



Chromebooks for Education

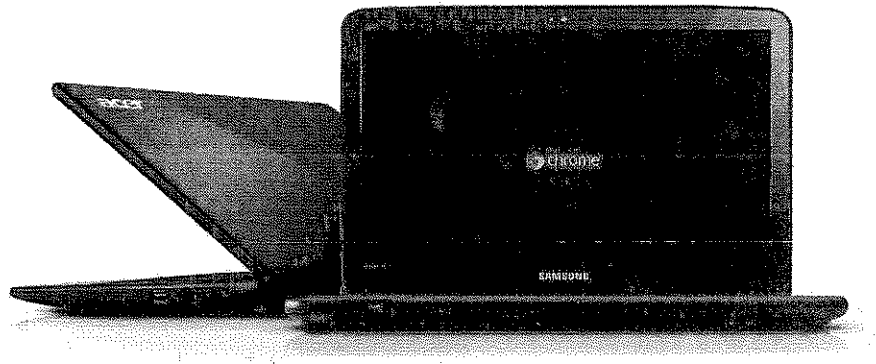
Chromebooks for Education include

- Chromebook computers
- Cloud-based management console
- Ongoing support from Google
- 3 year hardware warranty

Pricing

Chromebooks for Education start at \$20/Chromebook per month

For more information, visit:
google.com/chromebook/education



Chromebooks for Education give students, teachers, and administrators a simple solution for fast, intuitive, and easy-to-manage computing. Chromebooks provide access to the web's education and collaboration resources, as well as offer centralized management and low total cost of ownership. Using Chromebooks, teachers spend more time teaching and less time managing classroom technology, and schools can deploy more computers into the hands of their students and teachers.

"From the day the students got the Chromebooks, they could maneuver around. It's pretty simple. Individual learning at their own pace."
—Zach Fleming, Teacher, Crook County Middle School

At home in the classroom (and beyond)

Chromebooks provide the teaching and learning benefits of computers without the typical distractions that come with technology in the classroom. They boot in 8 seconds and resume instantly - eliminating the time wasted while traditional computers start up and connect to a network. Long battery life means Chromebooks last an entire school day. And since it's easy to connect a Chromebook anytime and anywhere with built-in Wi-Fi and optional 3G, students can continue learning after school and at home. Applications, school work, and settings are stored in the cloud, so multiple students can use the same Chromebook and still have their own personalized experience when they sign in. Best of all, there is no special training required: If you know how to use the web, you know how to use a Chromebook.

"We don't have to worry about installing software or doing updates and imaging. It's just plug and play, it's amazing!"
—Bruce Hahn, Technology Coordinator,
Crook County School District, Prineville OR

36 months purchase for US enterprise customers only. Terms & conditions apply.

Wireless networks have real life limitations, like speed and availability, and terms & conditions from the provider may apply. When you do not have network access, functionality that depends on it will not be available.

Chromebook specifications

- Lightweight design
 - Battery that lasts a full school day
 - Built in Wi-Fi and 3G (optional)
 - HD Webcam
 - USB 2.0 ports
 - Memory card slot
 - Projector/monitor output
 - Fullsize Chrome keyboard
 - Oversized, fully-clickable touchpad
-

For more information, visit:
google.com/chromebook/education

Easy to manage

With just a few clicks, administrators can change or update settings for their entire set of Chromebooks, ranging from pushing or removing web applications to enforcing managed browsing policies for all users. Seamless updates keep the operating system and applications fresh, so Chromebooks continue to improve and get faster over time, with no need for tedious backups, security patches, data migration, or re-imaging. Chromebooks are designed to protect against the ongoing threat of viruses and malware, so computers, users, and networks are safer without any manual system maintenance.



"Compared to other notebooks there is no software to install, there is no imaging that needs to be done. The less administrative overhead and burden you have to manage the computers, the more computers you can put out in the classroom and sustain and maintain over time."

—Matthew Peskay, Director of Technology, KIPP LA Schools, Los Angeles CA

All the educational resources of the web

Chromebooks are built and optimized for the web. This means that Chromebooks can seamlessly access the Google Apps suite of productivity and collaboration tools (which is free for schools), as well as apps available in the Chrome Web Store, the Google Apps Marketplace, and content across the entire web. Chromebooks run your favorite flash-based educational tools.

Everything for \$20 per month

Starting at \$20/device per month, Chromebooks for Education include the hardware and operating system, updates, cloud-based management, and complete support, all supplied directly from Google. Because schools no longer need to purchase software licenses, servers, security solutions, and maintenance plans, the total cost of owning a Chromebook can be 70% lower than the ownership costs for a traditional PC. After 3 years, schools receive a whole new set of Chromebooks and can keep their original set (without cloud management or ongoing support) at no charge.

Get Chromebooks for your school

For more information or to purchase Chromebooks, please contact Google sales at: google.com/chromebook/education



Engineering specs can change without prior notice. Battery times are estimates, depend on different factors, and may decline over time.

© 2011 Google Inc. All rights reserved. Google and the Google logo are trademarks of Google Inc. All other company and product names may be trademarks of the respective companies with which they are associated. 110727



Chromebook Fact and Fiction

Your Chromebook is:

- lightweight, versatile, and easy to use
- inexpensive, at only about \$250
- fast!
- an Internet-dependent "laptop"
- long-lasting, with an 8-hour battery
- durable, with a non-glass screen and fewer mechanical parts
- driven by the Chrome operating system
- a Google product, meant to efficiently run Google apps and tools
- provides easy access to "the cloud"
- quick to turn on and off
- self-updating
- made with built-in virus protection
- compatible with all of your devices (computer, Android phone, or tablet) that also run the Chrome browser
- easy to navigate
- a great tool for teaching keyboarding and digital citizenship
- perfect for use by students with Google accounts or D2 apps
- accessible for students without Google accounts through "Guest Mode" browsing
- compatible with flash drives, digital cameras and video cameras with USB plug-ins
- able to be managed through the BPS management console
 - teachers can specify settings, apps, and features they want made available and unavailable to students

Your Chromebook isn't:

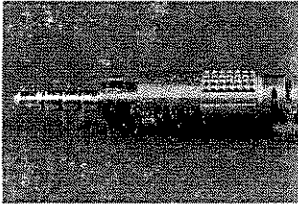
- a replacement for your teacher computer
- able to download any software (Microsoft Word, iMovie, etc)
- a place to store photos or videos locally
- able to connect with an ethernet cable
- built with a CD or DVD drive
- a gaming device
- made for playing media files like mp3, mp4, etc. The Chrome OS does not recognize the different media files (music and video).
- fully functional in Guest Mode; this mode does not allow the user to download apps or use apps installed by other users
- able to run Java

Your Chromebook does:

- run Read 180 - not fully functional this year
 - headphones must have 3 "rings" around the jack to enable the microphone to work

Your Chromebook doesn't:

- allow speech through the microphone built into your Apple ear buds
- run some components of Lead 21 online
 - Shockwave
 - ActiveX
- support eTools in PearsonSuccessNet
- always work at Central Heights



- run ReadAbout
- connect to a projector using an HDMI cable for newer projectors, or an HDMI-to-VGA converter for older projectors



- run some components of Lead 21 online
 - student assessments
 - interactive thesaurus
 - Virtual Field Trips (you have to "turn off" the security setting to play them)
- support Flash
 - ex: numerous games and interactive websites
- work for PearsonSuccessNet
 - assessments
 - student textbook
 - lesson planning
 - games
 - tutorials
 - worksheets
 - videos
- allow NWEA Testing with testing@billingsstudents.org login



View in: [Mobile](#) | [Desktop](#)

©2012 Google

[Google Devices](#) > [Chromebooks Info](#) >

Chromebooks FAQ

Chromebook FAQs answered by Steegle.com

Have a question about Chromebooks? Below follow the most frequently asked questions about Chromebooks and Chromeboxes answered by Google Top Contributors. If you can't find what you need you can [ask a question](#) in our [Chromebook Forum](#), use the search on the top right of the site or request [one-shot support](#).

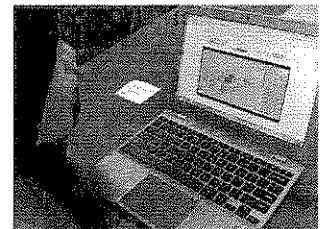
Contents

- 1 What is a Chromebook?
- 2 Which companies manufacture Chromebooks?
- 3 Do Chromebooks get updated frequently?
- 4 How do we control Chromebook usage and deploy apps for our business, company, school, college or university?
- 5 What storage options do Chromebooks provide?
 - 5.1 Local Storage Options
 - 5.2 Cloud-based Storage Options
- 6 If I cannot install software how do I do anything?
- 7 Do I really not need Antivirus?
- 8 How safe is the data on my Chromebook?
- 9 How do I print from a Chromebook?
 - 9.1 Google Cloud Print - Current Printer and Another Computer
 - 9.2 Google Cloud Print - Direct to a cloud ready printer
 - 9.3 Third-Party Print and Collect/Mail Provider
- 10 How do I back up my data?
- 11 Can I do everything the web has to offer, e.g. do Java, Silverlight or Skype work on Chromebooks?
- 12 How long does it take to boot up a Chromebook or Chromebox?
- 13 Can a Chromebook or Chromebox save a business money?
- 14 Where can I ask more questions?
- 15 Subscribe to the Steegle.com Newsletter

1. What is a Chromebook?

Basically a laptop running Google Chrome OS, an operation system based on Linux and the Chrome web browser. Chromebooks do not allow any software to install, so it's impossible to get a virus, and no local programs can slow the system down: almost all software is in the cloud.

Back to the [Chromebook FAQs](#)



2. Which companies manufacture Chromebooks?

1. Samsung
2. Acer
3. HP
4. Lenovo
5. and now [Google](#)

Back to the [Chromebook FAQs](#)

3. Do Chromebooks get updated frequently?

Google aims to update Chromebooks every six weeks, with new features and bug fixes. These updates happen quietly in the background and unless the update provides a large change most Chromebook users do not notice.

[Back to the Chromebook FAQs](#)

4. How do we control Chromebook usage and deploy apps for our business, company, school, college or university?

Google offers, to Google Apps for Business and Google Apps for Education, a web-based management console via the Google Apps control panel that provides control over when updates roll out, the deployment of apps directly to your Chromebooks and control over what apps will install and black lists and whitelists of available websites.

[Back to the Chromebook FAQs](#)

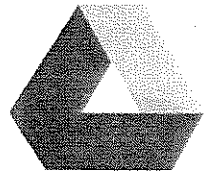
5. What storage options do Chromebooks provide?

Local Storage Options

Chromebooks provide a limited amount of internal storage: the amount of storage available depends on the model of Chromebook you own and start at 16GB and rise to 300GB of internal, local storage. All Chromebooks provide an SD card slot so you can extend storage using SD memory cards.

Cloud-based Storage Options

Alternatively you can use various cloud-based storage solutions also, Google Drive for example. Google provide offers on time-limited free storage plans, e.g. if you buy the recently released [Chromebook Pixel](#) Google provide 1TB of Google Drive cloud-based storage for 3 years at no additional cost. Google do not tie you to just Google products: you can use any cloud-based storage platform provided you can access it via the Chrome web browser.



[Back to the Chromebook FAQs](#)

6. If I cannot install software how do I do anything?

The whole idea of a Chromebook is to work in the "cloud": this means that you use software as a service provided from web-based cloud service providers. If you want to word process a document then you can use Google Docs in Google Drive completely free. Google Drive also provides

Spreadsheets, Presentations, Drawings and Forms - all for free!

To find thousands of apps that work on your in the [Chrome Web Store](#), like Games, Business Tools, Productivity, Entertainment, Social and Communication and much more.

[Back to the Chromebook FAQs](#)

7. Do I really not need Antivirus?

Yes! No need for antivirus! Since a Chromebook does not provide any way to install local software you cannot get a virus. You do need to take care, however, when you use web apps as you may provide the app with elevated permissions to the browser or another web app.

[Back to the Chromebook FAQs](#)

8. How safe is the data on my Chromebook?

The Chromebook encrypts any data stored on it and you can only access this locally stored data if you sign in with your Google Account username and password. If someone stole your Chromebook, or you lost your Chromebook and someone found it, they could not access any of your personal files without your Google Account, even if they removed the internal drive from the computer to connect to another computer (as the Chromebook encrypts the data). The worst that could happen is someone could reset the Chromebook and wipe your data (a great reason to keep it in the cloud), but they can never access it.

[Back to the Chromebook FAQs](#)

9. How do I print from a Chromebook?

Since you cannot install anything to a Chromebook, printer drivers included, you need to take a different approach to printing. Below follows the different method of printing available on a Chromebook:

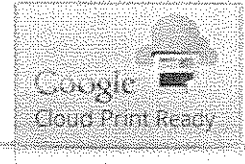
Google Cloud Print - Current Printer and Another Computer

Google Cloud Print enables you to connect an existing printer to the cloud via a Windows or Mac computer you already have. In Chrome in Windows or Mac you connect your printer to the cloud and then when you sign in to your Chromebook you will see the printer available to print to. This requires the Windows or Mac computer to be switched on to print, but if you want to print and your other computer is not switched on Google Cloud Print will store the print job until you switch on the computer Mac or Windows computer. For more information on how to connect an existing computer and printer to Google Cloud Print see [Connect your classic printers with Google Cloud Print](#).



Google Cloud Print - Direct to a cloud ready printer

If you need to buy a new printer (you don't need to for Chromebook use, just if you happen to need a new one) then make sure you get a [Google Cloud Ready Printer](#). These printers attach themselves directly to the cloud, so no need for a second computer, so you can print from your Chromebook to the printer via the cloud. For a list of cloud ready printers see [Google Cloud Ready Printer](#).



Third-Party Print and Collect/Mail Provider

You can also use any online service that allows you to submit your documents for print and then either collect the printed copies or get them mailed to you via the post. One example of this is [FedEx Office Print Online](#). For more information see [Access Google Docs with FedEx Office Print Online](#).

Back to the [Chromebook FAQs](#)

10. How do I back up my data?

If you choose to store everything in the cloud then you do not need to backup: you can pick up another Chromebook and sign in and all of the data in the cloud will be available on the Chromebook. If you choose to store data on the internal storage (the Downloads folder) then you need to manually copy this to somewhere else safe. Try to save everything to Google Drive as Chromebooks provide built-in connectivity to Google Drive. Amazingly, in most cases when you buy a Chromebook, Google provide you with extra storage on Google Drive.

Back to the [Chromebook FAQs](#)

11. Can I do everything the web has to offer, e.g. do Java, Silverlight or Skype work on Chromebooks?

Google chose to not allow Java or Silverlight to run on Chromebooks as they can interpret and execute harmful code, so any web app that requires Java or Silverlight will not work on a Chromebook. Google foresees the implementation of HTML5 as a more powerful way to achieve what some of Java and Silverlight offers. Since Skype is not a web application but software you need to install on your computer you cannot run this on a Chromebook either. Chromebooks include everything you need to use Google+ Hangouts or Gmail Video and Voice Chats so you can use those instead and no extra cost.

Back to the [Chromebook FAQs](#)

12. How long does it take to boot up a Chromebook or Chromebox

It takes from as little as 7 seconds - imagine that compared to an average PC or laptops! It takes 1 second to recover from standby.

Back to the [Chromebook FAQs](#)



13. Can a Chromebook or Chromebox save a business money?

Every so often in technology there is a so-called paradigm shift, when the technology doesn't just evolve but there is a revolution. Chromebooks are really that because suddenly a load of costs of managing and maintaining an estate of laptops or PCs disappears - just imagine that:

- o You don't need to worry about backup
- o Virus protection which normally cost many dollars/euro and pounds per month is eliminated
- o Machines suddenly become endpoints and if the user loses one you can simply sort them out then another
- o They can be remotely managed
- o Once you've got used to them they will save a lot of money and time in efficiency

This is worth hundreds of dollars in addition to any initial cost of the laptop.

Back to the [Chromebook FAQs](#)

14. Where can I ask more questions?

Feel free to ask your question in the forum below:

[Google Devices >](#)

Chromebooks Info

Want to know more?

Please contact us at
info@steegle.com



Chromebook FAQs

Chromebook Questions and Answers Forum

Chromebook

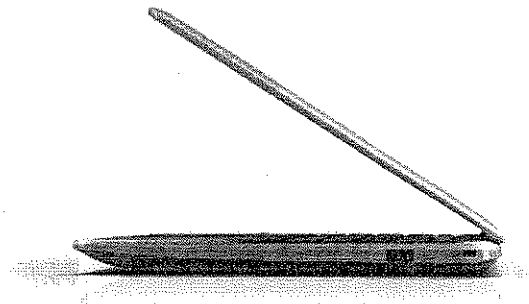
The Chromebook is a new standard of inexpensive, light, and quick laptops. It combines hardware and software to create a unique web experience on-the-go.

Features:

- Takes seconds to start up, unlike traditional Windows or Mac laptops
- Uses Google Chrome to power all of your web-based requirements
- Runs many other applications outside of Chrome

There are currently a number of different choices on the models of the Chromebook - while there was originally some doubt about manufacturers on-boarding - due to the simplicity and growth in sales numerous manufacturers are now making models available:

- Samsung Series 3 Chromebook (ARM processor)
- Samsung Series 5 550 Chromebook
- Acer C7, C720 and C720P (touchscreen) Chromebooks
- HP 14 and HP 11 (ARM processor) Chromebooks
- Lenovo ThinkPad X131e Chromebook
- Dell Chromebook 11 (for education)
- Toshiba Chromebook (first Chromebook with 13" screen)
- Google themselves - in the high end Google Chrome Pixel



Samsung Chromebook 550

In our opinion the latest versions of the 11.6 inch Chromebook, with Haswell architecture, forms a thin and light viable alternative to an iPad or tablet. While the weight may be marginally more, the 11.6 inch model in practical use feels very svelte and still has a reasonable battery life (up to 9 hours!).

If you'd like to know more, please [contact us](#)

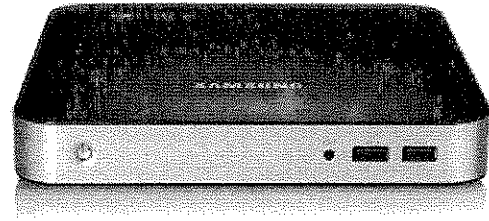
Chromebox

The Chrombox is the mini PC version of the Chromebook. It has all the same features, minus the keyboard, mouse, and screen.

Features:

- Built-in Wifi
- Supports up to two 30" monitors
- Six USB ports for great connectivity

If you'd like to know more, please [contact us](#)



Samsung Chromebox

Follow

- LinkedIn
- Twitter
- Google+
- Newsletter

Sites

- [Steeple.com for Business](#)
- [Steeple.com for Education](#)
- [Steeple.com for Tutorials](#)
- [Steeple.com part of DrPete Inc](#)

London Base

- 64 Southwark Bridge Road
- London SE1 0AS
- ☎: +44 (0) 207 871 5621
- ✉: info@steeple.com

Legal

- [Steeple.com Privacy Policy](#)
- [Steeple.com uses Cookies](#)
- [Steeple.com Careers](#)
- © Copyright DrPete Inc



Why 1:1? Why Chromebooks? [guest post]

SEPTEMBER 17, 2012 BY JASONMARKEY 10 COMMENTS

<http://dangerouslyirrelevant.org/2012/09/why-11-why-chromebooks.html>

The first post of a 4-part series on 1:1 at Leyden High Schools.

Jason Markey, principal of East Leyden High School

Leyden High School District, located just outside of Chicago, serves the communities of Franklin Park, Schiller Park, River Grove, Rosemont, and parts of Northlake and Melrose Park. Our two high schools serve just over 3,500 students.

I'm excited about Leyden sharing our 1:1 journey in hopes that we can help schools realize the potential of access for all students and to allow all of us to learn from others along the way. One of the most important parts of our digital evolution has been the conversations, visits, and meetings that we have been fortunate to have with districts from Iowa, South Carolina, Massachusetts and many others. But the most important part of any school's development of vision is to understand "the why." So that's where we started.

A few months ago, the importance of starting with the why was made even more clear to me when I read a blog post by Carmela Ianni highlighting Simon Sinek's TEDx Talk. So the center of our "golden circle," the answer to the question why 1:1, has always been because it will provide opportunities for our students that are simply not possible without anytime, anywhere access to the web.

So what opportunities specifically?

The opportunity to ensure that great teaching and learning can happen in all classrooms and not be dependent upon access.

The opportunity to collaborate both synchronously and asynchronously with other students seamlessly.

The opportunity for students to receive more timely and specific feedback from teachers.

The opportunity for students to create a positive digital footprint with learning being public on the web.

The opportunity for students to generate more writing and create more authentic representations of their learning than ever before.

The opportunity for students to choose how they present their learning.

Leveling the playing field for access for all our students.

The opportunity to remove the ceiling on what they can learn and share. We purposely did not set a finite goal on what outcome we want to see as "results" of 1:1 because what we truly want is for each student to be able to follow their passion in learning and allow that to take them to new possibilities.

Equally important as considering the why, is considering the why not. I recently wrote a brief blog post on considering the opportunity cost of not choosing 1:1. I strongly believe if 1:1 is honestly considered, the only roadblock for districts considering 1:1 is the fear of managing the logistics. Our next blog post in this series will cover how we have addressed the many logistical concerns of a 1:1 initiative. One of the most important decisions that made our logistical concerns much easier to address was our device selection, the Chromebook.

So the question we have answered the most since last December when we publicly made our decision is "why the Chromebook?" Often the question is phrased something like this, "so why didn't you choose iPads, and aren't Chromebooks just the web?" As I wrote here in my blog, yes they are a web-based and web-managed device, and that is actually an incredible advantage over many other potential devices. Ryan Bretag wrote a great blog post on this topic, "The Internet as a Belief System". Again, many more technical specifics will be discussed in our next post, but when we considered a device we looked for something that could ensure our resources, both time and money, were focused more on student learning rather than supporting the technology. I am so excited to report that we launched 3,500 devices in our two high schools this year and we have not hired one additional person in our tech department. We have put into place two instructional coaches specializing in integrating technology and a new

course called Tech Support Internship (TSI). TSI is our "frontline" tech support now for students and teachers in addition to being so much more for our students. Again resources supporting learning, not technology. In the final post of this series we will highlight our TSI class.

I hope this has been a good introduction as to the "why" we chose 1:1 and Chromebooks for our students. Please do not hesitate to follow up with me here. Also, we are opening our doors at Leyden for two school visit dates this fall and a conference in the summer. If you are interested, please see more information here.

Coming soon....

Post #2 – The Logistics of 1:1 at Leyden

Post #3 – From the Classroom – How Learning is Evolving with Access for All

Post #4 – Student Tech Support – Student Ownership of 1:1

The Logistics of 1:1 Chromebooks at Leyden [guest post]

SEPTEMBER 24, 2012 BY JASONMARKEY 10 COMMENTS

[HTTP://DANGEROUSLYIRRELEVANT.ORG/2012/09/THE-LOGISTICS-OF-1-1-CHROMEBOOKS-AT-LEYDEN-GUEST-POST.HTML](http://dangerouslyirrelevant.org/2012/09/the-logistics-of-1-1-chromebooks-at-leyden-guest-post.html)

The second post in a series about 1:1 at Leyden

by Bryan Weinert, Director of Technology for Leyden CHSD 212

@LeydenTechies – Author of the [Leyden Techies Blog](#)

The wonderful thing about Chromebooks, is Chromebooks are wonderful things.

Their tops are made out of rubber, their bottoms are made out of springs.

They're bouncy, flouncy, pouncy, trouncy, fun, fun, fun, fun, FUN!

The most wonderful thing about Chromebooks, is they're the only one!

Okay, so maybe I shouldn't be trying to write a blog post at the same time while watching my 15 month old daughter, but hopefully I got you started reading this with a smile. This is the second post in the four-part series on going 1:1 with Chromebooks in our district that a few of my colleagues and I were asked to write for Scott McLeod's amazing Dangerously Irrelevant blog. Be sure to check out the first post in the series, [Why 1:1? Why Chromebooks?](#) written by Jason Markey, our principal at East Leyden High School.

Let me start by suggesting that one of the really wonderful things about Chromebooks is that they actually eliminate or simplify a number of logistics. While researching and planning to go 1:1 in our district, this made the Chromebook an extremely attractive choice for us. Far too often over the past 12 years that I've been the Director of Technology for our district did technology initiatives run into problems because of logistics. The following are some of the key highlights that we've experienced so far.

SETUP

None. Really, none. We purchased enough devices that they came pre-setup with our wireless network configured and enrolled into our Google Apps domain. We were able to take them out of the box and give them directly to students.

MANAGEMENT

We purchased our Chromebooks directly from Google so the management tools were included. If you purchase them from a different vendor, you can contract with Google to add the management capabilities. Basically, this adds

SUPPORT

One of the most exciting things we've done in conjunction with going 1:1 this year was to develop a new Tech Support Intern (TSI) class. This is an elective course in our Business Education department that runs every period of the day and serves as the starting point for all of our teachers' and students' tech support needs. More detailed information about this class will be featured in the fourth post of this series, so stay tuned. For the purposes of this blog post, it's important to note that we purchased 60 extra Chromebooks per school to serve as loaner devices that can be issued to students through the TSI class when they have a device in need of service. Our goal was to never have a time when a student did not have a Chromebook.

POWER

This is one of the logistics that choosing Chromebooks completely eliminated for us. With the Samsung Series 5 Chromebook battery lasting 8+ hours, we were able to require our students to bring a fully charged Chromebook to school every day and be assured that they'd be able to use it in every one of their classes. Since this is a requirement, there are consequences for not bringing a Chromebook to school and for not having a charged device. If students find themselves in either situation and need a device to participate in class, they can check out a loaner from the TSI class. The TSI class keeps statistics on how many times a student checkouts out a loaner because they did not have their own to use and sends reports to our deans to assign the consequences.

DEVICE SAFETY AND SECURITY

We issued a protective case to all of our students and require them to carry their devices in those cases when not in class. They are small enough to even fit in a backpack. We're hopeful this will cut down on the breakages. To help prevent any mysterious disappearances, either on accident or on purpose, we had all of our Chromebooks laser engraved with the following text:

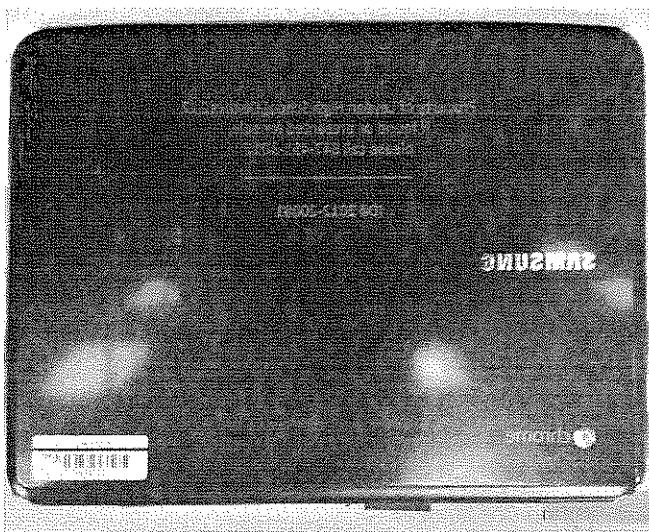
Property of Leyden High School District 212

If found or presented for sale,

please call 847-451-3017.

ID# 2012-2xxxx

In addition, we added a barcoded asset tag to each device with the number matching the engraved ID number on the device. We outsourced the engraving and asset tagging work which was completed before we even took delivery of our Chromebooks.



INFRASTRUCTURE & BANDWIDTH

We currently have sufficient building-wide wireless coverage to ensure that our students can use their Chromebooks everywhere they need to. In addition, we currently have a 250 MB Internet pipe for each of our two campuses. So far, both the wireless infrastructure and our bandwidth are holding up.

CONCLUSION

I may have missed a few logistics topics, but am more than willing to field your questions, so feel free to contact me at bweinert@leyden212.org, via Twitter @LeydenTechies, or through my blog at <http://leydentechies.blogspot.com/>. I'll wrap up by mentioning that we have been thrilled with the digital evolution of our district into a fully 1:1 environment and many of our success are a result of choosing to go with the Google Chromebook. The most important factor to our success so far, of course, is our teachers. We have incredibly talented teachers that have risen to the challenge of moving teaching and learning to the Web. Because we didn't have to hire any additional tech support or dedicate as much time, money, and resources to going 1:1 with Chromebooks as we may have needed to do with other devices, we were able to hire two full-time instructional tech coaches to support our teachers. Please check back for the next post in this series, From the Classroom – How Learning is Evolving with Access for All, to learn more about the professional development we've done and the amazing things our teachers and students are now doing.

Thanks for taking the time to read through this post. "When you are a Bear of Very Little Brain, and you Think of Things, you find sometimes that a Thing which seemed very Thingish inside you is quite different when it gets out into the open and has other people looking at it." Uh oh, guess it's time to get back to my kids ;-)

Reflecting on two years of 1:1 [guest post]

6 JANUARY 22, 2012 BY CHARLIEROY 13 COMMENTS

[HTTP://DANGEROUSLYIRRELEVANT.ORG/2012/01/REFLECTING-ON-TWO-YEARS-OF-1-1-GUEST-POST.HTML](http://dangerouslyirrelevant.org/2012/01/reflecting-on-two-years-of-1-1-guest-post.html)



Beginning in the 2010-2011 school year, our school went through a number of transformations and changes, all aimed at enhancing the quality of the learning and teaching within our building. We adapted a 5 x 3 trimester schedule providing longer class periods and a lower student-to-teacher ratio. We added a house system separating the student body into six different houses mixed by age. Through a partnership with Apple, we implemented a 1:1 laptop program with our students receiving MacBooks. Below are five lessons we learned and the two biggest struggles we continue to face.

Lessons learned

It's the pedagogy not the technology. Technology should always be at the service of pedagogy. If you've heard Gary Stager speak or read his posts, I'm sure you've heard this theme before. When technology integration moves from what Alan November calls *automotive* to *informative*, the real fun begins. Technology integration in schools should not be about tacking technology onto poor pedagogy. Rather, the real joy and power of integrating technology into the classroom is the power it has to redefine the relationships in the classroom and reorient them

toward a more student-centered approach to learning. In our efforts, pushing for a longer class period also allowed our staff to move away from lecture-driven instructional models and to start implementing strategies that are more constructivist in their nature. Project-based learning, challenge problems, and creative and collaborative work are all enhanced and enabled by high quality technology integration. Using a Google Doc and the Web to do a 20-minute kick-start with teams of students finding, validating, and creating information on a topic within the curriculum is a very engaging way to begin a new unit. Using various tech tools to easily integrate peer instruction strategies based on the work of Dr. Eric Mazur is a great way to leverage the technology. But in all of these examples, it is really the orientation to and relationship with the learning that has changed.

- 2. Support the pedagogy at all costs.** Teachers will and can change their methods when they are comfortable with their knowledge and inspired by what they see from those around them. Any new teacher quickly begins to teach like her peer group. To support this shift in pedagogy, we spent the entire year before the 1:1 program began creating a full period a day for staff to attend PD sessions throughout the year. We created a new position, Director of Instructional Technology, to lead a good number of these sessions with the goal of staff literacy in a number of pedagogical tools before the 1:1 initiative started. As the work is ongoing, we now offer PD sessions after school on Tuesdays and Saturday mornings, giving our staff an array of choices, with a certain minimum number that need to be attended. We compensate them at \$27 an hour through our Title II funds. A list of this year's sessions is here. This model has created small groups of teachers who attend sessions that they are personally interested in and who want to integrate these strategies into their classrooms.
- 3. The plumbing and the plumbers.** For staff to choose these strategies, they have to be guaranteed the network and bandwidth will be supportive. To that end, we added to our technology staff, doubling its size from one to two. Additionally we upgraded in a significant way the technology infrastructure by adding numerous access points and made sure our bandwidth pipe could handle 800 students pulling on it at once. I believe these changes are essential and that without them our program would be in peril. Access to the Web has to work and work quickly if these strategies will be relied upon. Additionally, every student and staff member was given a gmail account hosted through the school. In a year and half of running, our network has been down for approximately one hour. It just so happened that one hour coincided perfectly with the superintendent's annual visit and the need to log mid-term grades. Funny how those things work out.
- 4. Student ownership.** We had the choice early on to either externalize ownership to the students or keep the ownership of the machines on the books of the school. In our case – and after much study – we decided to externalize the cost and have families purchase their laptops through the school. We provide financing options to our families. As a private school we have this opportunity. I realize that in many public schools the machines must be school-owned. In visiting with other schools who have school-owned 1:1 programs, the breakage rates seem to be higher. In general our breakage rates have come in below expected numbers for the students. Yet, interestingly, the staff break their machines at a rate four times that of students. If our students want to put stickers and other stuff all over the machine, they can have at it.
- 5. Principal leadership.** If it isn't important to the leadership, it won't get done. I'm not the world's greatest principal by any means – and I make a whole host of mistakes every single day – but if I do anything well it might be modeling technology use. I teach a class every year in the high school and lead a good number of the professional development sessions related to technology-rich teaching strategies. I believe that by spending my time modeling what I believe is important, it allows the staff to get on board. I won't ask you to do something I won't do or won't be willing to learn to do. Of course I pay for the time spent teaching by having to log more early mornings or late nights in the office, but I think the relationships built with students and staff more than make up for it.

Biggest Struggles

- 1. Classroom management.** Our staff has learned rather quickly that if they want to continue to use lecturing as their dominant instructional strategy, equipping the audience with a laptop is not conducive to that end. The computer should be more than a \$1,000 pencil for note-taking. Direct instruction in its proper place and within limited time frames can be an effective strategy. When everyone has a machine, how do you guarantee that they are all on task? To this end, our staff has learned about where to be physically while they lecture and how to set up the

classroom. Some staff use the LAN monitoring program. In some sense, though, student engagement in a lecture-driven classroom has always been an issue. Note passing and eye rolling have always been there. Switching from passing a note to chatting on Skype is the same problem in different clothes. Good teachers have engaged students.

Assisting parents. Our students take their laptops home at the end of the school day and for holidays and the summer. At school we use the Barracuda system to filter the Web and their access and to block the traditional things that a school would block. When our students take the machines home, we presume competence on the part of our parents that they already are dealing with their own rules and Web access issues. For the most part this proves to be true, but I do think we need to do a better job of supporting some of our families that struggle in this area. One fear that some of our staff and families had is that our students would spend all of their time staring at the screen in front of them. This may be true the first week they pick up their machine over the summer, but over the last two years a few interesting things have happened. Discipline referrals have fallen by 50%, absenteeism is down by 30%, participation in school events like Homecoming and the canned food drive has more than doubled, and the number of student-initiated clubs and activities has grown by around 30%. And enrollment looks to be growing for the third year in a row. We interpret these changes to mean that technology is helping our school to form an environment that is truly conducive to student learning in a number of areas. From what we see school is becoming more relevant and a place where our students want to be.

In conclusion, our journey is an ongoing one. Simply buying the machines and upgrading the network is not enough to be a 1:1 laptop school. The true work is in shifting the pedagogy to be more student-centered. As Gary Stager says, less “us” and more “them.” The rewards to this point have been worth the risks.

Charlie Roy is the principal of Peoria Notre Dame High School, an 800-student coeducational Diocesan Catholic school in Peoria, Illinois. He also is an adjunct instructor for Aurora University, teaching courses in school leadership and instructional technology. In his former career, Charlie was an options trader on the floor of the Chicago Board of Trade. Follow Charlie on Twitter at @caroy.

Tech Support Internship: Student-led support for Leyden’s Chromebook initiative [guest post]

NOVEMBER 5, 2012 BY JASONMARKEY 1 COMMENT
[HTTP://DANGEROUSLYIRRELEVANT.ORG/2012/11/TECH-SUPPORT-INTERNSHIP-STUDENT-LED-SUPPORT-FOR-LEYDENS-CHROMEBOOK-INITIATIVE.HTML](http://DANGEROUSLYIRRELEVANT.ORG/2012/11/TECH-SUPPORT-INTERNSHIP-STUDENT-LED-SUPPORT-FOR-LEYDENS-CHROMEBOOK-INITIATIVE.HTML)

Part 4 of a 5-part series on 1:1 with Chromebooks at Leyden High Schools. This post was written collaboratively by the four teachers who work with the Tech Support Internship program: Jason Cartwright, Adam Labriola, Lauren Martire, and Tony Pecucci. More information is available at the East Leyden and West Leyden TSI Websites.

Overview

The Tech Support Internship (TSI) is a year-long course that supports Leyden’s 1:1 technology initiative. Students in the Tech Support Internship get experience working in a real life tech support environment.

The Tech Support Interns have three main objectives:

To support students’ Chromebooks

To support the faculty and staff with technology needs

To pursue independent learning pathways

When students are not supporting students’ and/or faculty/staff technology needs, students work on a variety of independent pathways. These pathways allow students to explore and develop skills in a variety of technology subjects including computer programming, networking, app development, web design, etc. The students also are given the opportunity to become certified in multiple industry recognized certifications.

Pathways and Why Students Chose Them

Certification

Students in this pathway pursue industry certifications. Students may choose one or more of the following certifications: Internet and Computing Core Certification (IC3), Microsoft Office Specialist, Google Apps, and/or CompTia A+ Certification.

"I chose certification as my pathway because I wanted to learn more about computers. There will be many benefits gained from completing this pathway. If I get my A+ certification next semester, I can have more job and internship opportunities in college. I want to get as many certifications as I can this year." - Karolina Moniuszko

Computer Programming or Networking

Students in this pathway gain hands on experience in computer programming or networking. For computer programming, students may choose between two programming languages: C++ or JavaScript.

"The reason why I chose programming was because the whole entire concept of it was so cool. Studying programming is like studying a whole new language, it's hard but when you finally understand you feel a sense of accomplishment. In programming you will learn the fundamentals of where all the current apps and programs you use come from and how they were made, while at the same time interacting with developing codes yourself. Other than that it's a high demand job in the real world that pays a lot of money." - Clint De Leon

Communications

Students in this pathway implement new communication technologies for Leyden students and staff. Students create websites, podcasts, blogs, tutorials, and workshops related to Leyden's technology initiative.

"I chose the Communications pathway because I liked the idea of being able to inform teachers and students about different technologies in a creative way. I also get to learn about and use a variety of multimedia tools that will benefit me in my school work and my future jobs." - Dulce Lopez

App Development

Students in this pathway build and develop apps for the Chrome Browser, iOS, and Android devices. Students will gain experience developing applications using a web browser and either a connected phone or emulator.

"Through curiosity of viewing the app store and the unlimited apps provided for download, I thought more and more on how to do certain apps and the difficulty involved. I chose this Pathway so I can make apps that people my age can use and find to be important or entertaining in their everyday lives. To have a well known app would give me the confidence to build more and to do that, my first step was to join this class and follow this Pathway." - Zaid Alaraj

Interaction Between Students and Tech Department

Level 1: Students

In TSI, students are the initial point of contact on any and all technical issues. Students work with students, faculty and staff to determine exactly what their issue is and determine how to address it. These requests all come through a work ticketing system (Spiceworks) and are handled by the students on a rotating basis. Most commonly, students work on Chromebook issues/repairs, projection screens, Google Application support, and many other common issues. If an issue can be handled completely by a student, these tickets are considered Level 1.

Level 2: Students Working with Tech Department

When students are addressing issues, they may derive that the issue is in need of administrative access. For these types of cases, they would need to bring in a member of the Tech Department to assist. These issues would then

be considered Level 2. Typically, these issues would involve the wireless network password, accessing network printers or handling software downloads for computers labs. The students have a close relationship with the Tech Department and often come along to see how Level 2 tickets are handled for learning purposes. Again, all tickets are filtered through our work ticketing program to ensure they are being addressed in a timely manner.

Benefits

We believe the benefits of TSI are many. Throughout our conversations with computer professionals, they would continually stress the need for students to not only have certifications in various areas – but also to have the soft skills and hands on experience to work in a job environment. This is where TSI is an extremely good fit as it provides all of those skills ... and more.

TSI students at Leyden interact with students, faculty and staff on a daily basis. They sharpen their communication skills by answering phones, handling incoming issues and going out in the "field" on various tickets. TSI students never know what they will be working on next and no day is like the day before! We feel this is a replication of what they will be facing once they leave Leyden and prepares them in a way no other class does.

In addition, students can choose the various pathways to work on when not assisting our school. Particularly, the certifications they can attain will increase their ability to secure a position directly out of high school. Leyden TSI students will be more qualified than many others in the workforce for entry level positions in computing.

Overall, Leyden TSI students are getting much of the "real world" experience they need to succeed post high school. TSI provides enormous benefits for students and can give them the edge they need to start their careers, wherever they may start!