

Fostering Collaboration and Creating a Seamless Educational Experience with the Google Suite

Principal: Jason Levy
School Type: Middle School
Neighborhood: Claremont, Bronx
Title I: Yes
Total Enrollment: 840
ELL: 232
Special Ed: 208
Web site: www.is339.org

Asian or Native Hawaiian/Pacific Islander:	1%
American Indian or Alaska Native	0.6%
Black or African American:	27.9%
Hispanic or Latino:	70.2%
White:	0.4%

Principal's Vision:

Principal Levy's vision is to increase student engagement, improve staff communication and collaboration, and improve instructional and operational efficiency through technology. Although one-to-one laptops certainly helped Principal Levy achieve his goals, his school's transformation was largely based on something entirely free: the Google Suite, which is integrated into every aspect of MS 339, from online lesson plans to online assessments, and is used by students, teachers, and administrators alike. Principal Levy shares best practices not only with other New York City public schools, but with the world: the collaborative, multimedia projects his students have created, along with the innovative lesson plans that led to them, are posted on his [Dot-to-Dot Web site](#).

Instructional and Operational Efficiency with the Google Suite:

Community Building

MS 339 is divided into teams to create smaller communities within a larger school. There are two types of school teams: 1) a team of teachers who meet daily and teach across disciplines to the same smaller group of students, and 2) a team of teachers in the same content area who meet three times per week to share best practices. Principal Levy believes that teams can be integrated into a school without technology, but that technology is necessary to create *high-performing* teams.

Improving Communication

Due to the changes in the school's structure, Principal Levy needed to find a better means of communication between students, teachers, and parents. He found the answer in Google for Educators; relationships have been revolutionized through the school's use of the entire suite of Google tools, including Gmail, Gchat, Google docs, Google calendar, Google spreadsheets, Google forms, and Google Blogger (<http://www.google.com/educators/index.html>). There is now a culture of ongoing, real-time communication throughout the school community, and information sharing has become fluid and natural. Teachers are able to share lesson plans, meeting minutes, feedback, and student information online.

Below are specific uses for each tool, which are also highlighted in a case study of the school conducted by Google (http://a.parsons.edu/%7Ejenkc865/339/nyc_is339_cs.pdf):

Sharing work with Google docs: Teachers share plans and resources with each other, and post lessons for their students through Google docs. Students also hand in their work by uploading it to Google docs, eliminating lost papers and allowing them to keep their work filed online in a single place. Notes from classroom observations are also posted in Google docs, so teachers can easily respond to feedback from the administration.

Tracking student information with Google spreadsheets: Student data, attendance, and grades are shared amongst teachers and administrators through Google spreadsheets. The school also uses spreadsheets for a behavioral tracking system. Students receive points for good behavior, which they can redeem at the school store. The chart is used to monitor behavioral problems as well, so that students know exactly why a disciplinary action is being taken. Google spreadsheets therefore allow for greater transparency.

Instant communication with Gchat and Gmail: Teachers can instant message and e-mail each other throughout the school day. If a student was disruptive in his first period class, for example, his first period teacher can let his second period teacher know immediately. This increased communication saves time when classroom transition occurs; the next teacher is better prepared and students are better understood, thus decreasing the amount of time spent on classroom management. Gmail provides teachers with unlimited storage space, so they can e-mail each other frequently. Principal Levy can easily distribute newsletters to the entire staff via Gmail.

Easy assessments with Google forms: Teachers can administer online pre- and post-lesson quizzes through Google forms. Because Google forms has an Excel-like function that allows conditional formatting, these quizzes can self-grade. Forms can also be used for surveys and referrals.

Scheduling with Google calendar: Non-classroom-based staff members fill out color-coded schedules so the principal can find them throughout the school when necessary. Google calendar can also be used to send out meeting and event invites.

Knowledge-sharing with Google blogger: Principal Levy created a Celebrating 339 blog (<http://celebrating339.blogspot.com>) for teachers to publically recognize each other's best practices, thus helping to facilitate a stronger sense of community. This blog also includes notes and training videos posted by Principal Levy. Students use blogger for class work, discussed below.

Google start-pages as student portals: Students can create personalized start pages where they log in to access their Google docs, Gmail accounts, and calendars. There is a single sign-on so students do not have to keep track of multiple passwords. The start page also includes links to Reuters and Discovery Channel top stories, and Dictionary.com words of the day.

The following link is a Powerpoint presentation detailing how the school uses the Google suite by tool: http://docs.google.com/Present?docid=dc3h63q3_257dd745whm.

Principal Levy also created a video on how MS 339 uses Google throughout the school: http://www.youtube.com/watch?v=M69KRVIr9s0&feature=channel_page

Instructional Goals:

Focus on Literacy

When students upload their work to Google docs or contribute to class blogs, teachers can provide quick feedback at all stages of the writing process. Students can easily engage in peer editing and written discussion. Blogs are used not as personal journals, but as instructional spaces where students respond to course content. As part of an ELA class, for example, students blog as characters in the book they are reading. The following Powerpoint presentation explains the instructional uses of blogs:

http://docs.google.com/Present?docid=dd2xg6bf_591hscmgpcb. Students can access course blogs from the school Web site (cis339online.org), including the eighth grade blog, *The 339 Hardline* (www.339hardline.com). One student gained school-wide popularity as a food columnist for the blog.

Literacy is also reinforced through script-writing. Writing becomes more exciting for students when they can turn their scripts into podcasts and films.

Focus on Math

339 makes frequent use of First in Math (<http://www.firstinmath.com/>) and MathScore (<http://www.mathscore.com/>). Since the school has one-to-one laptops, students can use software as a class, in small groups, or independently. The software includes activities and review questions, and tracks performance through individual log-ins.

Differentiating Learning with Software

The school has had success with Web-based differentiated learning programs, such as Achieve 3000 (<http://www.achieve3000.com/>), Renzulli (<http://www.renzullilearning.com/default.aspx>), and MathScore. With these programs, teachers are able to determine students' abilities and make adjustments to the program so that each student is working at an appropriate level. Online companions to textbooks have also been helpful for additional questions and activities. Teachers use Acuity programs for online Periodic Assessments, which would not be feasible without one-to-one laptops.

Increasing Student Engagement

Interactive Lessons

Google tools streamline lessons and make them more interactive. Because every student has access to a laptop, teachers can ask them to access resources online. In the lesson plan below, students can click on hyperlinks to practice tests, keep a running vocabulary list, and contribute to a class blog. Teachers have found that lessons incorporating online tools keep students more engaged. The following video reflects the organization teachers strive for with online lessons:

http://www.youtube.com/watch?v=fWe5wi1PAEg&url=http%3A%2F%2Fsites.google.com%2Fsite%2Fcis339tigerstreak%2Fhome%2Fvideo&feature=player_embedded

Sample lesson plan:

1. Do Now:

ELA Practice: Figurative Language

Answer a figurative language question from a past ELA Exam here.

2. Aim: How can I use my knowledge of context clues to answer book 1 multiple choice questions on the ELA test?

3. Review:

Using context clues to figure out difficult vocabulary

Being "word detectives"

Context clue question stems on the ELA Exam

4. Mini-Lesson & Modeling:

Click on this past 7th grade ELA Test.

If the link does not work, open "Gr7 ela bk1" from Google Docs.

Follow along as I read "One Cool Job" on page 16.

As I read, ask yourself:

What new words do I notice?

What clues AROUND the words help me to figure out what the words mean?

Let's fill out this Google Doc Chart together.

5. Independent Practice:

Now let's practice using our *detective skills* to successfully answer questions on a past 8th grade ELA Exam ("8th Grade ELA Exam 2006" in Google Docs)

Read the passage "The ASPCA: A Brief History" on page 6. Then, answer multiple choice questions # 6-11 here.

Let's review our answers and see how many we got right (GOAL: at least four out of six)

6. Extension:

Read Ch. 13 of *To Kill a Mockingbird*

Listen for at least six new vocabulary words to add to your Personal Vocabulary Lists.

Must Do: Blue Columns

Can Do: Yellow Columns

Should Do: 10 words total today

Early finishers: Choose one meaningful line or phrase from the book so far. Create a blog post in your group's Ning page, explaining what this quote implies or means to you. Title the blog: "In my own words..."

7. Share: Who would like to share one new vocabulary word and its definition? (Extra credit: Who would like to ACT OUT the new vocabulary word and its definition?)

In this lesson, students access a past ELA exam by clicking on a link or logging onto Google docs, post on a class blog, and keep a running list of vocabulary words.

Laptops go a long way toward increasing student engagement, but there is also a Smartboard mounted to the chalkboard in every classroom. Teachers use the Smartboard to display images from their computer or from Internet sites that they are using for instruction. With handheld Senteo remote controls, the students can answer questions on the Smartboard from their seats. The school has one set of these remotes, which rotates between classrooms

Remote tablets called Airliners are also used in conjunction with Smartboards. Students or teachers can write on these tablets from their seats and have their work show up on the Smartboard. Airliners can be used with a laptop or projector, as well.

Multimedia Project-Based Learning

In addition to better-organized lessons, technology allows teachers to offer more creative projects. When students create multimedia projects such as videos and podcasts, they are able to enhance their technological skills as well as reinforce their content knowledge. For example, the school has one

classroom equipped with 25 iPods that were provided by a Reso-A grant. Students use the iPods to create digital story books, podcasts of book clubs, and radio shows about what they are learning.

The projects displayed on Principal Levy's Dot-to-Dot Web site, described in detail below, include everything from student-produced documentaries to comics.

Mr. Dell'Aquila teaches 6th and 7th grade English Language Arts to special needs students. His project, "*Killing Ignorance*", is a documentary that addresses the genocide in Darfur in the context of his students' reading of *Number the Stars* and genocide around the world. His students created a video invitation for New York Times columnist Nicholas Kristof (www.dearmrkristof.com), and Kristof, who joined Dell'Aquila's presentation via Skype at 2:20PM. The project can be found here: <http://sites.google.com/site/339dottodot/jdellaquila>

Ms. Horan teaches 7th grade Social Studies. Her project, "*Rights Gone Wrong*", imagines what American life would be like without the first ten amendments to the U.S. Constitution. Her students designed comics about the Bill of Rights. The project can be found here: <http://sites.google.com/site/339dottodot/ehoran>

Ms. Johns teaches 8th grade English Language Arts. Her project, "*Film. Inspire. Act.*", asked students to direct a documentary about a human interest story. Examples include a documentary about the proposed ban on fast food restaurants near public schools in New York City, redevelopment of the 149th Street / Third Avenue Hub, and student awareness of the Darfur genocide. The project can be found here: <http://sites.google.com/site/339dottodot/jjohns>

Ms. Marmora teaches 6th grade English Language Arts. Her project, "*Prejudice and Persuasion*", responds to the themes in *Number the Stars* through public service announcements that address social issues. The project can be found here: <http://sites.google.com/site/339dottodot/lmarmora>

Examples of student projects integrating content with multimedia

Communication and Collaboration:

Communication and collaboration within the school are clearly fostered through the Google suite (discussed above), but technology has also improved communication that extends beyond the doors of MS 339.

Improving Motivation by Sharing Lesson Plans and Student Work Worldwide

In order to share best practices and engage in a broader conversation about 21st-century education, Principal Levy and his team organized a "Dot-to-Dot" conference. The four-hour event (attended by all MS 339 teachers and hundreds of students) took place at the school, but 14 presentations were also shared online via live-streaming. Participants from around the world were able to post online comments, join in chat conversations, and view teachers' Project Pages, which display student work and provide templates for other teachers to follow. The presentations are archived on the Dot-to-Dot site so that visitors can continue to access them after the conference: <http://sites.google.com/site/339dottodot/>. The public nature of the projects improved student motivation to produce high-quality work, and teacher motivation to create high-quality lessons.

Parent Engagement

Principal Levy reaches out to parents by hosting Parent Expos. Students display their work and show off their tech skills through PowerPoint presentations, iMovies, and blogs that they created with their teachers. Teachers also have the opportunity to explain to parents how they incorporate instructional

tools in their classrooms. Select students live-blogged the first Expo. Parents were also invited to participate in the school's landmark Dot-to-Dot Learning Reception, discussed above.

In addition, teachers have informed parents that student work can be found in Google docs, so if they have Internet access, they can review their child's assignments without their child being present. They can also stay up-to-date by reading the school blog or visiting the school Web site (www.is339.org). However, Principal Levy is still hoping to improve parent engagement. Next year, he is planning to launch an online grading system (Power School or Blackboard) in order to centralize student grades. This system will allow parental access.

Implementation of Technology:

Budgeting and Procurement

MS 339 was a recipient of the iTeach iLearn grant, a one-time capital award. The iTeach iLearn grant provided the school with one-to-one laptops and a Smartboard and LCD projector in each classroom. Principal Levy chose Mac Books over HP/Dell Tablets because he believes Macs are more child-friendly in their applications and design, and are more virus-proof (which increases the speed of the computer and allows the Internet to run more smoothly). In addition, Macs come with programs such as iMovie, which students can use for their assignments.

The rest of the school's hardware was purchased with the regular school budget, supplemented by City Council grants. One of the most substantial purchases has been ELMOs, which are overhead transparency devices that can transmit images and text from an 8x11 piece of paper onto a screen. ELMOs are similar to overhead projectors, but they can project a color image from a regular piece of paper rather than from a plastic transparency sheet. Teachers have LCD projectors for digital content, but they can use ELMOs to show the class a magazine page, for example.

The Google suite (which is free) has saved the school money on paper and printing. Professional development costs have decreased since teachers can collaborate and share best practices through Google docs.

Future Plans

As far as maintaining high-level technology without the additional iTeach iLearn funding, Principal Levy is looking into inexpensive netbooks that he can purchase using his regular school budget. He is currently piloting the ASUS brand, and the school has about 200 ASUS netbooks (used mainly as back-ups when Macs are being repaired). He has also been researching ways to keep the older machines in good working condition. For example, the depot manager learned to replace broken screens. This will hopefully allow the machines to last beyond their warranty period.

Staffing Roles Related to Technology

Assistant Principal/Technology Liaison

Assistant Principal Daniel Ackerman (a former technology coach) oversees the technology program and manages tech support. In addition, he organizes (and sometimes teaches) professional development, which usually relates to technology training, technology set-up, or integration of technology into the curriculum.

Google-Certified Tech Coach

The school has a tech coach who works one day per week to provide instructional and logistical technology instruction and support for teachers. Each Monday, the coach comes in with a lesson based on topics requested by the teachers themselves, and teachers have the option to attend these sessions. This position was budgeted out of the F-Status Title for Part-time DOE Employees, which resulted in a salary of only 1/5 the salary of a full-time employee. The tech coach is a Google Certified Educator, which means he attended an application-only professional development institute. A Google Certified Educator is expected to become a leader in sharing innovative tech practices (a train-the-trainer model). The following link provides more information on becoming a Google Certified Educator: <http://www.google.com/educators/gta.html>.

Educational Technology Consultants

MS 339 employs an Aussie Educational Consultant (<http://www.aussiepd.com/>). He helps administrators and teacher leaders think about long-term planning and vision—how they can leverage technology to improve instruction. Teaching Matters consultants (<http://www.teachingmatters.org/>) also provide onsite support because Principal Levy recently purchased their reading and social studies curriculum.

Tech Support

iSquad Tech Team

The school has a team of students, similar to a MOUSE squad, who are able to provide onsite assistance by responding to online tech support requests. After being submitted via online forms, the requests are entered into a spreadsheet that is tracked by the iSquad. Students respond to requests, usually within the same day. The team of students is trained in tech support with central DOE funds, and is supervised by Mr. Ackerman.

Assistant Tech Support

MS 339 has a school aide who is extremely familiar with computers and can assist with training and tech support.

High School Interns

Three high school interns come to the school each day to provide additional tech support. These students get course credit from their school through its community service program. Since one of the high school's founding principles is that students should participate in professional training one day per week, internships at MS 339 fulfill a requirement.

DOE Tech Support

The school has a good relationship with DOE tech support staff at the central help desk, as well as the Bronx borough technology managers.

Depot Manager

MS 339 has a full-time depot manager who is in charge of hardware repairs. He also manages the teacher tech support referral system and keeps track of inventory.

Tech Support Form

Fill out this form to receive technical assistance. This form should be used for all technology related issues.(hardware, software, equipment requests, keys, etc)

* Required

Name *

Room *

Please check the problem or equipment that you need. *

- Software
- Laptop
- Desktop
- Projector
- SMART Board
- Equipment Request
- Airliner
- Internet
- Google Apps
- Other:

Please describe the problem in greater detail so we can better assist you. *

Submit

The iSquad responds to tech support requests submitted via online form

Professional Development

Principal Levy stresses the importance of figuring out ways to use technology to improve what is already happening in the school so that the staff does not feel burdened with unnecessary technology. Professional development shows teachers how technology can improve their work, and subsequently, the work of their students.

The tech coach provides teachers and staff with technology PD. Past topics have included podcasting, creating self-grading quizzes with Google forms, using Google docs, and using iMovie. The Assistant Principal is responsible for ensuring that teachers can take advantage of these opportunities and that tech lessons are relevant. This past year, the school began to offer periodic Saturday sessions rather than after school PD. The sessions are well-attended, and teachers are compensated per session or training rate, depending on the class. The consultants offer additional professional development. If the budget doesn't allow for weekend or after school PD, it is offered during the school day instead.

In general, there is less of a need to bring in outside PD when teachers can share best practices so easily through Google docs.

Achievement Highlights:

Math and ELA Scores

ELA (school-wide)

Year	Percentage of students earning 3 and 4
2006	23
2007	24
2008	27
2009* first year fully 1:1 laptops	40

MATH (school-wide)

Year	Percentage of students earning 3 and 4
2006	9
2007	23
2008	47
2009* first year fully 1:1 laptops	62

Contact Information:

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