Mile Davis Magnet Academy
ISBE Children's Low-Cost Laptop Program Grant

Executive Summary

Miles Davis Magnet Academy is an engineering-focused elementary school in West Englewood, Chicago. The school provides a rigorous and engaging STEM (e.g., Science, Technology, Engineering and Math) curriculum. In 2011, Miles Davis Magnet Academy received an ISBE grant to purchase iPads to be used in three classrooms at the school. The iPads were used in middle school Science and Engineering classes, seventh and eighth grade math classrooms and in a third grade self-contained classroom.

The iPads helped to establish learning communities in our classrooms. The iPads provided opportunities for students to learn together, sharing ideas and new learning with other students. Teachers were able to assess student learning more efficiently and rapidly change instruction to meet student needs. The iPads opened our classrooms to the world, as students could use the Internet to locate resources around the globe and share their experiences with others.

In middle school math classes, students used apps for independent practice in Algebra and general math. If students needed additional help, they turned to the iPads for independent learning. Students in groups shared notes with one another. In technology classes, students created digital comic books and story books. Students are also in the process of learning how to create their own apps.

In the middle school classes, iPads were used to enhance engineering instruction through lessons focused on measurement and design. iPad based lessons provided students immediate feedback on measurement activities and allowed for ongoing assessment to identify students who were struggling with measurement skills. Students also used iPads to support design work by creating perspective drawings and sketches on the devices.

iPads were used in Engineering and Science classes to expand student learning and provide opportunities for students to demonstrate understanding. Students used the iPads to research topics such as carbon emissions and create presentations on their findings. Graphic organizers were produced on the iPads to allow students to connect ideas and understand relationships.

In the third grade, our primary purpose for using the iPad's were to prepare for the ISAT. Using the iPads students had access to Study Island, a skills development program. The teacher could track student performance in real-time to identify student deficiencies. The iPads were also used for assessment using Scantron tests. In addition to test preparation, iPads were used to perform research. For example,

students researched African Americans to gather facts for mobiles created by groups of students.

Qualitative Results

The iPads increased student engagement. Students were excited about using the iPads, and they were surprised by how they could be used for learning. Many of the students who struggled with traditional forms of instruction, were newly engaged and focused on learning. We saw students who had squirmed through lessons in the past, now eager to get the iPads in their hands so that they could participate in activities.

The iPads increased student interaction related to learning. Students shared work with one another and critiqued each others' work.

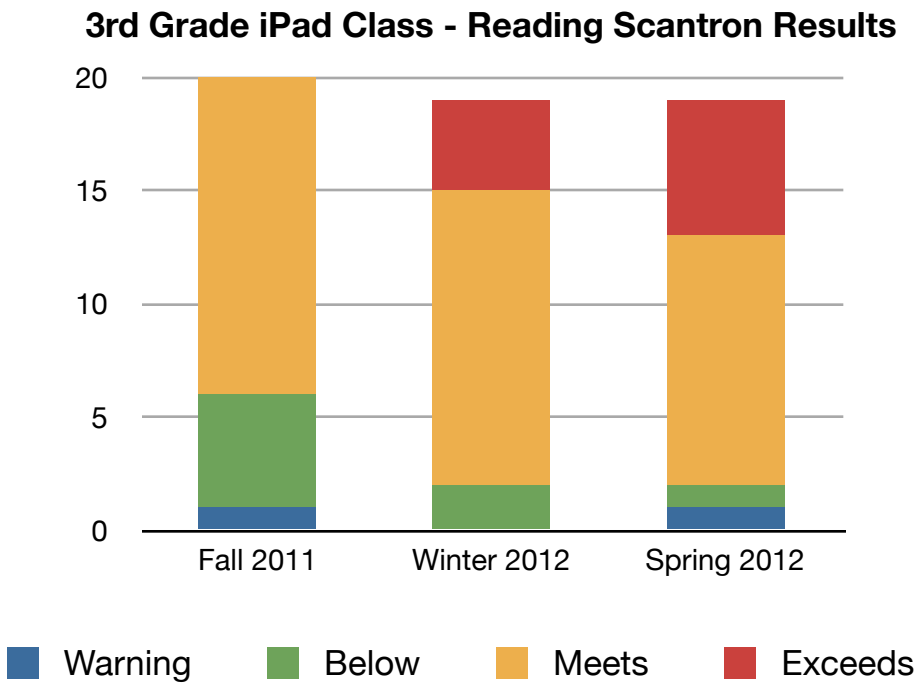
Students also gained a much better understanding of technology. Before our third graders started using the iPads, they had some knowledge of the technology. With the iPad, they gained a much better sense of the educational value of the Internet as a research tool and a way of building a learning community.

The iPads had an impact beyond the three classrooms that received the devices. The iPads expanded the availability of technology at our school. Classrooms with iPads no longer had to use the computer lab, freeing time in the lab for other classrooms. iPads were also available for after-school activities to provide enrichment opportunities for students in areas such as robotics and math.

Quantitative Results

Third grade students using the iPads showed high levels of academic achievement in Reading and Math. The third grade average scaled score on the winter Scantron assessment in both Reading and Math was ranked **1st out of the 34 schools** in the Englewood-Gresham network.

With the use of iPads, third grade students moved from meeting learning standards to exceeding standards. In the fall of 2011, none of the students exceeded standards in Reading or Math. At the end of the year, six of the students exceeded Reading standards and eight of the students exceeded math standards.


3rd Grade iPad Class - Reading Scantron Results
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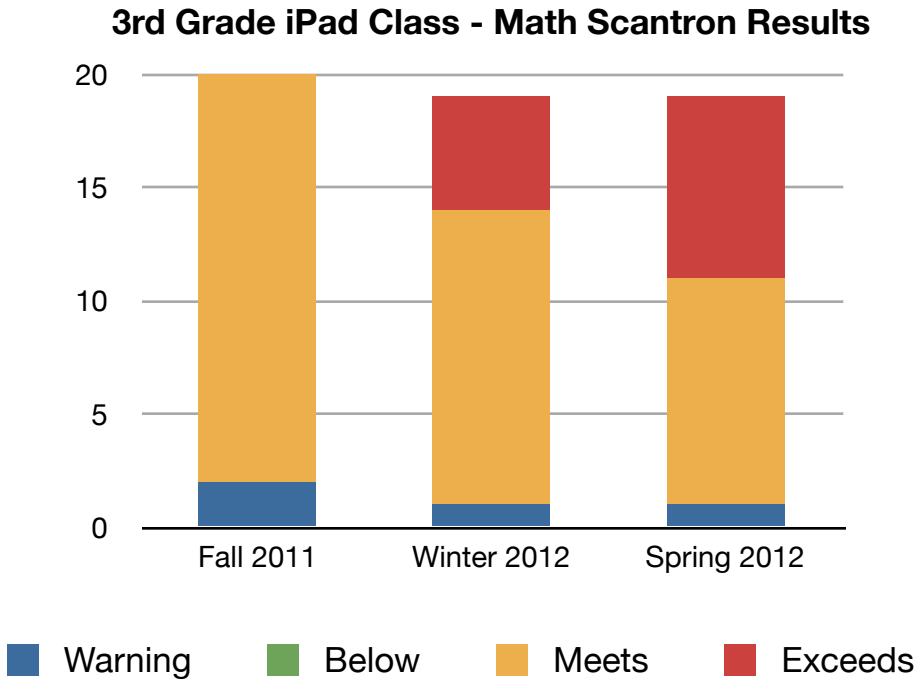
Fall 2011
Winter 2012
Spring 2012
Warning
Below
Meets
Exceeds


3rd Grade iPad Class - Math Scantron Results
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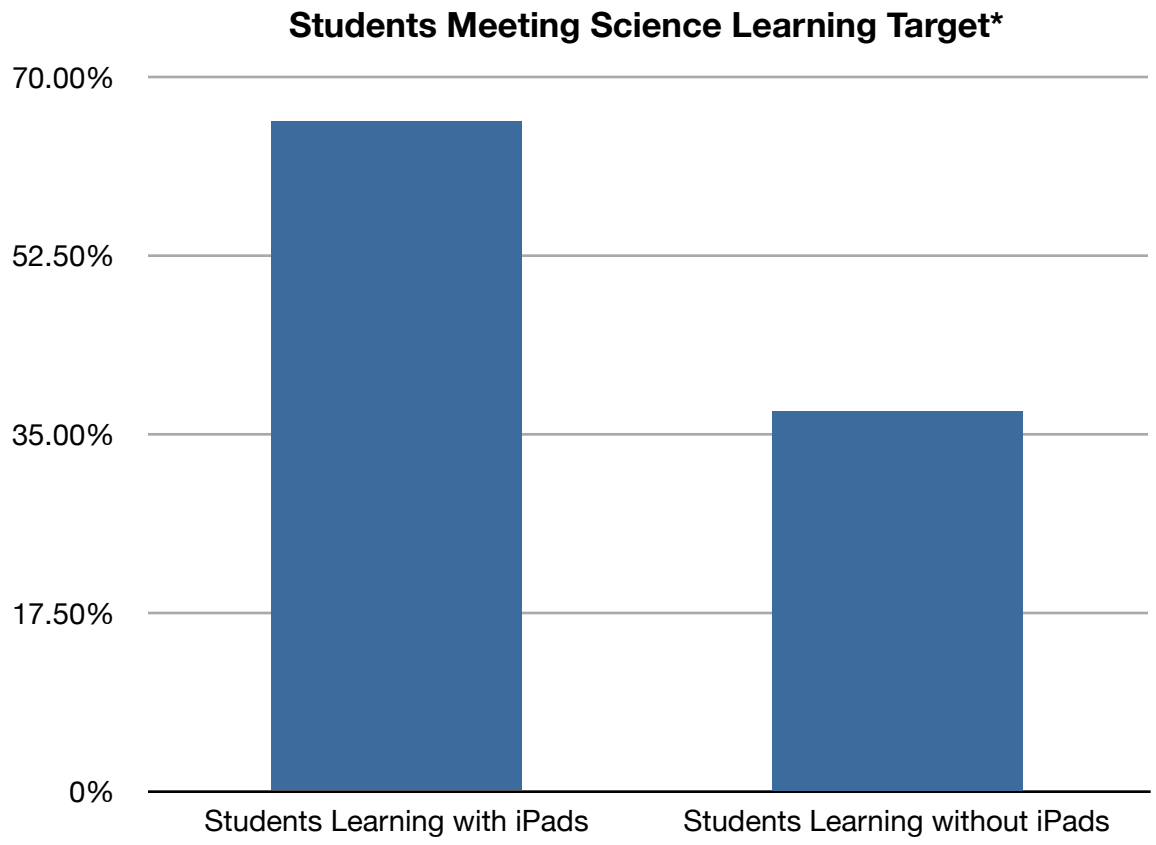
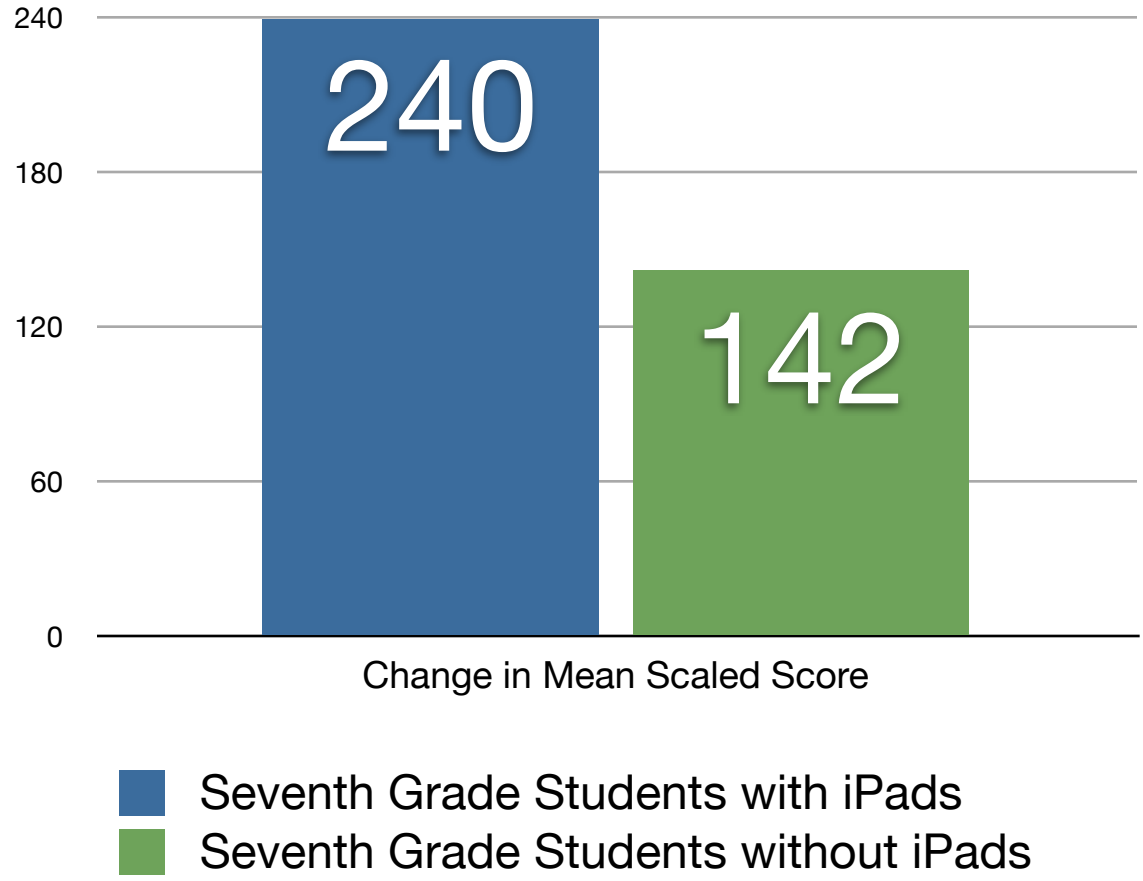
Fall 2011
Winter 2012
Spring 2012
Warning
Below
Meets
Exceeds

Students participating in Science and Engineering lessons using the iPads experienced large gains in academic achievement. Sixty-six percent (66%) of the middle school students in Science and Engineering classes using iPads met their learning target in Science, as measured by the Scantron standardized test. In the Science classrooms that did not use iPads, only 37% of the students in Science classrooms met their learning target in Science.



Likewise, students participating in Math classes using the iPads experienced greater academic gains than students in classes without the benefit of using the iPads. The mean Scantron Math score of students in the class using the iPad increased by 240 points during the school year, while the students in the Seventh grade class that did not have access to the iPads experienced an increase of 142 points.

Change in Mean Scaled Score - Fall to Spring Scantron Math Results



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