

Teaching Tech to Teachers: Professional Development as a Driver for Instructional Innovation

Principal: William Fitzgerald
School Type: Middle School
Neighborhood: Ozone Park, Queens
Title I: Yes
Total Enrollment: 1070
ELL: 67
Special Ed: 140
Web site: www.ms202.org

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|--|-------|
| Asian or Native Hawaiian/Pacific Islander: | 31.6% |
| American Indian or Alaska Native: | 0.7% |
| Black or African-American: | 10.7% |
| Hispanic or Latino: | 43.6% |
| White: | 12.9% |

Principal's Vision:

The Goddard School is a one-to-one laptop school, and although laptops have certainly helped the school forge ahead in 21st-century learning practices, Principal Fitzgerald stresses what he believes are the two necessities for technology implementation on any scale: a skilled in-house technology supervisor and high-quality professional development. He has found that students are more engaged during Smartboard lessons, for example, so he ensures that teachers know how to deliver them by providing them with tailored professional development. When teachers have a strong grasp of instructional technology, they can come up with creative, interactive lesson plans and have the capability to deliver them. Principal Fitzgerald has also established a culture of classroom visitation at Goddard, so teachers can share best practices in a more fluid way.

Professional Development:

Culture

Principal Fitzgerald is particularly proud of his school's professional development programs. The Goddard school has invested a great deal in teacher technology training, and Principal Fitzgerald believes that high quality training is worth the investment. Teachers have attended professional development sessions run by Apple, iTeachLearn, and a well-known professional development coach, as well as by the technology facilitator and other teachers.

Principal Fitzgerald stresses that there are no excuses when it comes to professional development. For example, there is a new Smartboard 10, and he sees it as only natural that teachers will receive professional development on how to use it. If they cannot attend the PD session, administrators will arrange opportunities for intervisitation to either other classrooms or other schools. Teachers are paid to

attend PD after school or on weekends, but a great deal of voluntary, unpaid PD takes place during weekly prep period study groups.

Onsite PD Based on Teacher Needs

Most of the technology professional development at Goddard is run onsite by the technology facilitator, Vinna Deninno. The AP has a system to determine the most useful professional development topics: she surveys teachers to see what is most relevant to their needs by sending out a form with choices. Ms. Deninno further narrows down these topics by choosing one particularly useful aspect of each technology. In order to avoid overwhelming teachers, she does not conduct “everything you ever wanted to know about the Smartboard” PDs. Instead, she will focus on something specific, such as how to find and play back a piece of a lesson for differentiation. Teachers fill out exit surveys after each session to comment on its usefulness. Finally, a key piece of professional development is follow-up. Teachers with remaining questions can always see Ms. Deninno for guidance.

Informal PD Driven by Classroom Observations

Goddard also runs more informal professional development. For example, if Principal Fitzgerald happens to walk into a classroom and sees a teacher conducting an exemplary lesson, he will send other teachers to the room, or encourage them to discuss the lesson during their common prep period. He may also ask that teacher to conduct a professional development session, and will pay the teacher per session. Lessons incorporating Gizmo software and Google Earth have been shared amongst teachers through this more informal channel.

Visiting PD Coach

In addition to professional development run by the tech facilitator and teachers, the school contracted well-known professional development coach Alan November to provide one day of training at his special New York City school rate (<http://novemberlearning.com>). His approach is to help teachers teach from different perspectives; for example, he encourages them to show their students other points of view in their history books (the Japanese view of WWII, or the British view of the American Revolution). His services are specifically focused on 21st-century skills, including Internet literacy, critical thinking, and collaboration. He taught the teachers at Goddard about various Web 2.0 applications, searching techniques, Skype, etc.

Apple PD

Apple provides useful workshops, as well. Teachers and administrators were pleased with Apple Out of the Box, which provided very basic training on how to use a Mac (ranging from how to navigate the toolbar to how to use programs such as iMovie). Because Goddard is a one-to-one Apple school, it receives special offers on these workshops.

Instructional Technology Goals:

Principal Fitzgerald is careful to note that although The Goddard School is lucky enough to have one-to-one laptops, a television studio, and other tools, there are only three things that are really critical to teachers in terms of technology: *an LCD projector, wireless access, and a laptop*. “A Smartboard,” he says, “is icing on the cake. One-to-one is even better. But you can get really good lessons with just those three things.”

Increasing Student Engagement with Laptops

Experiential Web sites paired with handouts

Technology has been incorporated into the classroom in all subject areas. Teachers have found that the differentiation promoted by laptops is particularly effective: for example, teachers can address specific issues in an IEP more easily by directing students to Web sites with different reading levels. Sites that are good resources for students are identified, approved, and saved on a bookmarking Web site called a Portaportal, so students can access them quickly on their laptops. In general, teachers choose experiential Web sites and pair them with worksheets so that students must look for specific things on the sites and cannot merely surf the Internet.

Instructional Software

A one-to-one laptop model allows students to use instructional software, such as Gizmos by Explore Learning, at their own pace. The activities are personalized because students can log into their own accounts (<http://www.explorelearning.com/index.cfm?method=cResource.dspResourceCatalog>). Mac programs are also easily accessible, and students frequently use Garageband to create podcasts.

Increasing student engagement with Smartboards

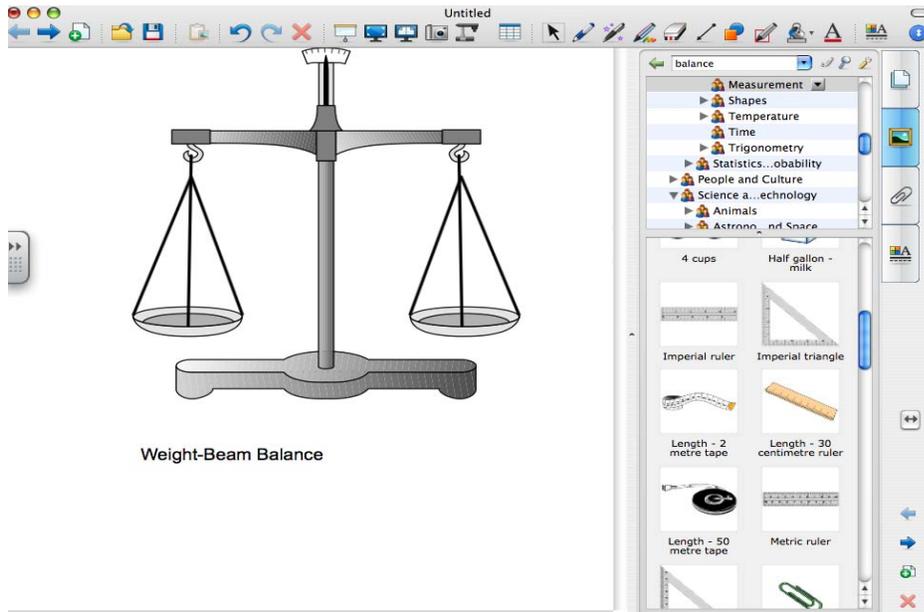
The most important tool for teachers at Goddard is the Smartboard, and because teachers integrate them throughout the lesson, technology feels very fluid. Smartboards on their own promote engagement and motivation, but collaboration is further enhanced through the use of Senteo remotes (Goddard has five sets). Teachers report that the whole dynamic of the classroom changes when students use the remotes: students are even more involved and attentive. Smartboards have also contributed to student empowerment at Goddard. Teachers have found that students often offer suggestions about ways to use the Smartboard that they have seen in their other classes. There is a bond between students and teachers based on a sense of reciprocity that didn't exist before.

Real Time Data-Driven Instruction with Smartboards and Remotes

The remotes are also useful for teachers in that they allow for immediate pre- and post- assessments. The answers students register using the remotes are automatically tallied, and a graph showing the percentage of students who got each question right or wrong pops up on the teacher's computer. During the course of a lesson, teachers can quickly determine student understanding and change the lesson plan without a long question and answer session.

Improved lesson plans with Smartboards

Principal Fitzgerald notes that the quality of lesson plans has increased because teachers "cannot simply turn on the Smartboard and hope for the best." Their lesson plans are often more creative, and at the very least, engage multiple intelligences. A popular science lesson, for example, involves a triple beam balance that can be seen on the Smartboard both from above and from the side. Using the touch screen, students can drag objects onto the balance and move the weights until the trays line up. Other students use actual triple beam balances at their seats, but the touch screen is easily visible for modeling. A high quality social studies lesson on the Aztecs incorporates photos and Google maps, guided discussion, a note-taking activity, and a quiz with Senteo remotes.



Students can use a virtual triple beam balance on the Smartboard

Teaching Multimedia Skills

Goddard has a media studio, which had been in the school for decades without being upgraded. Now, it has a full green-screen in addition to video cameras. A media literacy elective is taught in the studio, and students learn journalism techniques, storyboarding, and writing in addition to technical filmmaking skills. The students are highly engaged, as they are eager to see their final, professional products. Following are two examples of student work created in the media studio: <http://www.vimeo.com/4109693> <http://www.vimeo.com/4269421>. This year, Goddard entered a moviemaking contest with their commercials and PSAs. Periodically, they also record school news for a Queens public access channel. Teachers can also use the studio, and an AP recently made a "How to Create PowerPoints" video.

Teachers at The Goddard School describe the way technology has helped them implement curriculum in the following video: <http://mspanyc.org/Chancellorpresentation/ms202tech09.mov>

Communication and Collaboration:

Web Site Provides Information for Students and Parents

Principal Fitzgerald has put more information on the DOE portal than simply what is required: <http://27q202.nycdoe.org/home.aspx>. The school also has a Web site, www.ms202.org, which is powered by EChalk. A calendar, forms, and announcements are all posted on the main page, so parents are aware of what is going on in the school.

Some teachers also have individual class pages where they post assignments and resources: http://www.ms202.org/class_profile_view.aspx?id=2e33e14d-7d02-43a7-8222-faf8a2d155c6 http://www.ms202.org/class_profile_view.aspx?id=54c77ea8-105f-44a8-94ce-5ee8bbff51fb. These pages allow students to access material at home, and provide parents with greater insight into their child's assignments.

Implementation of Technology:

Budgeting and Procurement

Because Goddard received startup money through the iTeachiLearn grant, the school has 1:1 computing with one MacBook per child. There are also Smartboards in every classroom and five sets of Senteo remotes, as well as LCD projectors. There are a few desktops for administrators, and several more in the library. Principal Fitzgerald sees a computer lab as a waste of space since each room has a laptop cart. Most students have their own flash drives, and the school provides flash drives to children who cannot afford them.

As for software procurement, staff members make decisions based on applications they encounter at professional development sessions and conferences, and recommendations they receive from vendors and the Learning Support Organization (LSO). Teachers also come in with suggestions, and if the principal and technology facilitator agree that the software will benefit numerous teachers and students, then they will budget for the purchase.

Planning for the Future

In order to get the maximum life out of the devices the school already has, Principal Fitzgerald has placed a set number of devices in each classroom (they had previously been moved from room to room). He hopes that this will result in fewer lost or broken machines. However, Principal Fitzgerald recognizes that the initial funding stream was a one-time grant, and since more students enroll daily, he may not be able to provide every student with a laptop in the future. He has therefore been careful not to allow his school to become dependent on one-to-one: he has shifted the focus from every student having every device to improving teacher use of full-class devices to enhance instruction. Since every classroom has a Smartboard, students can benefit from 21st century teaching methods and resources regardless of whether they have individual laptops.

Staffing Roles Related to Technology

Technology Facilitator

The bulk of formal responsibility for instructional technology lies with the school's fulltime technology facilitator, Vinna Deninno. She is responsible for conducting almost all of the technology professional development, as discussed above.

Tech Support

Technology Facilitator

In addition to teaching professional development, Vinna Dennino is responsible for the hardware inventory and for keeping all materials in working order. Principal Fitzgerald stresses how important it is to have her as a contact person "who comes straight to the room and fixes something immediately before it starts to collect dust." Her availability prevents teachers from losing instructional time.

School Aide and Model Teachers

One school aide assists with tech support, but Principal Fitzgerald is thinking of adding another for the next school year because the current aide is overwhelmed. There are also several tech-savvy teachers who can help with technology-related issues. However, the technology facilitator takes care of most of the tech support.

Student Tech Helpers

Goddard found that having a tech squad on the middle school level to deal with software issues was not beneficial because of password access. Although students were certainly capable of dealing with the issues, they needed ADMIN access to fix anything substantial, and this was not something the school felt comfortable giving them. Instead of a tech squad, Goddard has tech monitors in each class. These students assist teachers with inventory issues, minor software problems such as freezing devices and Internet connectivity, and minor hardware issues such as stuck disks and keyboard problems. Tech helpers forward larger problems to Ms. Deninno.

Change Management

Principal Fitzgerald stresses the need for a good staff and good leadership to implement technology because the way it is presented is important for buy-in. The current strategy is to first introduce the new technology to the technology facilitator, then work out its feasibility, then identify key staff members who will embrace it. Eventually, the technology will spread to include other teachers.

Principal Fitzgerald is adding a section relating to technology use to his classroom observations. He wants to make it clear that it's not enough to "simply use the Smartboard as a static display." It is a teacher's responsibility to integrate technology into student assignments, and this expectation has, for the most part, become part of the school culture. Some teachers may find this to be difficult, but the principal explains that they have abundant professional development opportunities to assist them. He has also made it very clear that technology is not optional at Goddard. Early on, for example, he noticed that teachers did not check their DOE e-mail. To solve this problem, he began to ask them questions via e-mail. Now, he only gets one bounce-back (indicating a full, likely unmonitored inbox).

Achievement Highlights:

Behavior

The number of school safety officers was reduced (from six to four) due to minimal incidents.

Math and ELA Scores

ELA

| Year | 6 th Grade (% 3's and 4's) | 7 th Grade (% 3's and 4's) | 8 th Grade (% 3's and 4's) |
|------|---------------------------------------|---------------------------------------|---------------------------------------|
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|----------------------------|-----|-----|-----|
| 2007 | 62% | 52% | 53% |
| 2008 | 60% | 69% | 51% |
| 2009* Full tech-deployment | 80% | 82% | 71% |

Math

| Year | 6 th Grade (% 3's and 4's) | 7 th Grade (% 3's and 4's) | 8 th Grade (% 3's and 4's) |
|----------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 2007 | 82% | 66% | 58% |
| 2008 | 83% | 83% | 67% |
| 2009* Full tech-deployment | 90% | 89% | 83% |

**Full tech deployment= teacher laptop and Smartboard in every instructional classroom and sets of 30 laptops in every core subject classroom*

Contact Information:

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