

By Sara Getting and Karin Swainey



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First Graders with iPads?

Find out how two teachers took on the challenge of improving elementary reading, achieved surprising success with their youngest at-risk readers, and learned some interesting things along the way.

Giving iPads to first graders is a leap of faith that many teachers are understandably hesitant to take, especially if their students need immediate reading intervention and school leaders want guaranteed results. Our decision to use iPads to improve student reading was a step into the unknown, but we found the benefits far outweighed the risks.

We set out to determine if using iPads would help increase reading

achievement with our two lowest reading groups during the 2010–11 academic year at Hilltop Elementary School in Inver Grove Heights, Minnesota, USA. Our project targeted key areas of reading but also aimed to incorporate digital age skills into our teaching strategies and lesson plans. The ultimate goal was to offer meaningful opportunities to our young learners as they began their journey toward digital age readiness.



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We grouped our students based on “response to intervention” (RtI) levels. RtI is a homogenous system of grouping students by ability in specific areas based on their needs. We then set about putting appropriate interventions in place to measurably improve scores in sight-word recognition, fluency, comprehension, and vocabulary recognition and meaning to meet targeted benchmarks. We used AIMSweb scores as well as other informal assessments to compare data between the 2009–10 group and the 2010–11 group, which had routine practice on apps and websites with the iPad.

Our moderately at-risk learners, Group 5, were receiving services through Tier 2 or Title 1 support. Our most at-risk learners, Group 6, were students receiving services in tiers 2, and 3 and special education. Although there were exceptions, the data confirmed elevated average gains and/or higher end-of-year scores for students with routine iPad use.

Encouraging Conclusions

Managing iPads with first grade students was easier than we expected. Because of their age, we initially didn’t even allow them to walk around the room with the iPads. Instead, the teacher or paraprofessional sat students down and brought the iPads to them. From the beginning, we discussed the privilege of using iPads as learning tools and took them from students who chose not to comply immediately. This contributed to students’ attentiveness significantly. In fact, it became a highly motivational learning tool for some who demonstrated undesirable behavior elsewhere, and that inspired us to collect “time on task” (TOT) statistics for one student in each group.

We asked a special ed teacher to gather data as we facilitated learning, including TOT data collected with a stopwatch. Anytime the student was off task, the stopwatch stopped. When the student regained focus, the stopwatch resumed. In Group 5, we observed each student four times and noted a 20% average increase in TOT. In Group 6, we also observed each student four times, and noticed a 15% average increase in TOT.

Our deliberate focus on digital age skills with first grade students created excitement. For global awareness studies, for example, we used Google Earth on iPad to provide background for places mentioned in nonfiction selections. This was especially meaningful as we researched and tapped students’ prior knowledge of dinosaurs.

As a large-group activity facilitated by the teacher, we discussed Pangaea, where dinosaurs may have lived, and talked about which dinosaur most likely walked in Minnesota. For interactive communication lessons, we recorded students reading a selec-

tion with the Voice Memos app, then swapped iPads to listen and follow along as a peer read. This was exciting for students, as it was a nice change of pace with a surprise ending. We asked students to identify themselves verbally after completing the story. Sometimes it was a student from our class, while other times we swapped between classrooms.

For data analysis, we created weekly “stoplight” charts. Students would graph their progress by hand for vocabulary and comprehension quiz scores with the goal of staying in the green zone. This was a fascinating phenomenon to observe, and students would willingly participate in dialogue to reflect on their scores.

Favorite Apps

We discovered some favorite apps and websites along the way.

Sight Words. For sight-word recognition, which was the best use of iPad apps in our case, we loved K–3 Sight Words, Smiley Sight Words, and ABC Pocket Phonics.

Fluency. For fluency, we found Talking Tom, K–12 Timed Reading Practice, and Voice Memos most useful.

Comprehension. For comprehension, the trickiest area to locate apps for, we used a website called Reading A–Z (see Resources on page 27). Their leveled readers in PDF format, along with their comprehension tests, helped us practice reading strategies and led to meaningful discussions.

Vocabulary. For practicing vocabulary recognition and word meaning, we used Kid Whiteboard, Glow Draw, Doodle Neon Glow HD Free, and Doodle Buddy for iPad. Using these productivity apps allowed us to create our own games, such as a vocabulary word cakewalk, word mingle, and iPad concentration.



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Literacy. Other notable apps for general literacy practice that we loved included Magnetic Alphabet, ABC Tracer, Clifford's Be Big with Words, Word Families, and Word Magic. We liked these apps because they were easy to navigate, engaging for the learners, and provided numerous opportunities for differentiation.

Facilitation

Our collaborative effort was essential to the project's success. With a continuous cycle of planning, implementation, reflection, and planning again, we found that meeting twice a week helped us modify and make immediate adjustments.

Although the two of us had been teaching together for four years, we had been viewing some minor details in common assessments differently. After discussing the items, we came to a common agreement.

We planned a staff training session to offer iPad basics as well as tips and tricks for management of the devices with small- and large-group situations. After the training, we encouraged our staff to check out iPads for use outside of our literacy instruction time with their own students.

Finally, for app organization and evaluation, we learned of Harry C. Walker's App Rubric on Tony Vincent's marvelous blog, *Learning in Hand* (see Resources). We contacted Walker, who granted permission for its use. After completing rubrics on chosen apps, we let our technology department know which apps would be most useful for our learners.

iPads provided leadership opportunities for our first graders. Once the project was under way, our students became comfortable navigating the iPads in no time. With their help, we presented to our school board in October 2010. We asked a small number of students to stand between board members to demonstrate some of the apps. We then gave school leaders a

short presentation about our plans for the future.

Our students also participated in our district's first-ever Student-Led Technology Conference. At this public event, four first graders led a session on iPad basics. The students presented an overview of the iPad and gave ideas about how they could use the device in their daily lives. Because of this activity, along with support and implementation of action research projects, the Consortium for School Networking selected our district to join a cadre of 14 leading-edge school districts in the nation. The goal of the cadre is to develop effective leadership and policy that relates to the use of digital media by sharing experiences, challenges, and best practices for innovative uses of new media in K–12 education.

Areas of Frustration

There were definitely a few obstacles to overcome. At times, this self-directed project was humbling and discouraging.

On our own. As we began back in May 2010, we knew we would have to pave our own path and arrange the action research to best suit our needs. Our district office offered very little direction, other than advice on how to comply with funding requirements. It was our decision to choose the pace—a leisurely walk or an all-out sprint—and we've had our running shoes on ever since.

We proposed the plan to our superintendent and had to clearly specify how it would relate to best practices in action research. An equally important requirement was to show how we would share our evaluation with others.

Limited by subject matter. We found that a 90-minute literacy block with an already demanding daily schedule was not conducive for modern project-based learning activities that could include critical thinking, systems thinking, and collaborative problem solving. We felt limited by the subject

matter and knew we had to be diligent about making sure to get through our intense curriculum. Instead, we chose to be more deliberate about incorporating higher-order thinking skills into our teaching strategies and were able to document activities for global awareness, interactive communication, and data analysis.

Technical problems. We discovered early on that our devices would not always sync properly in mass quantities. We were the first in our district to attempt this type of project, and we had no previous experience, which may have contributed to this setback. We now know that software management is an ever-changing process. Many of the management tools we use now were not available when we began. Our district now uses Filewave to manage our iOS devices.

We had trouble getting our VGA cord to work properly through our computers and interactive whiteboards. We discovered that the iPad 1 was not compatible for projection with the VGA cord. Instead, we used our document cameras to project to the whole group when necessary.

We would have loved to use websites that require Flash, but it wasn't until the end of the school year that we discovered iSwifter, a free app that allows access to some websites if you enter them through the app. Cloud-browse is a paid app that serves the same function.

Noisy apps. Although some of the noisiest apps were also extremely fun, it made for some distracting learning environments. To combat the issue, we applied for and received a mini-grant from our Parent Teacher Student Association to purchase a set of 12 headphones that two teachers shared for small-group activities.

Missing apps. We did not have much success locating apps for comprehension, although we found a handful of

them later. Unfortunately, they were paid apps, which limited our accessibility.

Cost. Although we understood the need for Apple's volume purchasing plan, it increased the cost of our project. We received U.S. stimulus funding, which allowed our district to shift money to its capital fund for iPad purchases.

Variable data. Even though we tried our best to make authentic comparisons in our data, there were variables. The 2009–10 and 2010–11 class sizes were not identical. In 2009–10, Group 5 had 12 students, and in 2010–11 it had 16. In 2009, Group 6 had nine students, while in 2010–11 it had 11.

All of us were veteran teachers, but neither of the groups had the same teacher for the two consecutive years of data collection. Because of this variable, there was one data point col-

lected only for Group 6, as Group 5 was without a previous comparison.

Lessons Learned

Our students continue to help each other in the classroom. Movement from one leveled reading group to another occurs often to ensure students' proper placement based on their abilities. In fact, Group 5 and Group 6 sustained extensive amounts of movement—20 changes per group throughout the year! Whenever a new student would join our group, most often during iPad activities, our support was not necessary. Students would instinctively help each other, creating a wonderfully collaborative environment.

From start to finish, this project has convinced us that using iPads with at-risk learners creates an environment that meshes nicely with the learning styles of our youngest digital natives. iPads truly make a difference in sight

word recognition, fluency, comprehension, and vocabulary recognition and meaning.

Resources

Harry Walker's app rubric: <http://learninginhand.com/blog/evaluation-rubric-for-educational-apps.html>

Inver Grove Heights Community Schools app lists: www.invergrove.k12.mn.us/usefulapps.html

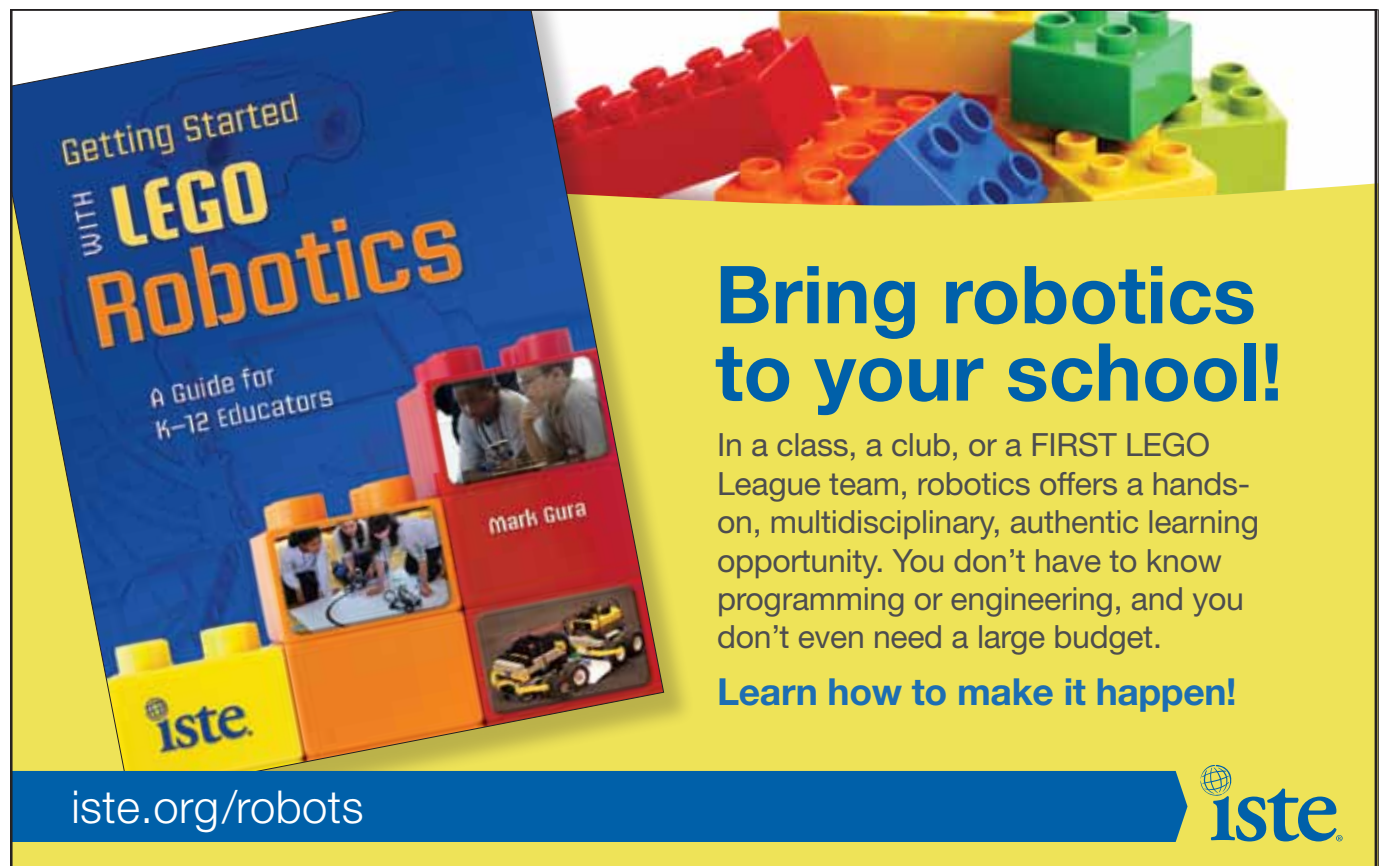
iSwifter: www.iswifter.com



Sara Getting has been teaching for Inver Grove Heights Community Schools in Minnesota, USA, since 1998. Her tech integration interests include iPads, Smartboards, and web 2.0 tools. Follow her on Twitter @S_Getting.



Karin Swainey is a first grade teacher at Inver Grove Heights, where she's worked for nine years. Her passion for learning allows her to explore new technologies in ways that benefit her students. Contact her at Swaineyk@invergrove.k12.mn.us.



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