### 2013-14 Pilot Team

<table>
<thead>
<tr>
<th>Pilot Teacher Team – Grade 5</th>
<th>Pilot Teacher Team – Grade 6</th>
<th>Pilot Teacher Team – Grade 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terilynn Buchanan</td>
<td>Rob Grace</td>
<td>Elizabeth Arvizu</td>
</tr>
<tr>
<td>Judi Campbell</td>
<td>Margie Gouveia</td>
<td>Sam Licina</td>
</tr>
<tr>
<td>Janelle Davis</td>
<td>Erin Kurtz</td>
<td>Lisa Luhn</td>
</tr>
<tr>
<td>Cindy Hemsley</td>
<td>Ngu Pham</td>
<td>Alice Rhea</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leadership and Professional Development Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michelle Holguin, Library-Media Specialist and Google Domain Administrator</td>
</tr>
<tr>
<td>Cam Fraser, TOSA</td>
</tr>
<tr>
<td>Susan Swan, Library-Media Specialist</td>
</tr>
<tr>
<td>Terri Meineke, Counselor</td>
</tr>
<tr>
<td>Mark Arnold, Principal</td>
</tr>
<tr>
<td>Mary Allen, Principal</td>
</tr>
<tr>
<td>Ben Scinto, Principal</td>
</tr>
<tr>
<td>Greg Fetters, Assistant Principal</td>
</tr>
<tr>
<td>Cynthia Toews, Ed.D, Assistant Superintendent</td>
</tr>
<tr>
<td>Sam Sakai-Miller, Ed.D, Interim Technology Integration</td>
</tr>
</tbody>
</table>

Michelle Holguin, Library Media Specialist, RLS; Google Co-Administrator

Cameron Fraser, Teacher on Special Assignment, SHES; Google Co-Administrator
The St. Helena Unified School District is committed to preparing each student to appreciate the role of technology in academic and everyday life. To do so, the District will provide the tools, methods, materials, and context to help students become skillful problem solvers who respond both critically and resourcefully to real-life challenges. We recognize that technology is constantly changing and evolving, therefore, we aim to use current technology as a tool to enhance teaching, student learning and to prepare students to meet the challenges of a rapidly changing, increasingly complex, technology-rich world.

The foundations of our 1:1 Chromebook Pilot can be understood by examining our District’s Strategic Initiatives, Pilot Learning Priorities, need for greater access, and selection of the pilot team.

**Strategic Initiatives**

Section A of the Strategic Initiatives outlines the strategies the District will follow to improve student learning and achievement and Section D of the Strategic Initiatives outlines the strategies that the District will follow in the area of Technology.

**A. Our Strategic Initiatives for Student Learning and Achievement**

Foster an exceptional learning environment that engages, challenges, and supports all students so that each student thrives within the District and achieves his or her full academic potential.

1. **Improve Curricular System and Instructional Practices to Challenge Every Student.**
   - Improve K-12 curriculum articulation, coordination, and alignment to ensure that all students are challenged to their fullest potential.
   - Expand curricular, instructional, and assessment support through staff training to increase the breadth and depth of learning for all students.
   - Increase student achievement and accountability through student self-assessment and reflection.
   - Establish evidence-based standardized instructional practices across classrooms and disciplines.

2. **Provide College Readiness and Post-Secondary Preparation for All Students.**
   - Every student will graduate from St. Helena Unified School District college and career-ready.
   - Develop in all students 21st Century Skills that will prepare them for success after graduating from SHUSD.
   - Continue to implement and monitor guidance and counseling services that prepare students for college and career opportunities.

3. **Ensure High Expectations and Support for all Students.**
   - Examine individual needs of students and develop mechanisms to support, monitor, and meet the needs of the whole child.
   - Remove structures, policies, and attitudes that serve as barriers to the achievement of all students.
   - Expand access to high-quality pre-K education for at-risk children in our community.
   - Examine ways to improve access to high quality pre-K for the neediest children in our community.

4. **Provide the Opportunity for All Students to Become Bilingual/Biliterate.**
   - The Spanish, English and English Language Development Programs will provide opportunities for students to acquire language skills in two languages and develop cultural awareness throughout SHUSD.
D. Our Strategic Initiatives for Technology

Implement the District’s Revised Technology Plan so that it will enhance student learning and achievement.

1. Enhance Staff Development Opportunities to Utilize Technology as a Tool for Learning.
2. Implement a Robust Infrastructure, both Wired and Wireless, to Maximize the use of Technology in the Learning Environment.
3. Implement One-to-One Computing by Leveraging “Bring Your Own Device” as a Tool for Student Learning.

Priorities

While all strategic initiatives are important, four initiatives had direct implications for the 1:1 Chromebook pilot. These initiatives scaffold and support the core belief that “High Expectations Lead to High Achievement,” as follows.

- Starting at the top, the District is committed to maintaining high expectations for students
- The expectation is that students will be prepared to be career and college-ready (Critical Thinking, Creativity, Collaboration and Communication …21st Century Skills)
- Preparing students requires teachers to implement effective instructional practices
- In order for technology to enhance learning, students must have access to devices that support learning and teaching.

Pilot Learning Practices

The 1:1 Chromebook Pilot hinged on three key learning practices that became our focus:

1. Blended Learning
2. The Google Experience
3. Student Involvement

With Blended Learning we embraced the idea of a digital space for our classrooms for efficiency, anytime learning, and resource access. For some, this space is Edmodo, for others, different tools have served this purpose.

With the Google Experience, we focused on collaboration and communication tools that encouraged students to own their learning. From Google Apps for Education to YouTube, these tools have emerged as foundational for many classrooms while also serving students throughout their time at SHUSD. Most importantly, the Google Experience has served our literacy, engagement, and critical thinking goals while also forming the building blocks of a digital citizen.

Finally, the idea of Student Involvement emerged. It is here that our focus has been on critical thinking, inquiry, and engagement through students’ participation and production of their own learning. From portfolios and blogs to project-based learning, students are leveraging digital tools to produce and enhance their experience.
Greater Need for Access

In 2010, the District did not have any of the District budget allocated to technology. The unreliable infrastructure needed to be redesigned and replaced. The community of St. Helena rallied behind the District and passed the Measure C bond initiative in November 2012 to support technology integration. In short order, the District was able to:

- Redesign and replace the infrastructure to greatly improve Internet and network
- Feed directly into the California High Speed Network

Additionally, the District established a budget line specifically used to update old and purchase new technology and establish a technology “refresh” plan. A few items purchased through District funds was able to:

- Update computer labs at all sites.
- Purchase grade-appropriate devices for student use
- Issue Teacher Technology Toolkits to every certificated staff and administrator in the District

As technology integration became a reality in more classrooms, an important concern continued to emerge: a greater need for access to the technologies. In order to address this, a number of options were explored: mobile carts, pockets of devices in the classroom, and computer labs.

While each of these brought us closer to the idea of just-in-time access to the tools that support learning, there continued to be a growing gap. It also became clear that we needed to address the issue of students that did not have the access to technologies outside of the school day.

In 2013, we explored what other schools were doing in the area of one device per student (1:1). It is here that the idea of Bring Your Own Device (BYOD) emerged: allowing students to bring their personal device and supplementing school devices for students that didn’t own one. The 8th grade group ran an informal pilot to determine the value of BYOD on learning and teaching. While the experience brought greater access, it also brought with it considerable challenges for both teachers and students: equity, efficiency, management, and common learning experiences.

In the Spring of 2013, two devices emerged as exciting possibilities for our learning goals and at a palatable price point: Chromebook laptops and Surface R/T tablets. Based upon the BYOD pilot experience and these emerging devices, we pursued the concept of 1:1.

Our District consists of four sites: St. Helena Primary School (K-2), St. Helena Elementary School (3-5), Robert Louis Stevenson Middle School (6-8), and St. Helena High School (9-12). iPads are used extensively at the Primary School, and the site is also equipped with networked computers in the library and the classroom. The 1:1 Device Pilot Program focuses on the elementary, middle, and high school.

One grade level at each site was selected to participate in the Chromebook pilot that would determine the value of a standard device with a focus on improved student learning based on:

- Engagement (measured by Experience Sampling)
- Literacy (measured by Experience Sampling)
- Critical thinking and inquiry (measured by Experience Sampling)
- Information and resource access (measured by Evaluation Survey)
- Citizenship (included in Chromebook Policy [http://goo.gl/afNSPR](http://goo.gl/afNSPR))

The following report represents the student and teacher experiences during the pilot and a recommendation for next steps for the 1:1 Device Program.
Pilot Study Approach

The focus of this evaluation was to examine the impact of 1:1 devices on students’ learning experience.

Guiding Evaluation Questions
1. What is the effectiveness of 1:1 Chromebooks in improving learning and teaching based on:
   a. Student experience with respect to learning and instruction,
   b. Teacher experience with respect to learning and instruction, and
   c. Chromebook’s effectiveness as a 1:1 device for learning and instruction?
2. What improvements should be made when 1:1 devices are rolled out to other grade levels?

Data Gathering
We analyzed the following data to evaluate the aforementioned guiding evaluation questions.
   - Experience Sampling (a)
   - Surveys of Students and Teachers (a, b, c; 2)
   - Anecdotal Feedback from Teachers (b, c; 2)

Experience Sampling Method
At a randomly selected time, each student in a given class was asked to “freeze” and take a quick survey that in essence provided a “snapshot” of their current experiences (See Appendix A for Experience Sampling Survey “snapshot” activity questions.)
Frequency: One “snapshot” per student toward the end of the pilot period (week 11)

Anecdotal Feedback from Teachers
Teachers were asked to give anecdotal feedback in the form of site-based surveys, unstructured requests for comment, and email correspondence.
Frequency: Varied by site – some teachers gave periodic feedback, but most provided observations and opinions toward the end of the pilot period (week 11)

Survey
All students and teachers were asked to complete the Chromebook Evaluation Survey at the end of the pilot period. The questions focused on the previously mentioned school goals and two open-ended comment question. (See Appendix B for Chromebook Evaluation Survey questions.)
At St. Helena High School, the Chemistry teacher implemented the use of a Microsoft Surface. The 96 students taking Chemistry and the teacher completed a survey related to the use of the Surfaces.
Frequency: once per student and teacher at the end of the pilot period (week 11)
The student experience was critical throughout this pilot. From the experience sampling method and exit survey, the insights of students will help shape both the direction of the pilot as well as the direction post-pilot. The teacher experience provides valuable insights as to how the 1:1 device program changes instruction and learning.

Analysis of the student and teacher experience is separated by grade-level groups because the pilot ran at three separate sites involving distinctly different grade levels, bell schedules, onsite tech support, and student use models.

**Grade Level Comparison**
The responses to five key questions varied by grade level. The following chart shows the percent of respondents at the respective grade levels who rated their 1:1 Chromebook experience favorably or very favorably (4 or 5 on the scale) with respect to:

- Benefit Learning
- Access to Resources
- Position on Going 1:1
- Ease of Use
- Engagement

---

**Percent of Favorable Responses by Grade Level**

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Benefit Learning</th>
<th>Access to Resources</th>
<th>Effectiveness of 1:1 Devices</th>
<th>Ease of Use</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr 5</td>
<td>89%</td>
<td>90%</td>
<td>88%</td>
<td>90%</td>
<td>85%</td>
</tr>
<tr>
<td>Gr 6</td>
<td>65%</td>
<td>74%</td>
<td>59%</td>
<td>72%</td>
<td>63%</td>
</tr>
<tr>
<td>Gr 9</td>
<td>54%</td>
<td>54%</td>
<td>54%</td>
<td>54%</td>
<td>54%</td>
</tr>
</tbody>
</table>

---
Elementary School Student and Teacher Experience

Student Experience Based on a “Snapshot” in Time

Results of the Experience Sampling Survey showed that approximately two-thirds of students were very or extremely engaged, enjoying the activity, finding the activity was meaningful, and concentrating on their work.

<table>
<thead>
<tr>
<th></th>
<th>1-Not at All</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5- Extremely</th>
<th>Rated experience at 4 or 5</th>
<th>% of students rated experience at 4 or 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>1</td>
<td>5</td>
<td>22</td>
<td>30</td>
<td>18</td>
<td>48</td>
<td>63%</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>2</td>
<td>6</td>
<td>16</td>
<td>25</td>
<td>27</td>
<td>52</td>
<td>68%</td>
</tr>
<tr>
<td>Challenging</td>
<td>7</td>
<td>15</td>
<td>36</td>
<td>16</td>
<td>2</td>
<td>18</td>
<td>24%</td>
</tr>
<tr>
<td>Skilled</td>
<td>1</td>
<td>8</td>
<td>28</td>
<td>32</td>
<td>7</td>
<td>39</td>
<td>51%</td>
</tr>
<tr>
<td>Meaningful</td>
<td>3</td>
<td>3</td>
<td>18</td>
<td>33</td>
<td>19</td>
<td>52</td>
<td>68%</td>
</tr>
<tr>
<td>Concentration</td>
<td>18</td>
<td>8</td>
<td>11</td>
<td>33</td>
<td>24</td>
<td>57</td>
<td>75%</td>
</tr>
<tr>
<td>Nervous</td>
<td>33</td>
<td>24</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>12</td>
<td>16%</td>
</tr>
</tbody>
</table>

Did you have a choice in selecting the activity?  Yes-15  No-60
Were you learning anything or getting better at something?  Yes-71  No-5

The three most common activities students reported working on at the time of the “snapshot” were: writing a document (33), creating an image or tessellation (16), and working on Study Island (15).

Students rated their engagement levels as extremely or very engaged as follows:

<table>
<thead>
<tr>
<th>Engagement</th>
<th>1-Not at All</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5- Extremely</th>
<th>Rated experience at 4 or 5</th>
<th>% of students rated experience at 4 or 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing a document</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>11</td>
<td>9</td>
<td>20</td>
<td>61%</td>
</tr>
<tr>
<td>Creating an image or tessellation</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>11</td>
<td>69%</td>
</tr>
<tr>
<td>Study Island</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>40%</td>
</tr>
</tbody>
</table>

Chromebook Evaluation Survey Results – Elementary Students

Fifth graders at the elementary school are in self-contained classrooms and have been working with Chromebooks strictly in their classrooms. It is the District’s intention that students will start taking their Chromebooks to and from school to improve access for all students both at home and at school.

Fifty-nine fifth grade students and three teachers took the Chromebook Evaluation Survey at during week 11 of the school year. The results reflect an overwhelmingly positive response to using 1:1 Chromebooks. Roughly 90% of students and teachers felt that 1:1 Chromebooks benefited learning and improved access to resources. 81% of elementary school respondents felt that Chromebooks were very easy or easy to use.
### Grade 5 - Evaluation Results

#### How did using 1:1 CB benefit your learning?
- A great deal: 40
- Quite a bit: 35
- Somewhat: 25
- Very little: 16
- Not at all: 22

#### How did having 1:1 CB allow you to connect to more resources?
- A great deal or Quite a bit: 40
- Somewhat: 16
- Very little: 6
- Not at all: 0

#### How much did having 1:1 CB change your learning experience?
- A great deal or Quite a bit: 35
- Somewhat: 22
- Very little: 3
- Not at all: 0

#### What do you think about going 1:1?
- Strongly favor: 34
- Somewhat favor: 16
- Neutral: 6
- Somewhat oppose: 4
- Greatly oppose: 0

#### Changes in learning experience
- Strongly or Somewhat favor: 50

#### Benefit of learning
<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great deal or Quite a bit</td>
<td>56</td>
<td>89%</td>
</tr>
<tr>
<td>Benefits learning</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>Increases resources</td>
<td>35</td>
<td>22</td>
</tr>
<tr>
<td>Changes learning experience</td>
<td>25</td>
<td>27</td>
</tr>
</tbody>
</table>

#### Expectations
<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far Exceeds</td>
<td>19</td>
<td>27</td>
</tr>
<tr>
<td>Meets my expectations</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Meets some of my expectations</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Does not meet my expectations</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Caused a distraction
<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all or very little distraction</td>
<td>55</td>
<td>87%</td>
</tr>
<tr>
<td>Not at all</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Very little</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Somewhat</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Quite a bit</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>A great deal</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

#### Easy to Use
<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very easy or Easy to use</td>
<td>51</td>
<td>81%</td>
</tr>
<tr>
<td>Very easy</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Easy</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Same as other devices</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Hard to use</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Very hard to use</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

79% of students and teachers in the pilot were strongly in favor or somewhat in favor of 1:1 Chromebooks.
When asked which device they preferred to use for learning, an overwhelming 75% of respondents said they preferred Chromebooks. Other responses included: desktop computer, regular laptop, iPad, Smartphone, and computer with a mouse.

Elementary Teacher Experience

Professional Development and Technology Support
Teachers at the elementary school did not receive formal training as a group on the use of Chromebooks. Instead, they received ongoing support from a Teacher on Special Assignment who is the co-administrator of the Google domain.

Teacher Feedback
Cindy Hemsley - 5th Grade Teacher

Right this moment I am watching my students use the Chromebooks to help work out a common core math problem, instead of depending on me to help them. I love the independence they are gaining with the Chromebook. Students are excited about finding sites that help them understand new concepts.

We have been using Chromebooks for research and writing assignments as well. I find that students are eager to respond to a writing assignment when they can use the chrome book. They seem to do more in depth writing and I see fewer mistakes, they are not reluctant to correct errors they have made. The most exciting aspect is the increased involvement they have in their assignments. Also I am excited that students WANT me to comment on their papers, whereas when i handed back written work they might have glanced at the comments I made.

Some student comments:

"I stay more focused using the Chromebooks than when I write on paper - it's more fun!"
"Helps with our education because we have a wider variety of research sites - prefer writing on Chromebook because of the ease of making corrections and changes."

"This seems modern, where everyone is headed - I do more writing than when I was writing on paper - can make changes and corrections easier"

"Helps with understanding, can go to a site and review as much as I need to."

Janelle Davis - 5th Grade Teacher

Chromebooks have changed the way I teach in the classroom. The opportunity has allowed me to challenge the students and expect higher results from each child.

This past week, I shared student Lexile Levels with parents during conferences. As we transition into Common Core, Lexile Levels are going to become ever more important. A general theme I discovered while discussing student lexile levels, was how so many students struggle to find engaging books, at their level. I came up with an idea. Why don't I give each student their Lexile Level, and guide them to www.lexile.com. Now, I've shared this website in years past, but never had the opportunity to have a whole class of students create an account and begin exploring the hundreds of thousands of books at their fingertips. Many students were both surprised and amazed as they typed in books they have read recently and discovered those books were well below their lexile range. You should have seen the students faces light up, as they selected their interests, and saw hundreds of books (within their individual range) come across the screen. Each student then began to create a list of books they wished to read (in fact, since Tuesday, I can name 5 students who have gone to the public library and checked out some of those new titles).

Another example of an activity I do with the students is Typing Club. Typing Club is an app through Google Apps. We use Typing Club 2-3 times a week for 20 minute sessions. This app helps teach students the proper way to keyboard. This is such an important lesson for the students. I don’t think it is fair of me to ask them to use their Chromebook effectively, if I haven’t taught them the proper skills they need to know to be successful. In the past two months, students have gone from hunting and pecking keys, to typing well over 20 WPM, without looking at their fingers. As they get older, this will prove to be a very valuable tool for them.

These are just two examples of how Chromebooks have changed, not just the way I teach, but the way the students learn. Computers are our future. I feel students should have daily access to begin learning all of the skills that a 21st century adult needs to know.

Judi Campbell - 5th Grade Teacher

- Students are writing more and with more enthusiasm.
  - I’m looking forward to catching up with them when I develop greater skill in using Doctopus with an embedded rubric.

- Students are collaborating more in small groups and partnerships and with greater enthusiasm.
  - They are learning appropriate collaboration skills. As an example: keep your hands off someone’s Chromebook!; discuss first; reach a consensus before changing the document for final review and submission for grading

- Students are learning how to be responsible.
  - security - get them back to the carts.
  - plug in - dead battery and student has a natural consequence of not having the tool available for use.
- Students are learning how to use Chromebooks for research.
- Students are far more likely to edit their work.
  - they are far more likely to use the online dictionary and thesaurus than a printed text.
- Students naturally provide peer coaching in technology skills.
- Students have a daily opportunity to improve keyboarding skills.

In this day and age, NOT providing Chromebooks for students is a bit like not providing them pencils, paper and resource materials!

Terilynn Buchanan - 5th Grade Teacher

Overall, the one to one computing of having Chromebooks in the class has been absolutely phenomenal. The students are enjoying them and it has been an interesting transition this year for my teaching practices. I am learning how to teach differently and identifying areas of instructional basics to plan for in the future.

In summary, the student feedback is positive. The students find the Chromebooks engaging, useful for researching unknown facts, and helpful for projects because the Chromebooks are faster than other computers we have used. It is easy to share work in groups and google docs are accessible at home. As well as, it is nice for each student to have their own device and not have to share.

For teachers, it has increased my work in teaching differently and learning how to manipulate the technology. However, it has been rewarding to see their engagement in using it. I think our future technology goals will need to incorporate the basics of formatting and document navigation as an introduction. It seems the students had a knowledge of internet researching and some typing skill prior to starting. It has been great to have a technology teacher who understands what classroom teachers need at this instructional level.

An easier adjustment has been to grading the work. The ability to see what they are creating on my desktop/laptop and comment has lessened my work load. My ability to give them immediate feedback has truly improved their learning, as well. Finally, we are using less paper! Thank you for attending to the support of our education for students and teachers by allocating funds to this project. Please extend it to the fourth graders, I think they are savvy enough to handle it.

Cameron Fraser - Teacher on Special Assignment, Technology

I have been thrilled with what I see happening in the 5th grade classrooms with the 1:1 Chromebooks. There is a lot of student enthusiasm when working on the Chromebooks. The operative word there is “working”. They work as individuals and in cooperative groups, with an intensity and focus not previously experienced

One of the most salient aspects of work being done on Chromebooks is the willingness of students to edit and revise their work. It is very difficult to get an elementary student to rewrite something they have written by hand. On the Chromebooks it is an easy task. Teachers are providing feedback in the form of embedded comments, and students respond almost immediately. This interactive process in writing is greatly enhancing student learning.

Teachers are learning new ways of managing student work using the tools provided in Google Apps for Education (GAFE). Moving toward a paperless classroom has streamlined the process of assigning, producing, collecting and grading student work. It is still a little awkward at times, as the
As the teachers become more comfortable with using this technology they are beginning to think of ways to engage the students in higher order thinking along the lines demanded by the Common Core Standards.

Outside the 5th grade, 4th grade teachers and some 3rd grade teachers are becoming familiar with GAFE and express an eagerness to move to a 1:1 device classroom. They are recognizing new learning opportunities they would like to incorporate in their classrooms.

As the technology support person, I have had very few problems with the Chromebooks. Nearly all problems we have encountered to date have been corrected by either refreshing the screen, or in extreme cases, restarting the Chromebook. When compared to other technologies we have on campus, that is amazing. The Chrome Management Console, that is used to manage user accounts and devices remotely, has proven to be a very powerful tool in shaping and directing the Chromebook experience. Google Technical support is very helpful. They stick with you until the problem is resolved, and follow up to make sure everything is running correctly.

In summary, I would have to say, the rollout of Chromebooks to the 5th grade and using GAFE, has gone much more smoothly than I had imagined. These are tools that may very well revolutionize the way we educate our students.
Middle School Student and Teacher Experience

Student Experience Based on a “Snapshot” in Time

Results of the Experience Sampling Survey showed that more than three-quarters of sixth grade students were very or extremely engaged (85%), enjoying the activity (89%), finding the activity was meaningful (75%), and concentrating on their work (79%).

<table>
<thead>
<tr>
<th></th>
<th>1-Not at All</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5- Extremely</th>
<th>Rated experience at 4 or 5</th>
<th>% of students rated experience at 4 or 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>35</td>
<td>27</td>
<td>62</td>
<td>85%</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>25</td>
<td>40</td>
<td>65</td>
<td>89%</td>
</tr>
<tr>
<td>Challenging</td>
<td>9</td>
<td>21</td>
<td>25</td>
<td>16</td>
<td>2</td>
<td>18</td>
<td>25%</td>
</tr>
<tr>
<td>Skilled</td>
<td>2</td>
<td>2</td>
<td>16</td>
<td>35</td>
<td>16</td>
<td>51</td>
<td>70%</td>
</tr>
<tr>
<td>Meaningful</td>
<td>2</td>
<td>1</td>
<td>15</td>
<td>28</td>
<td>27</td>
<td>55</td>
<td>75%</td>
</tr>
<tr>
<td>Concentration</td>
<td>3</td>
<td>0</td>
<td>12</td>
<td>35</td>
<td>23</td>
<td>58</td>
<td>79%</td>
</tr>
<tr>
<td>Nervous</td>
<td>39</td>
<td>17</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>8%</td>
</tr>
</tbody>
</table>

Did you have a choice in selecting the activity? Yes-19 No-54
Were you learning anything or getting better at something? Yes-63 No-8

The four most common activities students reported working on at the time of the “snapshot” were: writing a document (34), working collaboratively (16), working on a survey (5), and making a spreadsheet (4). Students rated their engagement levels as extremely or very engaged as follows:

<table>
<thead>
<tr>
<th></th>
<th>1-Not at All</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5- Extremely</th>
<th>Rated experience at 4 or 5</th>
<th>% of students rated experience at 4 or 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing a document</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>16</td>
<td>14</td>
<td>30</td>
<td>88%</td>
</tr>
<tr>
<td>Working collaboratively</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>100%</td>
</tr>
<tr>
<td>Working on a survey</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>75%</td>
</tr>
<tr>
<td>Making a spreadsheet</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>60%</td>
</tr>
</tbody>
</table>
Chromebook Evaluation Survey Results – Middle School Students

Sixth graders at the middle school are in subject-specific classrooms and have weekly “family meetings” with a homeroom-like teacher. They work with Chromebooks in their classrooms and take them home to work on homework and to charge them.

Fifty-nine sixth grade students took the Chromebook Evaluation Survey at during week 11 of the school year. The results reflect an overwhelmingly positive response to using 1:1 Chromebooks. 90% of students felt that 1:1 Chromebooks benefited learning and 85% felt that they improved access to resources. 90% of middle school respondents felt that Chromebooks were very easy or easy to use.

<table>
<thead>
<tr>
<th>Benefits learning</th>
<th>A great deal</th>
<th>Quite a bit</th>
<th>Somewhat</th>
<th>Very little</th>
<th>Not at all</th>
<th>Great deal or Quite a bit</th>
<th>% Great deal or Quite a bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increases resources</td>
<td>32</td>
<td>21</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>53</td>
<td>90%</td>
</tr>
<tr>
<td>Changes learning experience</td>
<td>27</td>
<td>26</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>53</td>
<td>90%</td>
</tr>
<tr>
<td>Strongly favor</td>
<td>38</td>
<td>14</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>52</td>
<td>88%</td>
</tr>
</tbody>
</table>
### Middle School Student Responses (Continued)

<table>
<thead>
<tr>
<th>Expectations</th>
<th>Far Exceeds</th>
<th>Exceeds my expectations</th>
<th>Meets my expectations</th>
<th>Meets some of my expectations</th>
<th>Does not meet my expectations</th>
<th>Far exceeds or Exceeds Expectations</th>
<th>% Far exceed or Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26</td>
<td>18</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>44</td>
<td>75%</td>
</tr>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very little</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quite a bit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A great deal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%: Not at all or very little distraction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caused a distraction</td>
<td>18</td>
<td>21</td>
<td>15</td>
<td>4</td>
<td>0</td>
<td>39</td>
<td>66%</td>
</tr>
<tr>
<td>Easy to Use</td>
<td>Very easy</td>
<td>Easy</td>
<td>Same as other devices</td>
<td>Hard to use</td>
<td>Very hard to use</td>
<td>Very easy or Easy to use</td>
<td>% Very easy or Easy to use</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>25</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>53</td>
<td>90%</td>
</tr>
</tbody>
</table>

When asked which device they preferred to use for learning, approximately two-thirds (40 out of 59 students) of respondents said they preferred Chromebooks. Other responses included: regular laptop (5), iPad (4), no preference (4), and other (6 other, such as Macbook, Surface, desktop computer, and iPad mini.)

### Middle School Teacher Experience

**Professional Development and Technology Support**

A lead team of teachers attended Google World and attended workshops prior to the pilot. All teachers at the middle school participated in a half-day training at the start of the school year regarding the use of Chromebooks. Their Library Media Specialist is the co-administrator of the Google domain and provided immediate support. They also received ongoing support from a Teacher on Special Assignment.

**Teacher Feedback**

Below are the bullet points that represent how the RLS staff believes about Chromebooks:

- For the issues we have had to deal with during the roll out, they are small compared to our advantages.
- It is like have a personal library at your fingertips.
- During the benchmark assessments, we noticed that the students who used the CB in 6th grade were far more at ease and had functionality when it came to taking the assessment on the computers, the 7th and 8th graders were not fluid and had a hard time figuring out the components of the testing. This is huge when it comes to the performance assessments online. The 6th graders are going to be at an advantage simply because they use the CB daily and know the functions by memory.
- It has opened our communication/feedback with the students almost immediately on projects and school work.
- Kids are on task more!
- We love them.
- When are we getting ours for the 7th and 8th graders?

**Additional Program Pilot**

As a result of the Chromebook Pilot at 6th grade, the staff at RLS decided to pilot the Hapara program. Hapara Teacher Dashboard is an educational tool that optimizes Google Apps for Education, structuring around classes and students, making GAFE easier to use and more effective for both the students and the teachers. This tool also allows teachers to have the benefits of a safe, collaborative, digital learning environment.

Teacher Dashboard gives the teacher a snapshot of what assignments have been turned into that class (the student just drags and drops assignments into their class folder). TD and Remote Control also allow teachers to drop assignments into class folders, see student’s Drive contents, and see what tabs are open on their devices (with the ability to send a message, open a tab or close a tab – right from the Dashboard).
High School Student and Teacher Experience

Student Experience Based on a “Snapshot” in Time

Results of the Experience Sampling Survey showed that approximately half of ninth grade students surveyed were very or extremely engaged (54%), finding the activity was meaningful (50%), and concentrating on their work (50%). Unlike elementary and middle school students in the Chromebook pilot, only one-third of students reported they were extremely or somewhat enjoying the activity (34%). 23% of students found the activity extremely or somewhat challenging.

<table>
<thead>
<tr>
<th></th>
<th>1-Not at All</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5- Extremely</th>
<th>Rated experience at 4 or 5</th>
<th>% of students rated experience at 4 or 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>1</td>
<td>7</td>
<td>44</td>
<td>47</td>
<td>13</td>
<td>60</td>
<td>54%</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>9</td>
<td>17</td>
<td>46</td>
<td>30</td>
<td>8</td>
<td>38</td>
<td>34%</td>
</tr>
<tr>
<td>Challenging</td>
<td>16</td>
<td>36</td>
<td>34</td>
<td>21</td>
<td>4</td>
<td>25</td>
<td>23%</td>
</tr>
<tr>
<td>Skilled</td>
<td>2</td>
<td>10</td>
<td>39</td>
<td>48</td>
<td>12</td>
<td>60</td>
<td>54%</td>
</tr>
<tr>
<td>Meaningful</td>
<td>4</td>
<td>22</td>
<td>28</td>
<td>39</td>
<td>17</td>
<td>56</td>
<td>50%</td>
</tr>
<tr>
<td>Concentration</td>
<td>2</td>
<td>11</td>
<td>42</td>
<td>38</td>
<td>17</td>
<td>55</td>
<td>50%</td>
</tr>
<tr>
<td>Nervous</td>
<td>77</td>
<td>13</td>
<td>13</td>
<td>5</td>
<td>3</td>
<td>8</td>
<td>7%</td>
</tr>
</tbody>
</table>

Did you have a choice in selecting the activity? Yes-50 No-61
Were you learning anything or getting better at something? Yes-101 No-8

The four most common activities students reported working on at the time of the “snapshot” were: researching on the web (44), listening to lecture (13), writing a document (11), and browsing the Internet (10). Students rated their engagement levels as extremely or very engaged as follows:

<table>
<thead>
<tr>
<th>Engagement</th>
<th>1-Not at All</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5- Extremely</th>
<th>Rated experience at 4 or 5</th>
<th>% of students rated experience at 4 or 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researching on the web</td>
<td>0</td>
<td>3</td>
<td>21</td>
<td>20</td>
<td>4</td>
<td>24</td>
<td>55%</td>
</tr>
<tr>
<td>Listening to lecture</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>46%</td>
</tr>
<tr>
<td>Writing a document</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>27%</td>
</tr>
<tr>
<td>Browsing the Internet</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>60%</td>
</tr>
</tbody>
</table>
Chromebook Evaluation Survey Results – High School Students

Ninth graders at the high school used Chromebooks in core subject-specific classrooms. They work with Chromebooks in their classrooms and take them home to work on homework and to charge them.

One hundred ten ninth grade students and one teacher took the Chromebook Evaluation Survey at during week 11 of the school year. The results reflect a relatively positive response to using 1:1 Chromebooks. 65% of students felt that 1:1 Chromebooks benefited learning ‘a great deal’ or ‘quite a bit’ and 74% felt that they improved access to resources ‘a great deal’ or ‘quite a bit.’ 72% of high school respondents felt that Chromebooks were ‘very easy’ or ‘easy to use.’

Grade 9 - Survey Results

<table>
<thead>
<tr>
<th>Benefits learning</th>
<th>A great deal</th>
<th>Quite a bit</th>
<th>Somewhat</th>
<th>Very little</th>
<th>Not at all</th>
<th>Great deal or Quite a bit</th>
<th>%: Great deal or Quite a bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increases resources</td>
<td>35</td>
<td>35</td>
<td>31</td>
<td>5</td>
<td>1</td>
<td>70</td>
<td>65%</td>
</tr>
<tr>
<td>Changes learning experience</td>
<td>49</td>
<td>30</td>
<td>20</td>
<td>5</td>
<td>3</td>
<td>79</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>40</td>
<td>32</td>
<td>6</td>
<td>4</td>
<td>65</td>
<td>61%</td>
</tr>
<tr>
<td>Strongly favor</td>
<td>32</td>
<td>31</td>
<td>32</td>
<td>4</td>
<td>0</td>
<td>63</td>
<td>59%</td>
</tr>
</tbody>
</table>

59% of students and teachers were strongly in favor or somewhat in favor of 1:1 Chromebooks.
<table>
<thead>
<tr>
<th>High School Student Response (Continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Expectations</td>
</tr>
<tr>
<td>Causes a distraction</td>
</tr>
<tr>
<td>Easy to Use</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
High School Teacher Experience

**Professional Development and Technology Support**
A few lead teachers from the high school attended Google World and various workshops prior to the pilot. All teachers at the high school participated in a half-day training at the start of the school year regarding the use of Chromebooks. They did not receive support from a Teacher on Special Assignment during the pilot, but received support from the middle school Library Media Specialist who serves as the Google domain administrator.

**Staff Feedback**

- SUSAN SWAN, Library-Media Specialist:

  **PROS**
  - Giving students the opportunity to work on a daily basis with Google apps allows them to achieve fluency because they must use it every day to get their work done, so actually having it in their hands on a daily basis is better than any training.
  - Teachers and students working on the same platform is optimal.
  - They are a better alternative to iPads because they have a keyboard.
  - The multi-media tools can be tailored to the grade level because the Admin can open certain extensions and apps on some parts of the domain, so Admin can create the environment it wants for users on our domain.
  - Having attended the CUE conference, and in particular a session on Chromebooks in the classroom, I am aware of the endless lesson ideas using different Google and/or Google-linked resources such as Kidblog, Google Story Builder, Doctopus, Read&Write for Google, Google Docs, videos and forms in conjunction for presentations, etc. There are endless possibilities for students to learn and create with all the collaborative tools available.
  - They charge overnight and students don’t need to bring their power cords to use them all day.
  - Our Chromebook program unites the haves with the have nots. Everyone has a computer in the 9th grade. There aren’t instances of students begging me to keep the library open until 6:30 because the public library is closed and they don’t have a computer or Internet at home.

  **CONS**
  - The Chromebooks seem to be very flimsy and easy to break, even with covers. I was going to take one to CUE but I didn’t want to be responsible for it. Even knowing this, students aren’t really invested in keeping them safe, and I’m not sure how to make them “take ownership” of them and be extra careful with them, as they would their own phone. Perhaps giving parents the option to purchase insurance for the Chromebooks at the beginning of the year would help the District not have to spend $250 every time one breaks.
  - Some programs don’t run on them. The HelpNow online tutoring available through the public library simply won’t work, even though the Admin has added the plug in that HelpNow’s customer service said was needed. While I love everything Google, there is a whole world out there, and many excellent tools and resources need extra work to run on them, so I am constantly asking the Google Apps Admin to add extensions, and it doesn’t always work. For example, there is a Diigo extension needed so students can create accounts, and I’m not sure it has been added yet. This frustrates teachers who want to use Diigo.
• Students are becoming fluent in Google apps but maybe at the expense of other web-based multimedia creation applications that students won’t get to know because they work solely within Google apps.

• Having attended the CUE conference, I see the world of possibilities for teachers’ use of Google Apps with students, and I think Professional Development would enhance the Chromebook/Google App experience for teachers. If our reluctant teachers could have attended CUE to see the amazing ways Google Apps can be used for student 21st century literacy, they would immediately buy into the whole domain/Chromebook program.

❖ SAM LICINA, teacher:

PROS:
• I like that all students are using compatible items. This is more a function of google drive than the device itself but the Chromebooks make google drive very approachable.
• They are very simple

CONS:
• Not very durable. Students who are using cases have reported broken Chromebooks. I don’t think that even with perfect care these things will last more than a year or two.
• Require wifi to use all apps. Students won’t go through many steps to work offline. I think an offline word processing/presentation app is essential

Suggestions:
• I would like to see a cart in every classroom with 25-30 Chromebooks for kids to use while they are here. If a kid needs a laptop for use at home then we can check him out a laptop the same way we issue a home textbook. It should be capable of working offline. I think this would solely some durability issues as most of the wear and tear seems to be occurring in transport. If all a kid had to carry back and forth was a usb stick it would solve that issue.

• I would also like to see a universal policy regarding printing of documents. If a teacher is going to require a printed copy of a document then they need to be willing to allow students to print using the classroom printer. We shouldn’t be assessing students on their ability to get things printed. We have the ability to share documents student to teacher. If teacher choose not to use that they bear the printing burden.

❖ LISA LUHN, teacher:

Suggestions:
• Every classroom should have a set of Chromebooks on a cart.
• Reliable wireless is a must in every classroom.
• Every student who wishes should have access to a Chromebook intended to stay at home. My guess is over half of students will not want one and will opt for their personal computer.
• This mirrors our textbook policy and will reduce the number of broken and damaged Chromebooks. They return their Chromebook in June and get it back the next year.
Lessons Learned

Administrative Set Up
All Chromebooks used during the pilot are managed with the Chromebook Management Console (CMC). The District Chromebook fleet user assignment is managed through the Follett Destiny Library System. Individual devices are checked out to students in the same manner as textbooks. The CMC is a web-based management console used to deploy and control users, devices and apps across the entire fleet of Chromebooks. From the CMC we are able to:

- Blacklist, whitelist, or pre-install apps, extensions and URLs.
- Apply policies, apps, and settings to different sets of users.
- Control who uses your Chrome devices: prevent outside users from logging in, disable Guest Mode, or designate the specific users within our domain that can use a Chromebook.
- Set network and proxy settings to make it easy for users to get up and running and ensure they're protected by web filters and firewalls.
- Modify user settings like bookmark and app sync across computers and brand your devices with custom Chrome themes.
- restrict email to within the @student.sthelen aunified.org domain as needed per site

Student and faculty Google accounts are placed in different Organizational Units (OU). Each student is placed in an OU corresponding to campus and graduation year. Faculty are in OUs by campus. Using CMC we can set different policies for each organizational unit based on their different needs.

The process of Chromebook management is an ongoing learning experience. As situations requiring management have arisen we have learned how to better use the CMC to apply policies that address the situation. For example, students were circumventing some of the restrictions we had established by logging into their Chromebooks using a personal Google account. We learned that we can restrict logins to only accounts from our domain. Some internet sites have been blacklisted. And several students, who weren’t following our Use Agreement were put under severe use restrictions.

Google provides excellent support for Chromebook management. We frequently consult with Google Support to learn how to better manage the Chromebooks.

The Chromebooks have so far proven to be amazingly reliable. Very few problems have occurred during use that were not solved by refreshing the page, or restarting the Chromebook. In comparison, students using HP Laptops running Windows 8, are constantly running into problems requiring technical support even while doing the simplest internet research and writing.

Usage
The following graphs illustrate district-wide Chrome account usage.
Student Recommendations

One of the open-ended questions in the Chromebook Evaluation Survey asked students and teachers to provide “Suggestions for making the Chromebook experience better for students.” The following student comments are representative of the majority of comments received.

St. Helena High School

- Get cases so that the Chromebooks are not so prone to getting broken.
- Have a cart of Chromebooks in every classroom, then if a student does not have a home computer, they can check a Chromebook out to take home.
- We need a device that has Microsoft word and can print to a printer.
- Have a Chromebook charger in every room.

Robert Louis Stevenson Middle School

- Chromebooks need to have cases, they break too easy.
- I would say unblock appropriate sites after school. Other than that I think the Chrome experience is amazing although we are still learning about it. I enjoy it!
I think students should have a little more guidance on how to use them. Sometimes I don’t remember how to use things and sometimes it messes up my work. But otherwise I think there isn’t anything I would change.

I think we should have wireless mouses, it is very hard to use the mouse pad. Other than the mouse, Chromebooks are very easy to use and it makes my learning a lot easier because we don’t have every book in the world.

I don’t think it could get any easier than it already is. But, maybe we could have some more learning games.

Other Devices
The Chemistry teacher at the high school started using a class set of Surface RTs at the same time the Chromebooks were rolled out for the pilot. Students used the tablets to access their textbooks and compose their projects. Students were surveyed about the Surface RT’s usefulness and potential value as a 1:1 device. The results of the survey are as follows:

- 62% of Chemistry students thought that having a Surface RT benefitted their learning of Chemistry “a great deal” or “quite a bit”
- 65% of Chemistry students thought that having a Surface RT allowed them to connect to more Chemistry resources and content.
- 60% of Chemistry students thought that having a Surface RT would “far exceed their expectations” or “exceed their expectations” as a 1:1 device; an additional 30% thought it would “meet their expectations.”
- 80% of Chemistry students thought that Surface RTs were “very easy to use” or “easy to use.”
When the 116 student respondents were asked which device they preferred to use for learning, 38% (44) chose Surface R/T, 36% (42) chose regular laptop, 17% (15) chose SmartPhone, 9% (10) chose desktop computer, and 3% (3) chose other.

The Chemistry teacher’s feedback:
Technology in Chemistry – Debra Hacker:

Our Surface computers have provided us with ready access to the internet in the classroom, which is where students are increasingly doing primary research. Surfaces are easy to use and the screen is an adequate size. Students like them and ask for them often. As an internet tool, it should function well in the use of Google Docs for students to collaborate on written material and share research information. What the surface does not provide is a tool with the e-book loaded into it- students have to go online, and put in their code each and every time they want access to their book. This is sometimes problematic as students lose their codes or do not have them recorded somewhere that is
readily accessible to them when we use our book in class (we do not have a class set of books). With block scheduling, students who have chemistry on Thursday often do not bring any chemistry materials with them on Wednesday (even their book codes), so when I call them in at access period they are unprepared. I am working with Susan Swan to get a master list of student codes available for those students. It would be so much more efficient to have the books loaded onto the surfaces. We want to go to electronic notebooks with OneNote and the ability to draw diagrams on the screen is a necessity. The surfaces have this ability if you are in Paint. The surfaces also have a USB port. The surfaces also do not hold their charge over the course of a day very well, and then they need to be plugged in...however our classroom does not have that many charging stations and students tend to be spread all around the room wherever there are plugs. The durability of the surfaces remains to be seen. The surfaces also are not connected to our classroom printer. So to print off the surface, the students need to save their information to a flash drive, bring it to my computer and print from my USB port. This is not sustainable with large numbers of students. We are not heavily using them yet, but that time will come and then we can track problems as they arise. The surfaces are in an excellent mobile cage, and could readily be shared room to room. I have enjoyed having them for limited use and am planning on using them more heavily in the second semester.
Device Experience

It is important to understand that the device is a fluid choice in our environment. We need to continually evaluate our choices as new devices emerge that better serve our need to meet our learning and teaching goals. This ongoing review of the devices reinforces that we are not embarking upon a Chromebook journey, but a 1:1 learning environment journey.

At this point, the Chromebooks have emerged as the best device to meet our goals for learning and teaching: critical thinking, engagement, and literacy for grades 5 and 6. Both Chromebooks and Surface R/Ts are viable options for high school.

These devices also best serve our school-wide focus on the technology experiences that assist us with our learning and teaching goals:
1. Blended Learning
2. Google Experience
3. Student Involvement

Non-Learning Advantages of Chromebooks and Surface R/T Tablets

<table>
<thead>
<tr>
<th>Chromebook</th>
<th>Surface R/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Battery life of nearly 7 hours</td>
<td>• Battery life of over 7 hours</td>
</tr>
<tr>
<td>• Power-on to full usability in 10 seconds</td>
<td>• Windows-based operating system</td>
</tr>
<tr>
<td>• Cloud-based so nothing is lost if something goes wrong with the machine</td>
<td>• Microsoft Office Suite installed</td>
</tr>
<tr>
<td>• Students can access Chromebook experience across all devices if needed</td>
<td>• Cloud-based options so nothing is lost if something goes wrong with the machine</td>
</tr>
<tr>
<td>• Cloud-based updating so the machine is constantly evolving – no reimaging needed</td>
<td>• Students can access Google apps through the browser</td>
</tr>
<tr>
<td>• School filter goes with the device regardless of location</td>
<td>• School filter goes with the device while in District’s Google domain</td>
</tr>
<tr>
<td>• Ever-evolving suite of apps both from Google, as well as third-party vendors</td>
<td>• Evolving suite of apps both from Google, as well as third-party Microsoft vendors</td>
</tr>
<tr>
<td>• Growing list of third-party applications is beneficial to device management, instruction, and user experience</td>
<td>• Growing list of third-party applications is beneficial to device management, instruction, and user experience</td>
</tr>
<tr>
<td>• Apps and tools can be sent directly to students</td>
<td>• Sign-in is tied to Google login so no need for multiple logins</td>
</tr>
<tr>
<td>• Sign-in is tied to Google login so no need for multiple logins</td>
<td>• Holding down the Power button for 30 seconds to refresh the system resolves most technical problems</td>
</tr>
<tr>
<td>• Built-in security and management</td>
<td>• Built-in security and management</td>
</tr>
</tbody>
</table>
Recommendations Based on Evaluation

Data from the 1:1 Chromebook Pilot, Lessons Learned, and Surface RT Surveys, suggest the following course of action for the next phase of the 1:1 Device Program.

1. Roll out Chromebooks in 4th, 7th and 8th grades.
2. Explore 1:1 device options that meet the needs of high school students and include a recommendation with the WASC Study in the Spring of 2014.
3. Evaluate the Hapara program and determine if this program has value as a District-wide adoption.
All students were asked to “freeze” their activities and to take a quick Google Form “snapshot” of their current experience. Students were asked:

What are you working on right now?
- Browsing the Internet
- Researching the web
- Writing an email
- Writing a document
- Using a spreadsheet
- Creating an image
- Creating a video or animation
- Working collaboratively
- Other

What are you thinking about?

In addition, students were then asked to score the 10 questions below using a five-point Likert scale. Questions:
- How engaged were you in the activity?
  Rate your engagement on a scale of 1 to 5 (5 = extremely engaged, 1= not engaged at all).
- Did you enjoy the activity?
  Rate your enjoyment on a scale of 1 to 5 (5 = extremely enjoyed, 1= did not enjoy at all).
- How challenging was the class activity?
  Rate the level of challenge on a scale of 1 to 5 (5 = extremely challenging, 1= not challenging at all).
- How skilled were you at the class activity?
  Rate your ability to do the activity on a scale of 1 to 5 (5 = extremely skilled, 1= not skilled at all).
- Was the activity meaningful to you?
  Rate the level of meaningfulness on a scale of 1 to 5 (5 = extremely meaningful, 1= not meaningful at all).
- How much were you concentrating?
  Rate your level of concentration on a scale of 1 to 5 (5 = extremely high, 1= not concentrating at all).
- Were you learning anything or getting better at something?
  Yes or no
- Did you feel nervous?
  Rate your level of nervousness on a scale of 1 to 5 (5 = extremely nervous, 1= not nervous at all).
- Did you have a choice in picking this activity?
  Yes or no
Appendix B – Teacher and Student Surveys

The Glenbrook North High School evaluation suggests that the following survey questions were used to capture data aligned with the pilot goals from students and teachers. All SHUSD students and teachers participating in the pilot were asked to complete this survey during week 11 of the school year.

1. How much did having 1:1 Chromebooks benefit learning?
   - A great deal
   - Quite a bit
   - Somewhat
   - Very little
   - Not at all

2. How did having 1:1 Chromebooks allow you to connect to more resources and content?
   - A great deal
   - Quite a bit
   - Somewhat
   - Very little
   - Not at all

3. How much did having 1:1 Chromebooks change your learning experience?
   - A great deal
   - Quite a bit
   - Somewhat
   - Very little
   - Not at all

4. What is your position about going 1:1?
   - Strongly favor
   - Somewhat favor
   - Neutral
   - Somewhat oppose
   - Strongly oppose

5. Did 1:1 Chromebooks meet your expectations (compare your feelings about 1:1 Chromebooks before and after the pilot)?
   - Far exceeds my expectations
   - Exceeds my expectations
   - Meets my expectations
   - Meets some of my expectations
   - Does not meet my expectations

6. Did 1:1 Chromebooks create a distraction?
   - Not at all
   - Very little
   - Somewhat
   - Quite a bit
   - A Great deal
7. Do you think Chromebooks are easy to use?
   - Very easy to use
   - Easy to use
   - Same as other devices
   - Hard to use
   - Very hard to use

8. Which device do you prefer to help you learn?
   - Chromebook
   - Regular laptop
   - Desktop computer
   - Smart Phone or iPod
   - No preference
   - Other _________________________

9. If you were to Tweet about your Chromebook experience, what would you say?

10. Suggestions for making the Chromebook experience better for students

11. I am a... student | teacher

12. My school is:
   - SHES
   - RLS
   - SHHS
A survey similar to the Chromebook Evaluation Survey was devised for Chemistry students piloting the Surface R/T. Chemistry students were asked to complete this survey during week 11 of the school year.

1. How much did having Surface R/T tablets benefit learning?
   - A great deal
   - Quite a bit
   - Somewhat
   - Very little
   - Not at all

2. How did having Surface R/T tablets allow you to connect to more resources and content?
   - A great deal
   - Quite a bit
   - Somewhat
   - Very little
   - Not at all

3. How much did having Surface R/T tablets change your learning experience?
   - A great deal
   - Quite a bit
   - Somewhat
   - Very little
   - Not at all

4. What is your position about going 1:1?
   - Strongly favor
   - Somewhat favor
   - Neutral
   - Somewhat oppose
   - Strongly oppose

5. Would Surface R/T tablets 1:1 meet your expectations?
   - Far exceeds my expectations
   - Exceeds my expectations
   - Meets my expectations
   - Meets some of my expectations
   - Does not meet my expectations

6. Did 1:1 using Surface R/T tablets create a distraction?
   - Not at all
   - Very little
   - Somewhat
   - Quite a bit
   - A Great deal

7. Do you think Surface R/T tablets are easy to use?
- Very easy to use
- Easy to use
- Same as other devices
- Hard to use
- Very hard to use

8. Which device do you prefer to help you learn?
- Surface R/T
- Regular laptop
- Desktop computer
- Smart Phone or iPod
- No preference
- Other ____________________
High Expectations Lead to High Achievement

The St. Helena Unified School District community is dedicated to providing opportunities and resources for all students to achieve their highest academic and social potential in a global society.

The 2013-2014 Strategic Plan outlines SHUSD’s mission to enable all students to become contributing members of society, empowered with the skills, knowledge, and values necessary to meet the challenges of a changing world.

Our Vision...Where We're Going
Our vision is an inspiring and innovative learning environment with the highest expectations for all students and staff so that they are successful academically, socially, emotionally, and physically.

Our Mission...How We'll Get There
St. Helena Unified School District community is dedicated to providing opportunities and resources for all students to achieve their highest academic and social potential in a global society.

Our Beliefs...What We Believe
We believe that:

- We are all teachers and learners.
- Respect, integrity, and honesty are core responsibilities of all individuals.
- Commitment to high expectations inspires excellence and personal best.
- Everyone has the right to achieve his or her full potential.
- A supportive environment fosters creative and confident learners.