *Innovative Teaching:* The provision of mobile computing devices and equitable access to technology coupled with a comprehensive system of support for teachers, increased the likelihood that teachers would utilize more innovative teaching—teaching which is more personalized, authentic, collaborative, and tech-integrated. During classroom observations, where trained raters observed classrooms at random times without notice in year three, 65% of the classrooms (N=107) were using devices.
- *Collaboration & continuous monitoring:* The collaborative, empowerment evaluation approach that focused heavily on formative assessment was well received by the district and should be considered for large-scale school-based evaluations. Regular meetings (at least monthly) between the district personnel responsible for the implementation of 1TWO1 computing and the evaluation team were valuable for effective monitoring of the 1TWO1 rollout.

Key Findings: Early Outcomes for Teachers and Students

- *Teachers' Satisfaction with 1TWO1:* A majority of teachers agreed that student learning with a device is more effective for enhancing students' learning and achievement than teaching without technology.

- *Important Role of Professional Development:* Results show that the quality of professional development, more than the quantity of the professional development was related to teachers' effective use of technology. Teachers who reported experiencing higher quality of professional development also reported providing learning opportunities that were more personalized for students and more authentic with real-world applications. These teachers also reported more opportunities for student collaboration and more evidence of technology integration (i.e. using technology tools for instructional purposes).
- *Students' Satisfaction with 1TWO1:* In general, elementary students were more satisfied than middle or high school students, and students in classrooms where computing devices were being used were consistently rated as being more enthusiastic about learning than in classrooms where devices were not being used. The majority of the students reported that they were very satisfied using computing devices for learning
- *Use of Devices Across Content Areas:* Across middle and high schools, students reported using computing devices most frequently in English/Language Arts and social studies classes.
- *Overall Student Engagement:* Engagement was measured by student survey items that assessed specific behaviors such as active learning (i.e., study habits and dedication to studies), interest in learning and relevance of school work. Average ratings for all grade levels were high even during baseline measurement. Changes over time generally showed that when middle and high school students received their devices, the natural decline of school engagement was mitigated (lessened) by the access to a device.
- *Learning Environment:* In only 4% of classroom observations was it found that the content, instructional strategies, and technology use by the teacher did not fit the lesson plan.
- *Practices in School:* For many students, it was found that having a device helped improve their ability to pay attention in class and was a resource that allowed students to turn in assignments on time, take better notes, and do homework.
- *21st Century Learning Skills:* The evaluation team focused on 21st century learning skills to measure early outcomes of 1TWO1 computing. For this evaluation, the six different domains of 21st century learning skills were assessed for samples of 5th and 8th grade students via an online assessment at learning.com. In general, 5th grade students who took the survey in 2012-2013 scored higher than the second cohort of 5th grade students who took the survey in 2013-2014. Regardless both groups had high scores on 21st century skills with the first cohort scoring "proficient" in most of the skills. Eighth grade students completed the learning.com survey in 2013-2014 and mostly scored in the basic range. Student survey results to measure students'

report of certain 21st century skills suggested that when students received a device (especially those of lower SES) they reported more collaboration with peers than when they did not have a device.

- *Personalized Learning*: Teachers reported using more personalized learning strategies when students spent more time on computers during class, and when computers were used more frequently throughout the week.

Suggestions/Recommendations for Consideration

The evaluation of the 1TWO1 computing initiative in Richland County School District Two has documented significant accomplishments over the three-year evaluation period as the district moves toward reaching the goals of the initiative. The following section provides specific suggestions for the district to consider as they move forward with implementing 1TWO1. These suggestions are organized according to three broad areas such as *continued support, specific content areas, and evaluation monitoring*.

Suggestions for continued support:

1. Make this report available to all staff and invite them to provide input and share comments about the findings. Many staff and teachers participated in the data collection processes (e.g., surveys, focus groups) and sharing this report would reinforce the idea that their survey responses are used in evaluation projects as well as further promote a sense of transparency that may increase their willingness to participate in future evaluations.
2. Continue to foster the use of technology throughout the schools and build the capacities of technology champions such as teachers, principals, and school-level TLCs. The administrators' and faculty support for the 1TWO1 computing initiative varies across schools. Ongoing collaboration and shared planning may increase the likelihood of more consistent and innovative uses of technology in each school.
3. Utilize the Quality Implementation Process (QIP) or other continuous implementation and improvement processes to ensure that ongoing efforts to promote technology integration are reviewed to ensure high-quality instruction.
4. Continue to focus on gathering feedback and input from teachers about the professional development/coaching recognizing that the quality of professional development is more important than sheer quantity of professional development sessions.
5. Continue to provide high-quality professional development in the schools. District and school technology staff should integrate the seven quality characteristics of professional development (found in chapter 5) to increase the likelihood of effectiveness.
6. District-level TIS staff should continue to gather information about the training/technical assistance needs of the school-level TLCs. Because staff and teachers turn over yearly, there will be a need for ongoing assessment and continued training

and coaching in individual schools.

Suggestions for addressing specific content areas:

7. Develop and share lesson plans and exemplar lessons with teachers for enhanced teaching and instruction. Data show that teachers continue to utilize technology on the lower ends of the SAMR continuum. As teachers become more facile with the technology, many are likely to be increasingly ready for continued progression along the SAMR model.
8. Review results from specific areas in which district stakeholder groups expressed concerns during the initial planning phases of the 1TWO1 computing initiative. These areas of concern, specifically cyberbullying and classroom management, are detailed at the end of chapter 4 and provide potential baseline data for continued monitoring. Reviewing data from existing research literature will provide normative data to make data-informed decisions about whether specific school interventions are warranted. These topics could be presented as professional development workshops.
9. The ongoing concerns about blocked websites should continue to be addressed through frequent teacher input and feedback.
10. Examine ways that elementary school teachers are integrating technology into their curricula and delivering these lesson plans to students. Data show that elementary school teachers use the devices less and report the least amount of professional development. In addition, changes over time in the levels of engagement among elementary students after receiving devices were not in the desired direction. Emphasize the use of the devices as an instructional tool and not as part of a larger discipline system (reward and punishment).
11. Emphasize the importance of shared learning in settings such as principal meetings, school meetings, and across departments. Classroom observation data show that there are teachers who have significantly improved the frequency and the ways they utilize technology. These potential technology champions could share the positive changes and the specific processes they used to make the changes. This could benefit all teachers as they continue to learn how to effectively teach students utilizing technology.
12. Provide ongoing assessment of specific areas in which teachers need support to ensure that professional development opportunities are relevant to teachers at different levels of skill. Data from cluster analyses in year two showed that teachers are at different levels of skill (e.g., early adopters) and would benefit from differentiated instruction to integrate technology into classroom instruction. Over the three-year evaluation period, the TIS staff have systematically reviewed their processes and implemented more customized approaches to technical assistance and coaching.
13. Continue to examine the extent to which technology integration is occurring across all

subject areas. Data showed some variability in the use of technology in subject areas for middle and high school students. Specifically, the general trend across these two grade levels was that the devices were most frequently used in ELA and social studies and least frequently in math. Developing customized coaching to share exemplar lessons for integrating technology into all subjects may increase the likelihood of technology instruction.

Suggestions for continued evaluation:

14. Continue outcome evaluation monitoring through internal and/or external sources is suggested. One overall finding of the evaluation is that progress is being made on many of the desired outcomes. However, the evaluation timeframe (e.g., final data collection) is premature to show significant outcomes on major long-term goals of the initiative.
15. Provide formative, process, and outcome data that will be useful to staff and stakeholder groups as they continue to monitor progress toward the goals of 1TWO1. The partnership between the evaluators and administrative/district staff allowed for ongoing feedback and formative data to be presented regularly for continuous quality improvement.
16. Consider methods that can provide timely feedback about the seven characteristics of high- quality professional development. Changing the way teachers teach using devices is a significant endeavor, and the quality of professional development is critical to the success of effective technology integration. Utilize the professional development findings detailed in the report and continue to monitor the effectiveness of coaching.
17. Consider ongoing data collection through systems such as learning.com to ensure regular monitoring of student competencies in 21st century learning skills. Monitor the degree to which specific classes and curricula incorporate the teaching of 21st century learning skills to students. Data show that 8th grade students could benefit from skills that improve their communication and collaboration, research and information fluency, and technology operations and concepts. The 21st century skills areas to address for 5th grade students would be creativity and innovation, critical thinking, problem solving, and decision-making, as well as research and information fluency. It is also noteworthy that many teachers discussed the need for keyboarding classes at early grade levels.
18. Develop an evaluation and monitoring plan for the mobile hot spots to ensure that students in need of internet capabilities are able to gain access for homework, communication, and collaborative planning.

Ten GTO Questions applied to Richland Two 1TWO1 Computing

1. What are the underlying needs and conditions that must be addressed in the district to implement 1TWO1 computing effectively? What resources are available to support technology integration?
2. What are the goals, populations of focus, and the desired outcomes of the district's 1TWO1 initiative?
3. What evidence-based strategies will be helpful in achieving the goals of 1TWO1?
4. How will the implementation of 1TWO1 fit with existing initiatives that already exist in the district? How do the best practices fit within the culture and population of Richland Two and the goals of Richland Two?
5. What capacities need to be strengthened to develop and implement an effective 1TWO1 computing initiative?
6. What is the plan for implementing 1TWO1?
7. How will the quality of 1TWO1 implementation be assessed?
8. How well did 1TWO1 work in achieving the desired outcomes?
9. How will 1TWO1 continuously improve over time?
10. If 1TWO1 is successful, how will it be sustained?