

Technology and Instruction

The Balance of Blended Learning

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“The technology use this year has increased dramatically, as well as my comfort in using it.”
-8th Grade Student

Question

Imagine walking into a traditional classroom, teacher desk front and center, student desks filled with textbooks all forward facing focused on the main event, the teacher. Although, this exists today this is not the reality in which I teach. A blessing or burden, thirty-two Chromebooks were granted to my students, which allowed for a ratio of 1:1 technology to student. The technology had to serve as a main vehicle of learning, a companion to the teacher, thus the wheels began to turn. I wanted to research the following questions:

- What happens when I introduce 1:1 technology into instruction?
- Will 1:1 technology impact student autonomy, student collaboration, and student attitudes about learning?
- Will the 1:1 technology impact students’ academic achievement?
- How will 1:1 technology impact teacher practice?

Rationale

Despite a personal passion for the use technology in my life, there is an embedded fear educators have towards utilizing technology in the classroom. Educators must learn to confront this fear, whether it is caused by lack of technological expertise, inability to control student access, or one thousand other unknowns. Technology is advancing, most students in my school, even the ‘economically disadvantaged,’ have access to some form of technology, perhaps a game system, phone, computer, iPad, MP3 player, etc. Therefore, students enter school with a myriad of technological expertise, which adds both ease and complication. The question posed then is, “How do educators elevate some students, catch them up, while being cognizant not to stifle the learning of the tech savvy students?”

As education barrels forward, there has been a recent push to incorporate 50% student collaboration and talk time. However the reality in most classrooms remains, lessons that are teacher-driven and teacher facilitated. This year my school funded the use of one Chromebook per student in eighth grade, so I needed to rearrange my own practice to better suit the needs of my students. At the beginning of the year, I had students work in pairs to access a text on-line, read it aloud with their partner, then work together to answer questions. This is something I had done before with paper and pen, but the results

were always average. However, this time the room buzzed with noise, good noise the kind every teacher hopes for, with all groups on-task. I was not sure if this incident was mere novelty or value of the Chromebook, or increased engagement due to the addition of technology. Whatever it was, it was remarkable to see, and I wanted to duplicate it. This opened the door for incredible opportunities, to meet students' direct needs, to enhance collaboration, to synthesize new innovative ideas, and to challenge students to engage with the world. As a teacher, my challenge was to blend old practice with new practice. With technology changing so rapidly, I needed to educate myself about websites and applications to enhance students' capacity as learners.

Moving forward from this, I wanted my students to conceptualize the use of technology as a gateway to information. To date, their attitudes toward learning were mediocre, and somewhat indifferent. It is merely a "To Do List." Teacher told me to:

- Read this- I read it
- Write this- I wrote it
- Answer questions- I answered them
- Next?

With a 1:1 technology ratio students are digital citizen, all information is at their fingertips. I wanted to ignite a passion for inquiry in my students. I wanted to create an environment where students were engaged and autonomous, asking their own questions. Why did this happen? How could people allow this? Is this going on anywhere else? How can I build something similar? What can I do? I wanted to expand their world beyond the resources I provided through video and audio clips, photographs, news articles, primary and secondary sources, etc. It is one thing to put a student in front of a computer and expect him to be quiet. It is quite another to place a computer in front of a student and expect her to actively learn, to use the device to its full capacity, as a progressive educational tool. Therefore, I wanted to research if 1:1 technology impacted student learning.

Review of Literature

Evidence supports the idea that the use of technology is exponentially increasing in schools. This finding is not to be confused with technology positively effecting education, only that it is more prevalent in schools. Teachers are forced to try and remain ahead of novel devices, find creative solutions to monitor student technology use, *and* ensure students actually learn (Information Week, 2013). Trouble lies in the fact that there is limited longitudinal data that proves technology increases academic achievement. Studies remain short-term and small-scale. This being said, it is imperative to continually observe the impact technology has on student learning.

Is it Possible to Motivate Middle School Students?

Student autonomy and attitude in education are in part dependent on student motivation and engagement. According to John Keller (1987) there are four different aspects that determine learner engagement and motivation:

- Attention: which is derived from interest in material.
- Relevance: whether students find material for personal use.

- Confidence: that learners feel the capacity to succeed.
- Satisfaction: that students experience joy in the learning.

The four areas noted above are important to all educators (Godzicki, Godzicki, Krofel, Michaels, 2013, 16) I definitely know this to be true for middle grade students. Students have asked me the dreaded question, “Why do we need to learn this?” If a student does not see the information as relevant, little attention is paid to it. Similarly, if a student does not experience satisfaction in the learning process, then her confidence may diminish. Merely adding the use of technology into the classroom does not remedy this situation. Students must have active engagement in the learning process. In a recent study, one student makes a clear distinction between the use of technology in school and out of school and is quoted, “Outside it’s actually entertaining and here it’s just boring,” (Spires, Lee, Turner, & Johnson, 2008, 507). This is one of my greatest fears, using technology in school and a student complaining of boredom. How do we learn to balance using technology in an academically ‘fun’ manner?

Spires et al makes the following point, “Since young people are becoming increasingly dependent on technologies to communicate, gather information, and extend social experiences, it is essential that our educational system progress to meet these new demands” (Spires et al., 504) The ability to recognize interest allows students’ opinions to feel valued and honored. Spires et al also found that ‘using computer’ and ‘doing research on the Internet’ were preferred to ‘listening to the teacher’ and ‘doing worksheets,’ (Spires et al., 505). This shows an obvious desire to use the technology in the classroom. An increase in the use of technology can allow teachers to provide enriching lessons to target the above areas, which influence autonomy and attitude. It is important that students want to use the devices. However, I also want to see if the use of technology helps them self-direct, hone a new skill, research a topic of interest, or complete a work task. The question remains, when given self-governed time in school will students utilize technology as an extension of education or as a social distraction?

What is 21st Century Teamwork?

Collaboration is the ability for individuals to work together for a common goal. The idea of working together is not new. However, the idea of equal collaboration, over distance, through a shared technological experience is quite new. As a teacher, I have witnessed students ‘work together’ on a group project. Typically it is not an equitable experience. For instance, take a group of four students, one to two students complete the majority of the work, meanwhile the other two are more of a distraction. Students use technology to work together it challenges them intellectually and simulates a real-life experience (Edutopia, 2008). Lately, I have noticed students use technology to work together to share notes and clarify information. “Students who have mastered specific computer skills generally derive pride and enjoyment from helping others,” (Technology and Education Reform, n. d.) This intuitively makes sense; if I am good at something I will share this information with others. This indicates teachers may observe more technology-based collaboration. Meaning, avid tech students that learn computer skills will likely share those skills with others.

What About the Test Scores?

The main question for me, and I believe many teachers, is does technology impact student academic achievement? There is a limited amount of research that measures the efficacy of using technology in the classroom, and whether it truly benefits students academically. Personally, I feel students *should* have a heightened academic experience because they have accessibility to unlimited information. One student was quoted, “I learn better if I look for the information myself rather than studying something somebody else already gave me,” (Spires, 504). Singh and Means found that students were able to accomplish more complex tasks, including the use of graphs, spreadsheets, and presentations (Technology and Education Reform, n. d.). At the same time, research shows disadvantages when student learning is self-governed and self-paced. In 2007 found that, “The quality of students’ performance deteriorates with increased numbers of options, so, too many options seem to lessen volunteer action and impair performance,” (Godzicki et al., 2008-37) Therefore, for technology to be effective in schools, there must be some context and structure to the day. Students still need teacher guidance and modeling to aid their understanding (Godzicki et al., 43).

What’s “Hot” This Week?

In the world of education, I find it a constant challenge to stay ahead. New demands for teachers are required by administration, while the administration has new demands required by the board, and so on. In the last five years schools have transitioned from:

1. reading basal to self-made curriculum
2. self-made curriculum to guided reading books
3. guided reading books to novel sets
4. novel sets to iPad literacy apps
5. iPad literacy apps to Chromebooks literacy programs

This year the push is to implement a paperless environment, all the while keeping abreast on new strategies; such as ‘close reads,’ which requires students to mark annotations directly on paper. As a teacher, I must figure-out how to blend technology and curriculum and make it work. Countless time and money are spent investing in this new technology, which should ensure a richer educational experience. However, as yet the payoff is not apparent. Press states,

The technology gap between schools and the rest of the world is real, and it is growing...If we plan carefully, if we bring teachers along with us and implement new technology wisely together with other needed reforms, learning could be dramatically better (Press, 1995, as cited in Godzicki et al., 34).

It is as if technology firms and school systems believe technology alone can transform a teacher’s teaching, but sadly this is not the case. Placing iPad’s in a room does not change the teaching and learning. In fact, when teachers lack proper training the opposite can happen. The use of technology can be detrimental to student learning, as some students play-mindless games and are stuck on websites that have little educational value. As Badman states, “Technology does not lend itself to better teaching, in fact it does quite

the opposite when teachers are unprepared to implement a product when undertrained,” (Information Week). However, if a teacher is highly motivated to use technology well, there is a payoff. Technology can and *should* impact the way teachers teach. It allows teachers to individualize lessons to make concepts more accessible for all learners. Teachers can transition from the main role of a teacher who is the ultimate authority on all subjects, to facilitator and coach (Edutopia). My goal is to teach students to ask their own questions and obtain their own answer to take control of their education.

There remains limited data on the effects of technology in schools. That made it even more imperative for me to research the impact of technology on education.

Context & Setting

The enrollment of the urban Northwest Chicago Public School was nine hundred thirty-eight students. Grades range from prekindergarten to eighth. The school had a general education program, however the middle school was departmentalized. The school had an English Language Program to aid 40% of the population, who had limited English language proficiencies. Technology was a main focus of the school. The school housed three computer labs, eleven iPad carts (grades 3 through 5), and six Chromebook carts (grades 7 and 8). Tests scores continued to increase. Within the past seven years the school’s Performance Policy Level had improved from a status of Level 3 (probation) to Level 1 (highest rating).

In the last thirty years, overall demographics of the school had changed significantly. The neighborhood transitioned from Polish immigrant families to Hispanic immigrant families in the 1980’s. During that time period the enrollment numbers decreased to a low of 300-400 students. Over time, the numbers climbed, which caused the construction of a second building, now used by primary grades. Some grade level classes and enrichments were held in mobiles; therefore students must travel outside during a portion of the day. From 2000 to 2012, the number of transient population had decreased from 35% to 15%, which indicated more stability, less students transferred in and out during the school year.

The population of the school was majority Hispanic at 87%. The remaining student population identified as 7% White/Non-Hispanic, 3% Multiracial, 2% Asian, and 1% Black. 84% of students were considered economically disadvantaged, and 97% were eligible for free or reduced lunch program. About eleven percent of the student population were diverse learners, and received special education services. School academic improvement had been noted for the past seven years. Based upon 2012 ISAT, 75% of students met or exceeded the standards.

The parental involvement was most prevalent in prekindergarten through third grade, with a decrease in the intermediate and middle grades. Many parents were first or second generation American, and spoke limited English. Also, many students lived in blended or multi-generational families. The neighborhood had a strong presence of gang activity and could be violent, in and out of school. Add the language barrier to the home, family, and

neighborhood environment and the result was an absence of academic support for students. The school offered community support for parents and other adult learners; programs that assisted and educated adults, with classes ranged from basic computer skills to English language. Although offered, attendance in these classes remained low.

The culture and climate of the school changed over time due to demands from highly structured administrative staff. Student misconduct declined over the last two years. This could be a reflection of administrative presence and the turnover of nearly 25% of the teaching staff in the last three years. To date, the teaching staff consisted of six Nationally Board Certified teachers, six former charter schoolteachers, three veteran teachers (fifteen + years of experience), and the remaining average years taught span from three to eight. The past year, the staff collectively was awarded over thirty-five small grants and awards. Likewise, a handful of teachers consistently presented at professional development conferences, both district and national level.

There were three eighth grade classrooms; I was responsible to teach departmental language arts instruction. It was my third year at this neighborhood school. The first year, I taught fourth grade and the second year sixth. Although, I had taught seven years, every grade from third through eighth, I had yet to teach the same grade two consecutive years in a row. Therefore, every year was a 'first' year, new students, new curriculum, and new lessons. This was daunting and exciting.

I had ninety-one students total, in my three classes of eighth graders. In this group I have eighteen students that have Individual Education Plans (IEP's), four students that suffer from Emotional Behavioral Disorder (EBD), eighteen English Language Learners (four student that entered school speaking no English at all), and 39% scored below or warning on ISAT Reading in 2013. My principal trusted my talents as a teacher and moved me to teach this eighth grade group, for the class had a notorious reputation around the school, as 'that class.' This group of students had a history of gang activity, drug abuse, psychiatric in-patient care, violent acts, graffiti work, among other offenses.

From this eighth grade, I focused my research on my homeroom, thirty-two students with me for the majority of the day. Beyond language arts, I instructed this group in social studies and writing. I chose this group because of their academic diversity. This class had four diverse learners (received pull-out services), nine English Language Learners, nine students below the standards, and three students exceeded standards. My class was highly structured, with an underlying tone of serenity and mutual respect. Thus, with me the students' overall disposition was quite calm and polite. With consistent supervision the group appeared to be on-task and engaged in classwork.

Despite the challenges, the eighth grade students were eager sponges of information. I combined my repertoire of skills from grade levels, charter schools, and life experiences, with the use of blended learning to instill a passion for learning in students. I synthesized a curriculum that motivated through thought-provoking questions, to create an environment rich with learning.

Methods

My main focus was on the impact of 1:1 technology on students; it was imperative to gather initial data on my students. I gathered information in a number of ways to investigate students' technological comfort, academic achievement, and overall attitude toward classwork. In order to obtain this data, I utilized a number of research tools.

Contracts

Students were to respect and care for a Chromebook, maintaining overall function and working-order, indicative of digital responsibility. Students signed a technology contract that stated certain Chromebook rights and responsibilities to which students should abide (see Appendix A).

Standardized Assessments & Scores

During the course of the year a number of assessments were administered. Overall students' achievement was measured by NWEA, a computer based adaptive test given twice (winter and spring). Therefore, I looked at student growth by comparing 7th grade test scores to this year's. Similarly, student progress was measured by success on numerous computer-based programs (reading, writing, and math). In order to progress monitor students' academic achievement, each student managed a personal data binder, in which student and teacher tracked achievement through classwork (see Appendix B).

Surveys

Throughout the course of the school year, I developed numerous surveys to gather information about students' attitudes (see Appendix C). I asked questions such as: Do you prefer to read a tangible book or e-reader? Do you think literacy is improved this year? Do you think technology enhances your learning as a student? Do you think using technology becomes boring? Would you rather work with a group physically or simply share the document? Some survey questions remained consistent throughout the school year, while others changed to meet the needs of students.

Student Interviews

Although initially reluctant to see the value in student interviews, in November and April I did ask students to record brief question and answer sessions. Afterward, I was in awe of the value-added. In the interviews students answered simple questions: Do you think technology makes a difference for you as a student? Do you think technology benefits kids? It was amazing to analyze students' ability to articulate the effects of technology on their learning.

Observation: Teacher Journal

In order to analyze day-to-day interactions and experiences, I utilized a teacher journal to record formal and informal observations, and document short time frames at different intervals of the day. I could then hone in and observe variations in student behavior, especially regarding student engagement. Likewise, I recorded student interactions with technology. I wanted to transcribe as much information as possible to view if, in fact,

student learning was impacted by the use of technology. Lastly, I wanted to document my thought process throughout the year.

Data Analysis

In June 2013, I met with incoming students and obtained a work sample. Fortunately, my first data sample began at the end of the previous school year. With my research question in mind, I purposely offered students the choice between submitting a writing assignment via Google Drive or pen and paper. Only six out of ninety-one submitted the assignment online, which is roughly 5%. Therefore, I knew I had my work cut out for me.

One of the first student technology interactions I observed was when I asked students to join an educational platform. Students had to create accounts, with usernames and passwords. I thought this should be an effortless task, however it was everything but smooth and easy. About 56% of students were baffled when asked to create an account. 19% quickly created an account, and asked what to do next. The others were somewhere in the middle of the set-up phase. Although this was frustrating at the time, it taught me a valuable lesson. Teach a few students first, and then ask those students to help facilitate and train the remaining portion of the class. After this observation, I decided it best to chart students' level of technology comfort and engagement.

Primary - 18 students (56%)	Basic – 8 Students (25%)	Advanced – 6 Students (19%)
<ul style="list-style-type: none"> • Difficulties with login, require someone to help • Forget username and password on a weekly basis (after written down) • Difficulties following directions; visually and verbally explain five times • Drive very unorganized, no folders or logical file names • Confusion, unable to locate electronic items • Distracted easily- five times an hour (email, games, images, photos) • Restless while computing 	<ul style="list-style-type: none"> • Login troublesome, but can manage on own • May forget username and password, but if written down easily accessible • Need directions verbally repeated twice • Drive slightly unorganized, some folders • Able to locate electronic files fairly easily • Distracted from time-to-time- 3 times a day (email, photos, etc) • Able to concentrate while computing may look around twice every 5 minutes while working 	<ul style="list-style-type: none"> • Login easy and smooth • Username and password the same for most programs • Need directions repeated only once (verbal) • Drive organized, folders and properly named files • Locates electronic files easily • Seldom distracted – 2 times per week (email, photos, etc) • Extreme concentration while computing may look around once every 20 minutes while working

Analyzing my teacher journals, similar to that on the right, it became quite apparent that most students had limited capacity to stay engaged. The students were less likely to complete the work if it was given with little to no relevance to other material we studied. Many lacked the motivation to complete work, unless already internally motivated to obtain

10.19.13- "I am a little displeased with the turnout of my afternoon enrichment time. The students are not completing some of the work. I am afraid it might be too much or that the sites are simply not engaging. It is frustrating because some of the sites we are mandated to do, the kids simply do not enjoy. Some are completely off and just doing their own thing, and not truly focused."

'good' grades. It was hard to maintain the balance of meeting electronic program criteria mandated by administration, while also giving and requiring meaningful work from students. In November, student engagement and work completion was at an all time low. Lack of student engagement was apparent in a range of students' behaviors from drawing on arm or paper, email message to friend, online gaming, searching random images, and the occasional staring off into space. These infractions grew increasingly worse toward the end of the school day, some lasting for periods of ten minutes or more. Moreover, on-line program data showed that about 15 of 32 students were completing all assignments, and of the 15 only 6 students earned 75% or above on assigned work.

An inevitable challenge was the novelty of the 'new' technology wearing off. Unfortunately, a very real limitation is that my school district does not provide individual teachers with software to monitor and block certain websites for the Chromebooks, unlike iPad's, which have the capability to place restrictions on certain functions. Clever students discovered new ways to be off-task. Obviously, there seemed to be some students more prone to this than others, such as the following case study.

Case Study One

Miguel was a low achieving, scoring in the 1% on state testing. Along with this he was extremely defiant student. In some cases, even threatening in nature, with verbal assaults to teachers. It was not uncommon for Miguel to use profanity, towards teachers as well as to peers. Ironically, his typical interaction with peers was a bit socially abnormal, and slightly immature, but never overly violent.

From the beginning, Miguel posed an enormous challenge. He was extremely disrespectful to his Special Education teacher and refused to work. Miguel would run the halls, use profanity toward staff or other students, play music and games on his iPhone and Chromebook, or leave the school all together. Therefore, in November he was placed on a special schedule, one where he would remain in my room for most the day. It is important to note, in order to meet his required state special education minutes he received daily special education push-in minutes for reading and math. Although, he would say inappropriate things, and not always listen, out of my team I had the 'best' working relationship with him. This relationship can be noted in the letter below. Miguel was instructed by a teacher to write an apology letter to the gym teacher and myself for lying. At times, and with select people, he was more willing to cooperate.

i am sorry for going in the gym without permission and am sorry for lying to ms.k and ms.fink saying that i was going to the gym i did it two times i will never do it again and i
~~ed i was going with mr devle i won't do it again~~

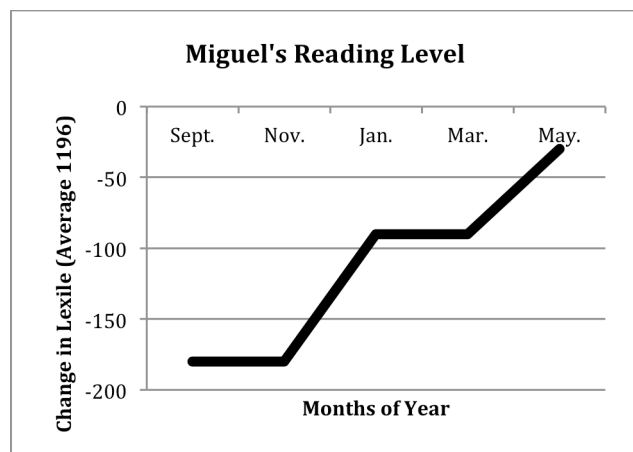
For years, it appeared Miguel was not required to complete work; teachers were informed to merely 'contain' him. Therefore, he remained off-task and rarely did what was asked of him, unless directed by the principal. As the year progressed Miguel experienced limited academic growth and his social interaction slowly improved. However, over time his academic performance was not advancing. Classwork was not completed. In a given week, we completed about fifteen activities in Reading. I considered it a good week when

he was able to complete two activities. He found ways to watch videos on YouTube and play violent online games, sites usually blocked by CPS. It was a 'good' day if he was on-task for fifteen minutes of a sixty-minute period. He often refused to work in partners, either working alone or not working at all.

After one specific incident in math class, with an extremely inappropriate website, Miguel's Chromebook was taken. His technological violations were brought to administration attention. After the situation was explained to administration, we discussed strategies to try and increase Miguel's Chromebook interaction and reasonable consequences, as well as the possibilities of projects with engaging applications and websites to keep him more entertained. We wanted to make sure Miguel upheld the technology contract, in order to maintain discipline with other students.

This proposed an interesting problem: how do I mandate certain expectations for difficult students? With the daily challenge to keep Miguel on-tasks, and to try and keep him off negative sites, I had quite the predicament. He was not entertained by the new applications and projects. Additionally, other students would notice his interaction with the computer, and ask about the equity of the situation. Slowly his twenty minutes of work transitioned into no work at all.

Regardless, as a teacher it went against my values to allow Miguel to pass after completing zero work in class. Therefore, in February I developed a task-tracker document to try and receive at least some work from him (see Appendix D). Miguel did not agree with this form. Often he would ignore me when I would place the form on his desk, however this did not hinder attempts. As displayed in the graph by March, Miguel's workflow began to once again slightly increase. At this point in the year average grade level is 1100, so Miguel's performance was significantly below. The April work sample below shows he was still completing work significantly below grade level.



one thing i learned about kek is that she like the cow and that the cow like her and follow her anywhere she goes

Miguel's time on task went from zero minutes to ten to twenty minutes, dependent on the day. Obviously ten out of sixty minutes is nothing to celebrate; however it was better than the alternative. Miguel's attitude and lack of motivation taught me a few valuable lessons. From these lessons I created helpful documents and strategies. I believe this is an important finding, it allowed me to develop additional resources for challenging students that do not immediately reap the benefits from technology.

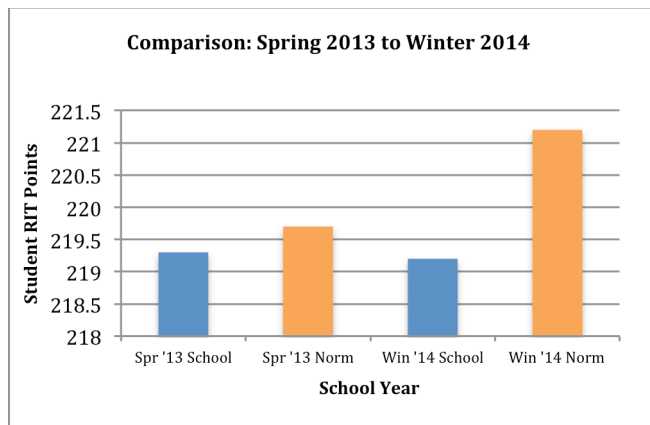
Although the above case is rare, it is real. My frustrations are noted in the journal to the right. Miguel was not the only student to violate the technology contract and revoking technology privileges was a limited option. I enforced ‘spot’ checks, but this felt so invasive and a bit micromanaging for eighth grade students. This was validated by a student survey response, which stated, “I’m scared you’ll check my Chromebook, and I like my own space.” For most kids this invasion of privacy was enough to ‘scare’ them into good technology behavior. For minor infractions, from time to time I would remove a student’s Chromebook for a five to thirty minute period, which was enough to motivate them for weeks or even months, paired with a solid conversation about trust. Nonetheless this was not my only challenge.

11.19.13 “It seems kids need a break to separate from tech. They’re overworked and tired from staring at the screen. I am not sure how beneficial it is all day. I am noticing more time off-task. Kids staring at grades. Kids on games. Kids trying to talk by sharing a document. Kids staring off into space. Kids emailing each other to chat. I started spot checks, where I take the computer to check history, which they now know how to clear. New challenges!”

Test Results

In January, the first standardized NWEA reading test was administered to all students, the first piece of quantitative and objective data. The graph to the right compares students seventh grade Spring 2013 scores with eighth grade Winter 2014 scores. Growth is measured by points over time, and students are expected to grow an average of four point in one year, two points in half a year.

Seventh grade students should receive a score 219.7 by yearend. The graph shows that student scores in Spring 2013 had a mean score of 219.3. By January, students should score around a 221.2, but in Winter 2014 the mean had decreased to 219.2, although I must note there were six new transfers in during Fall 2013. Of those six, five were significantly below grade level, two students with scores at 176 and 199 (grade level equivalent for reading second and third grade).



For me, the data was disheartening. However, it is the negative scores that are of concern to me. It makes me wonder what caused this drop. Too much screen-time? Not enough actual reading? From this piece of evidence I felt slightly defeated. I was determined to revamp my teaching to blend traditional practice with some of the new electronic strategies. By this point in the year, with test data, observations, and survey results in mind, I felt the need to implement a few changes.

Feedback First

I created a survey to gather feedback through a Google form. It was eye opening! True to form, my 8th grade students were not shy. A few uncensored comments about attitude about technology, “It kinda sucks to be looking at a computer screen the entire day, so maybe we should do free writes on paper, or have some time to read.” And, “I think it will be fine to do extra stuff like researching or HW. I hate No Red Ink!” I enjoyed reading their feedback and took everything into consideration.

It appeared students wanted a bit more freedom during this time than I allowed. This was a difficult balance, students craved choice and freedom, but administrative and academic achievement pressure curbs my ability to allow too much.

Student Feedback & Suggestions	Teacher Implemented Learnings & Changes
1.) “Time to work on high school applications.” (x’s 3 students)	1.) Learning #1: Addressed students’ feedback numbers 1, 2, & 3. I could conclude students wanted more freedom during this time. At times they had more ‘important’ assignments on their mind, and they felt confined. Change #1: Addition to enrichment sheet two self selected items title, “Other” and “Independent Study” [later I combined these to be called “Academic Choice” (see Appendix *****)]. 2.) Learning #2: Addressed students’ feedback numbers 4 & 5. It was apparent students enjoyed this self-selected time, but needed more time or less work. Change #2: I decreased both the weekly programs and the amount of work students had to complete during this time.
2.) “I want to be able to do some homework at this time.” (x’s 8)	
3.) “Free time.” (x’s 3)	
4.) “I want less work, I can’t finish all the work I have on time.” (x’s 2)	
5.) “I would want to complete my enrichment time, chart.” (x’s 3)	

Change is Coming

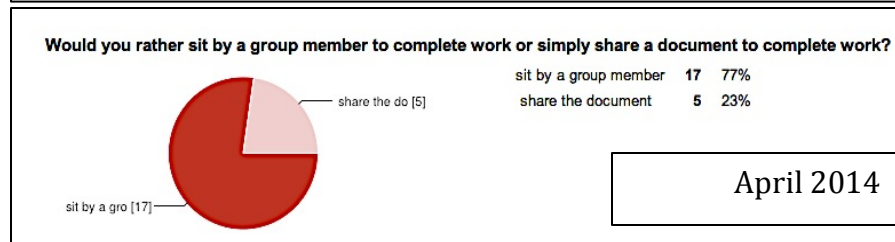
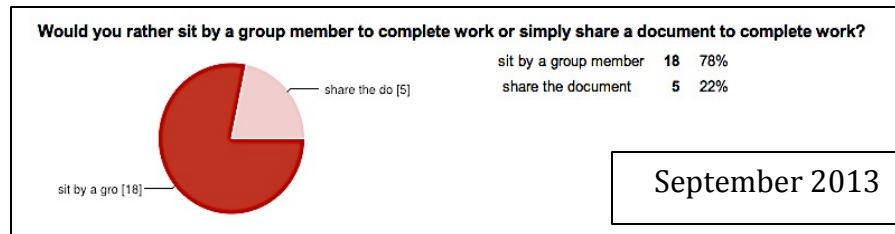
Student positive attitudes increased as their feedback was heard and implemented. Students appeared the most engaged when they had choice. One specific survey question asked if students enjoyed time for independent study, 25 of 28 students agreed and indicated they enjoyed freedom of choice. Student choice included which assignment to work on, location of where to sit (floor or desk), type of text hardbound or e-reader. Students merely wanted to feel they had a say in what they did.

I altered the enrichment sheet for a third time (see Appendix E). I altered literacy instruction: balancing the new hot “Close Reading” strategy (an approach in which students repeatedly read in order to highlight and add anecdotes to a brief challenging passage), with textbooks, class novels, and independent reading hardbound literature. I altered the students’ accessibility to progress monitor their own data. I altered and enhanced student celebrations by creating a class website.

All changes were implemented to enhance student buy-in to learning with technology. Data and teacher journal seemed to show that students were functioning more efficiently with Chromebooks. Within two minutes, students were able to open one platform, copy/paste text to reading e-notebook, organize e-notebook with tables, create annotations (through comments function on Google document), and with Chromebook

student could relocate to partner to share annotation. Two minutes as compared to ten minutes at the beginning.

The graphs to the right from survey questions indicate that working with a partner seemed to be motivating. Even after students mastered the ability to share documents, most still preferred to work next to another person, as



depicted to the right. This could indicate students still benefit and need human interaction, and most computer work tends to be a solitary activity. I find the data contrary to popular beliefs about adolescents with technology. Many feel students tend to isolate and prefer to hide behind a device. However, in the graphs it shows 17 out of 22 students still prefer to work in close proximity to another person. Although, not all students prefer this method, I find it interesting that after months of technology proficiency, with a learned 'shared' experience, the overall percentage remained relatively consistent. The data in from September to April only shifted one percentage point, from 78% to 77%, and that difference may be due to the fact one less student responded to this survey.

When in partners, all students appeared on-task. When asked why, one student commented, "Well, I have someone else that is counting on me." This indicates that this student felt more accountable. During one reading class, a particular group of students asked to move from another student to stay more on-task. Additionally, through observations of task-initiation, it appeared a decrease task initiation. In two cases, while completing individual work task-initiation would take anywhere from three to five minutes, without redirection. On average though, task-initiation decreased from two minutes while alone, to thirty-second with a partner. This may suggest movement motivated my students. Moving forward, I decided to create more opportunities for student movement.

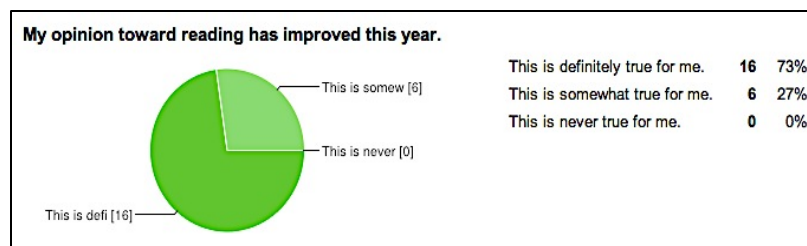
Student-selected seating for Chromebook reading appeared highly motivational. During a series of informal observations from the months of January to April, I documented information about students' seating selection. After initial reading seat selection, about three out of twenty-four students would scan the room. It often appeared they were looking for me, I think this may be nothing more than an old habit for some students. However, as a teacher it usually indicates students are off-task. Historically, I remember struggles with this same issues and hardbound literature, though the number of scanners

was much larger, ranging from ten to fifteen students. This may suggest an increase in engagement due to the Chromebook, with 88% of my students on-task. Moreover, for my students it also seemed an improvement from September, where I documented in my teacher journal only sixteen out of twenty-four reading students on-task, which is 67%.

Another possibility for the 21% increase would be the freedom of choice. For example, students were given the option of digital or hardbound text. In January, I documented eighteen out of twenty-five students chose hardbound text rather than digital. More interesting is that by March, 100% of my students chose hardbound literature. When asked why the preference, one student commented, “My eyes feel like they’re bleeding sometimes. I stare at the Chromebook all day long.”

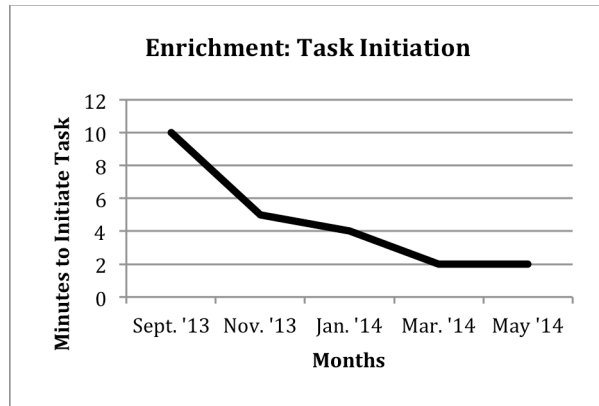
Based on this data, as well as students’ comments, I concluded it was best for my students to have a regular optional break from technology. This information was imperative for me to keep in mind while lesson planning. I wanted my students to have the best experience as learners. Therefore, if reading Edgar Allen Poe or Shakespeare I tried to locate paper texts as well. I also implemented the use of novels into our Social Studies block. One example we read the hardbound text Night by Elie Wiesel. At times, various texts were available on-line and one to two students would select that instead.

Once again, this suggests that not 100% of student felt the same burnout of the majority. I agreed with either option, as long as they participated. Regardless, something worked. According to March survey results posted above, 73% of students’ opinions towards reading had improved. This suggests that embedding various techniques with technology may enhance students’ opinions and attitudes a subject.

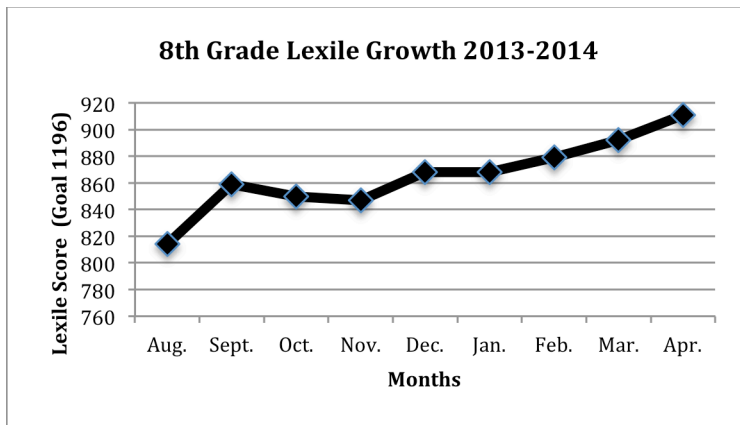


Referring back to page eight, in September only 44% showed moderate to advanced understanding of technology. Now nearly 91% of students were more technologically savvy. Observational data shows, that in April fifteen out of eighteen students, nearly 83%, initially unable to independently save and organize work, showed vast technological improvements. With all students accounted for only three of my thirty-two students remained dependent on increased time to complete task or repeated clarification of task. Twenty-nine were quick to label e-folders, locate e-documents, and listen carefully to technology instructions. This is an improvement for nearly 47% of my students in seven months time. Possibly indicating an increase in their digital awareness, comfort, and understanding.

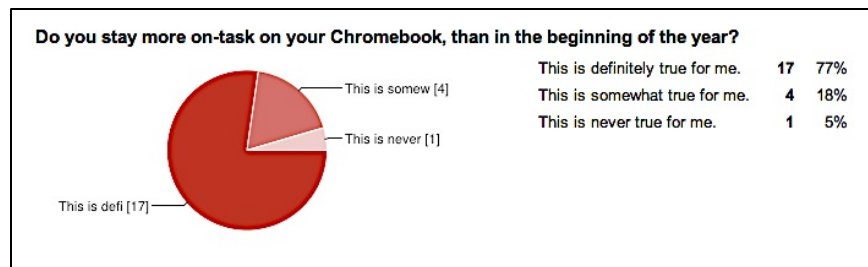
Observations indicated that improvement were possibly due to my implemented changes with technology. This graph displays the average time student took to initiate task upon entering the room for Enrichment period. Enrichment was a forty-five minutes block of time at the end of every day devoted to independent application, based on students' levels in Reading and Math. The graph suggests that as time progressed student time to initiate assignments decreased.



Along with this, in February I implemented a blended progress monitoring and enrichment document. The data displayed in the graph below shows that after January most students' reading levels increased in a linear fashion. However, from August to January there seems to be a combination of growth, decline, and stagnation. This finding leads me to believe that students may increase productivity and achievement with technology, if and when they are acknowledged for their successes.



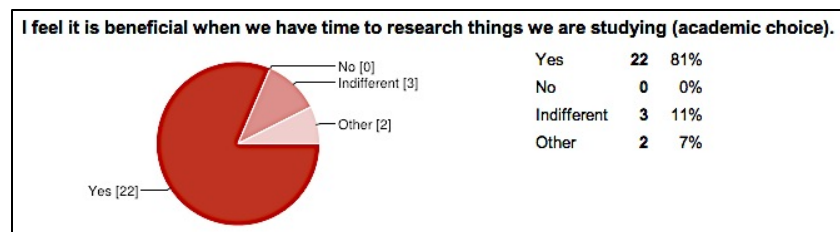
I reviewed Enrichment work in March and I found that 81% of students completed all work, compared to 62% the month before. Due to this finding I wanted to know more and I sent out a survey about the Enrichment document and time. One student comment on the survey read, "On the Chromebook you are entertained, and you are more focused than writing in a notebook. Also, I know that being on-task is something you want us to do, and as a student I want to have a good relationship with you, because you are a very nice person." A male student stated, "I feel learned more this year, and I think it even helped me stay out of trouble!" I asked why this last comment and he stated, "I don't know, I just think it did." Similar data compliments the



student comments in the graph above. As shown in the graph above 95% of students said they were more on-task in March, than in the beginning of the year. I believe the one student who disagreed may be the Case Study previously mentioned. Whether due to teacher-student relationship or the changes implemented, something was keeping my students on-track, at least in my classroom.

In October, when I gave a survey asking if students researched information beyond the text, only 9% of students answered yes. At that point in the year, I gave students limited freedom to ‘freely’ interact with the Chromebook. Some students feared that any little deviation would land them in trouble. At the end of November 43% of my students answered ‘yes’ to the question “it would be beneficial to have time to research additional information without prompting (image, location, or text). 52% said that it depended on what we were studying. I made a conscious decision to encourage students to research more information that sparked their interest.

For instance, we were reading a novel set in Nepal, and when we faced unfamiliar things I would say, “I



wonder what that looks like?” As noted in the above graph, this may have made a difference. When student were asked a similar question mid-March, students’ attitudes changed significantly, with 81% agreeing it was beneficial to research material we studied. Remarkably, 0% of students said ‘No’ it would not be beneficial. I believe this shows two things. Students were feeling more compelled and liberated to look up other information, as well as a possible increase in ability to identify unknown ideas then confidence to obtain information about the unknown. Either way, for me it was exciting to witness an organic curiosity form toward subjects we studied.

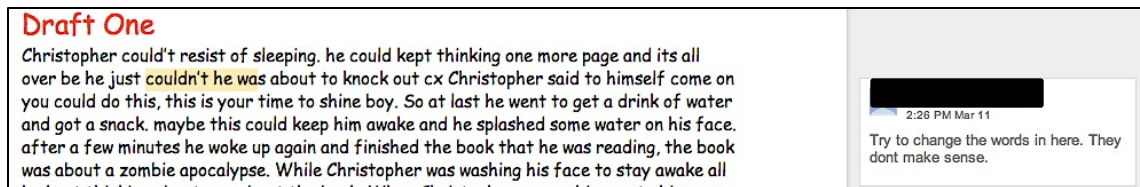
An additional area impacted was student writing. Students were positively motivated to complete Rapid Write. In this activity students competed against their own word count. The activity gave students four minutes to answer a prompt, typing as much as they possibly could. Student calculated words typed per minute and graphed using a Google spreadsheet. Task initiation for this activity was remarkably high. I would often hear, “Wait! Wait! I am not ready! My connection is slow.” Or, “Wait! I’m waiting for my notebook to open!” Even reluctant writers were engaged; from time-to-time one or two would need to look upward, as if searching the air for the right words to write. Upon entering one day during Rapid Write a teacher commented, “What in the world are they doing right now?” I believe this may suggest student are motivated by awareness of personal progress.

From my observations and journals, I can gather most student writing proficiencies increased. The proficiencies for each student differed though. Some learned to expand their writing, others to be more concise, a few to mediate on their own behalf, while the remaining learned to voice opinions. On the right describes my thought process after response writing for ISAT. This finding may suggest that the writing improvement was due to technology because it allowed for an increase in writing feedback, as well as an increase in quantity of work required.

March 6, 2013

Students had to take the ISAT this week. It is the first time I wasn't extremely anxious about their response writing. I want to attribute this to the amount of writing we do in class. Students are constantly writing, claims, opinion pieces, short paragraphs, and essays (all supported with evidence). In the past, I would often have kids just staring off into space, but this year is different. Kids seem to enjoy the experience of writing more. I feel I can tell by how fast they start, vocabulary used, length of writing piece, and emails students send my way.

Students composed most written work on Google Drive where they had the ability to share items with peers for review. This experience seemed to improve overall quality through comparison. When asked why reviewing another person's work makes a difference one student commented, "Well, I see kids that write a lot, I want to write more because it makes me think I should include more details. I feel there must be more things to talk about." In the past I remember hearing the question, "How long does it have to be?" Which was typically followed by groans of complaints despite the length. However, that was not true this year. Students often were motivated to fulfill requirements or even surpass, after reviewing a neighbor's work. This suggests friendly 'safe' competition may have been a good motivator for my students.



Draft One

Christopher couldn't resist of sleeping. he could kept thinking one more page and its all over be he just couldn't he was about to knock out cx Christopher said to himself come on you could do this, this is your time to shine boy. So at last he went to get a drink of water and got a snack. maybe this could keep him awake and he splashed some water on his face. after a few minutes he woke up again and finished the book that he was reading, the book was about a zombie apocalypse. While Christopher was washing his face to stay awake all

2:26 PM Mar 11

Try to change the words in here. They dont make sense.

Student positive attitudes elevated a bit as well, with more clear and standardized expectations. I was able to mandate certain text features like font type, font size, word count, and number paragraphs and pages. This made students more cognizant of these requirements. I overheard a student, who was beginning a high school application essay remark, "150 words, that's easy! I'll just go online and type for word count, and then copy it to the paper." This technological knowledge to track word count applied to a real world skill and although not monumental, it made this task easier. Additionally, students were eager to collaborate and share their writing. Peer reviewer comments were direct and interesting to read. One student wrote, "You really seemed to be saying something strong here, perhaps you can try to reword it." The work sample below is a second example.

Case Study 2 is a perfect example of a student that learned the value of writing, and that sometimes less can be more. He was often the student others would look to and ask, "How much did you write?" Therefore, the challenge with Jesus was a bit different.

Case Study Two

Jesus was a high achieving student. He started the year scoring in the 90th percentile in reading and math. Jesus was a highly motivated student. The email selection below is an example of his level of commitment to his own education. On average I would receive one to two

Hello Mrs.K

Quick doubt about the reading h.w. On chapter 4, question #2 it states, "Explain how the tragedy at the end of the chapter will Bobby being invisible?" Can you please clarify this. Thanks. Sorry for interrupting.

emails a week from Jesus asking for clarification about homework or grades. He was in algebra class, book club, student council, math competition, and other school related activities. Regardless of all these things Jesus was still human and in early September, he emailed another student while in class. I saw this, and called attention to both Jesus and this other boy. Unacquainted with being in trouble, tears soon came to Jesus' eyes. Within minutes he apologized. For the rest of the year, Jesus did not have another Chromebook violations. He was the polar opposite of Case Study One. There was one problem Jesus posed me. How to challenge a student that is already well above grade level, meanwhile strengthening previous skills?

As the year progressed Jesus eagerly read books above his level. Data showed he was advancing. His NWEA Spring 2013 to Winter 2014 test scores had increased from a 238 to 240 (8th grade norm score was a 221.2). His reading Lexile increased from 1525 to 1600, which was the highest the program registers (average being 1196). Fortunately, many Chromebook applications and website were automatically adapted to his level. During class I would assign Jesus additional advanced reading material, however I wanted to focus on writing, for him to construct quality rather than quantity. He had good ideas, but they were often lost in a sea of redundancy. Below is a sample from Jesus in September.

I believe that from gathering my small Ideas, I have come to the conclusion that the central idea of this novel is to discover who you are , or to know your identity , I think this because in the text Alice seems to dislike herself a lot because she is overweight and none of the boys ask her out , and also she appears to be very lonely. I know this because in the text is states " It was the loneliest , coldest place in the world!". This shows me that Alice does not like who she is and she feels very lonely , and also I can tell from this that Alice did not have a very good day at school. Then later on in the novel the author describes that Alice want to escape and the way she is "escaping" is by using drugs and that is not a good thing because that shows me that Alice want to kind of escape the "real word" and live a fantasy , she does not want to suffer , she want's to be happy , by this it tells me that Alice is afraid to discover her identity , she does not want to face reality , but at some point she will have to face reality , one example of Alice not showing reality would be that in the text it states " I pretended I didn't even know what she was talking about". This shows me that Alice want's to avoid reality and won't listen to her mom when they were having a conversation about how she should take care of herself and well in my opinion if Alice does not care then she should care , because it is for her own

After months of work, Jesus's writing improved. Even though Jesus was often reluctant and appeared offended by feedback, after a brief digestion period he would implement it into his writing. Jesus's writing ability strengthened. Below is brief selection of an essay assessment he wrote in March. Although, the essay was not free of errors, his ideas and ability to articulate his thoughts appeared more concise.

In the excerpt "Chapter 56 Under the Umbrella" in the book *Little Women*, the attitude that Jo shows towards Mr. Bhaer is that she deeply loves him. The attitude that Mr. Bhaer takes towards Jo is that the professor also loves her. Throughout the whole text, there was "real love" between them. Even though there was a misunderstanding, they didn't let that get in their way. In a part of the text it may portray that there is no real love between them. But when they get the problem solved, the attitude that both Jo and Mr. Bhaer take towards each other are positive, caring, and filled with love for each other.

One way that shows the attitude of Jo towards Mr. Bhaer, and Mr. Bhaer towards Jo is that, they both fell in love. It was like love at first sight. They didn't really care if one was young and the other was old. They loved each other. In the text it states, "....Heart's dearest, why do you cry?....." "Ach, mein Gott, that is so good!" cried Mr. Bhaer". This indicates that the attitude of Jo towards Mr. Bhaer was that, she loved him a lot. She cried because, she didn't want Mr. Bhaer to leave, and it is understandable. Now imagine that Jo would have never said anything, or expressed the feelings or the attitude she had towards Mr. Bhaer. Mr. Bhaer would eventually have thought that Jo didn't love him and he would eventually leave. But when she cried, Jo told Mr. Bhaer "Because you are going away", this indicates that she would be somber, that Mr. Bhaer is an important person in her life. If he goes she would feel like if a part of her went missing. Although in the text it states, "Jo made it rather cool, and the frosty little monosyllable at the end seemed to chill the Professor, for his smile vanished..." This part of the quote contradicts my argument, but in reality Jo, was just feeling awful that Mr. Bhaer was leaving. Throughout the whole story the attitude that Jo shows towards Mr. Bhaer is that both of them show a

I asked Jesus how technology had impacted his education, he commented, "Last year we got an introduction to some technology. Right now we use it for everything, every subject, almost every project. Technology helps us concentrate. With less technology, people get distracted and can't concentrate as much. I remember more behavior problems, when we wrote on paper. I feel I didn't learn as much because I didn't have time to look things up. I do feel like I am ahead because at home I research classwork, so that is additional technology time." As his teacher, I could see that Jesus was highly motivated to utilize technology to advance himself academically.

Similarly to my students, my own ability to collaborate with students increased as well. It was incredible to track assignment progress. For years I hounded students for writing, or worse gave the same lecture for incomplete work asking, "Where is your paper? So you understand how imperative this paper is to your grade?" However, the beauty of the Drive was students shared all documents with me, and I monitored their progress. By simply opening the document during class or at home, I checked students' assignments at random. It was beneficial to see students' struggles and to ensure all students progressed in a timely fashion. In the same light, it was far easier to provide feedback. I had merely to open a document, read for specific information, and then immediately give feedback. I was freed from the burden of lugging eighty-three handwritten papers home. However, at the same time I felt a sense of obligation to work at all hours, as witnessed in my teacher journal. At times it was exhausting, the work never seemed to end. It was too easy since my computer

01.31.14

I might have bitten off more than I can chew. Sometimes I feel I am drowning in work (grading, class website, assessments, papers, responses, homework, novel, grants, framework, research)! This digital era is great for many reasons. I feel kids are advancing their real world tech skills, they appear engaged, and their technological vocabulary is impressive. BUT, I need to find a balance! I find it too easy to grade work at all hours of the day! Since their work is digital, I have 24 hour access to work. I find it more difficult to leave work at work!

seemed to always be 'right there!' On a positive side, this allowed me to provide feedback on a more regular basis. Students submitted a work sample and within two days I provided specific and targeted feedback.

Students did seem to learn more and appeared willing to share their technology and work with other students. In fact in April students were asked to teach a class of sixth grade students an introduction to the Chromebook. The teacher came to me after and remarked she was so impressed with my eighth grade students' overall technological expertise. On the contrary, the eighth students that taught were shocked by the sixth grade students' lack of knowledge, attention, and understanding of technological terms. This seemed ironic because the students trained were familiar with iPads and used them on a daily basis; however there seemed to be remarkable difference. Although, she was impressed it took many months of hard work and stress to develop this level of functioning. A very outgoing student, Mercedes, participated in the activity and was my third Case Study.

Case Study Three

Mercedes was an average performing student. However, she was a student that every teacher could count on. She knew every classroom routine and was responsible to carry out multi-step tasks. Not a follower, I easily relied on Mercedes to lead and instruct others with technology. Unlike Case Study Two, at times Mercedes became distracted by peers, for she was very social and well liked by males and other females. From August to October a few instances did occur where she engaged in non-academic activities on her Chromebook. After discussion about responsibility and trust, she was responsive and always apologetic.

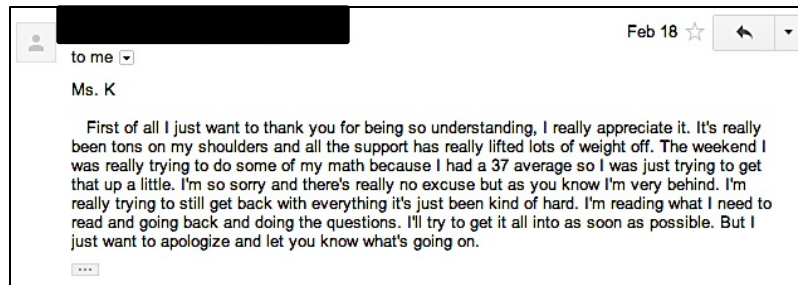
Throughout the year, Mercedes was interviewed and asked a series of questions ranging from, "Do you think technology makes a difference for you as a student? What is the biggest challenge?" After analyzing Mercedes answers it was quite apparent how much her communication and confidence grew, in regard to technology. During the middle of the year she used technology specific words a bit cautiously, words like create, folder, organize, etc.

Later in the year, Mercedes's demeanor changed and she conducted herself in a more serious manner when discussing technology. She was forceful and confident, which was reflected by this statement, "It is incredible to share documents and gather information when we need it. We are able to make presentations, WeVideos, create things we didn't even know about before this year." After teaching a sixth grade class about technology she returned smiling, but exasperated stating, "They didn't understand how to do certain functions, it was frustrating!"

In May, I interviewed Mercedes and asked her opinion about the use of the technology this year and what happens if next year in high school they have limited technology, as if moving backward, perhaps using notebooks all the time. Her response was quite dramatic. Mercedes eyes grew wide with apprehension, "That would be worse! I mean, you can't just look up definitions or search things you want to search." When pressed

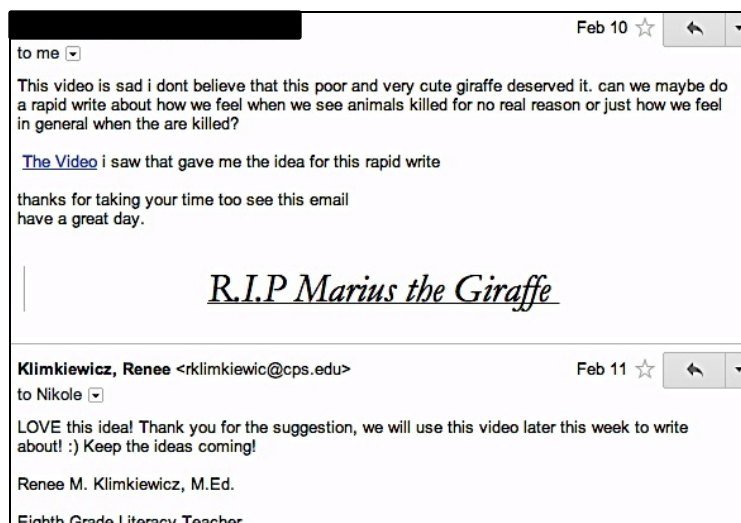
farther she continued and said, “I search something almost every hour! Depending on what we read and if I find it interesting, like the things about Sudan and the article I read about turtles...I wanted to see images of them. I even look up stuff in math, like irrational and ration. I didn’t get it, so I looked it up.” Mercedes’s curiosity did seem to pay off, her Lexile increased from a 765 to 1060 in seven months. I feel it is apparent from her comments and her academic scores, that the interaction with technology has impacted Mercedes’s experience as a learner.

Beyond Mercedes most students seemed to develop a more efficient means to communicate, with one another and myself. An email provided to the right. Some were still pushing the envelope and



downloading applications that allowed them to logon to Facebook and YouTube. When asked about the infraction one student responded, “But we don’t use those sites in your room!” Regardless, even in May, the lack of monitoring software was a large limitation. Nevertheless, students were using technology to communicate with me. At least three times a week I received emails from students, and this affected student autonomy. My class did have a few conversations about how to best word emails to teachers and adults in general, for their words were often too forceful. I often read, “Why did you give me a D?” However, this was a teachable moment, which allowed me to improve their writing and communication skills. For the past seven year of teaching it had always been the parent seeking out information on the behalf of their child. However, the accessibility of the technology allowed students to be fully capable to check grades and construct emails for general correspondence (grades, homework, missing work, clarifying questions).

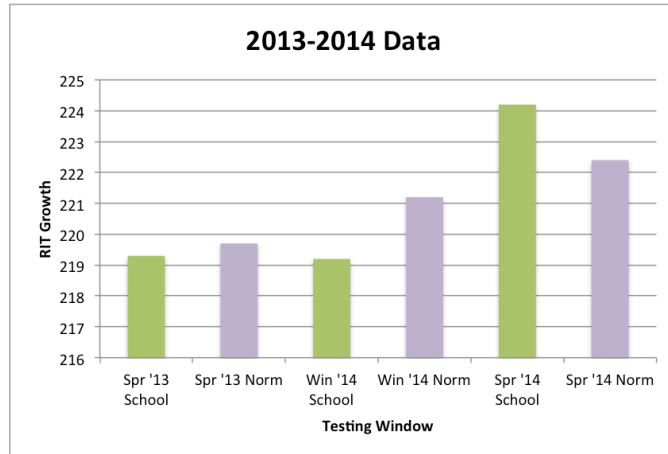
Some eager students gave suggestions related to content. Although suggestions were given prior to this year, they tended to be vague or less academic. For instance, “Let’s watch a movie or have longer recess.” It appeared some students felt safe to “voice” their opinions more through technology, example to the right. Moving forward, I



I think this suggests a positive increase in students’ level of autonomy. I believe their weekly communication demonstrated a desire to have their ideas heard and respected. I

believe if I foster this autonomy it will enable my students to capitalize on many real world 21st century skills. I feel my students need to understand the power of technology and that power goes beyond conversation and gossip. Even over a short period of time students learned to advocate for themselves through the written word.

Although test scores are not always a testament to 'real' growth, it is important I note their standardized test results. The graph to the right indicates students overall RIT scores, comparing normative national data to my eighth grade classroom data. In the winter students' average score decreased (in green), however by yearend it had increased by 4.9 points. In the end 95% of students, 26 out of 28, showed growth in reading. This



was remarkable growth from winter to spring, for in the winter 78% of students showed growth. Although this may suggest technology had an impact in student academic growth, it remains inconclusive. I cannot argue with certainty that this was the main contributor to students' growth. As discussed prior, by this point in the year I had altered many items.

As far as my case studies are concerned, Miguel showed significant growth, nearly ten points in reading. He also displayed a great deal of restraint and respect to all he encountered. At times, Miguel remained off-task and less focused than desired, but definite progress was displayed. Mercedes reading score increased as well, she grew thirteen points, placing her reading capabilities at a sophomore level. She continued to remain on-task, previous misbehavior on Chromebook were eliminated as we progressed toward yearend. Last, there was Jesus. Unfortunately, he did not display growth in reading. When asked what happened he commented, "I don't know...I wasn't feeling well and had a headache. So, I don't really know." This is not to say Jesus did not grow as a student, he definitely displayed growth in many areas (writing, comprehension, social awareness, etc). Although he remains above average in reading, at senior level, he is now deemed to have no reading growth simply because he did not perform well on one test. This makes me question the validity of a test-driven environment, where one test makes or breaks the student. However, that is a discussion for another time. All and all, I witnessed phenomenal developments in most students.

Conclusion and Findings

This past year was daunting, exhausting, yet inspiring. When I introduced a new topic initial excitements were present for new programs and activities, but typically followed by a period of annoyance and complacency, followed by boredom and burnout. This year integrating 1:1 technology was like walking on a balance beam. Each day, I held my arms

out from side to side to find the best way to move forward, the best-balanced approach. Was it easy? No. Was it predictable? No. Was it rewarding? Absolutely. In the end, the most painful challenges forced me to research, think outside the box, and to grow as a professional.

Initially, I wanted to research if 1:1 technology would impact student learning. However, it was difficult for me to see the value of evaluating how technology would impact other areas beyond academic achievement. The actual influence was markedly different than I originally anticipated. Through my year of action research I found the following:

- Students are motivated by an ability to voice opinions about use of technology, as well as a choice and options when interacting with technology. Continual surveys and evaluation allow students to safely share feedback with their teacher. This develops a community of mutual respect.
- Students show increased positive engagement with competition. Whether competing against self, or non-committedly competing against a peer, competition seems to be a highly motivating incentive for on-task behaviors and task initiation.
- Not all students will increase positive engagement with 1:1 technology, therefore it is important to have strategies in place for such situations. Despite all best efforts some students will find technology distracting, their attention shifted to nonacademic topics and areas. This reality is crucial to address, documents and other tools must be developed to handle these situation.
- 1:1 technology positively enhances most students' autonomy, research skills, academic achievement, and overall confidence. Technology and the Internet save a student from admitting, "I don't get it!" Students have the liberty and gain confidence to seek out new information.
- 1:1 technology prepares most students to communicate as a twenty-first century digital citizen, both formally (presentations, artwork, coding, written documents, etc.) and informally (email, social networking, gaming, video search, etc.) Students build a level of confidence to utilize skills in a real-world manner. Students with 1:1 practice gain proficiency that their peers lack moving into a digital economy.
- 1:1 technology increases a teacher's awareness of student progress and ability to communicate with students. The teacher has the luxury of reach out on-to-one more regularly, through this gateway of communication.
- Students need to have a balanced learning experience; instruction needs to include a blend of technology with more traditional methods. Technology is riveting and leads to a myriad of possibilities. However, the teacher must maintain a balance of certain teaching techniques. Technology can enhance, but it cannot take the place of peer-to-peer, teacher instruction, or teacher to student interaction.

Looking ahead, I am enthusiastic to move forward next year to implement all my findings regarding technology from the beginning of school. I am hopeful to use technology for student advancement as 21st century learners. I am determined to instill a sense of autonomy and curiosity in my future students through technology.

Policy Recommendations

Title: Technology and Instruction: A Blended Learning Balance

Policy Recommendations: Looking Forward

Based upon my research I am making the following recommendations.

School Level

- 1.) Teachers will receive monthly professional development, at least an hour, to learn to strategies, applications, and progress monitor techniques for technology.
- 2.) Teachers will integrate technology with a balance of other traditional methods (books, read aloud, hand written work, drawing, etc.) and allow student choice.
- 3.) Students will sign a technology contract that binds them to specific consequences for misuse of technology, with administration follow-through.
- 4.) Students must have a 1:1 technological device, for elementary and high school.

Classroom Level

- 1.) All classrooms must have 1:1 technological devices.
- 2.) Teachers must progress monitor, and conference with students twice a month about technology related goals.
- 3.) Teachers will dedicate 20-30 minutes of reading a day, without the use of technology (using a tangible text).
- 4.) Students will give monthly input to help shape their own experience as a digital learner.

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Student Technology Contract

The use of computer/iPad/Chromebook at _____ Elementary School is a privilege. Failure to abide by the guidelines presented below may result in revoking the privilege, or further consequences.

- *Do not attempt to alter* the appearance or operation of any technology equipment. This includes background, wallpaper, downloading or installing games or software, setting pass code locks or copying files of any type. Each one should remain in its original or teacher-set configuration, unless otherwise instructed by the teacher.
- No web sites, software, apps or media should be printed, shared, emailed or downloaded without teacher approval.
- Vandalizing computer/iPad/Chromebook will not be tolerated. It is each student's responsibility to check the computer/iPad/Chromebook before and after use and to report problems to the teacher immediately.
- Students will return all equipment at the end of each school day.
- Students will only use headphones, when teacher approved.
- Students will only use applications, websites, and programs required to complete assignments, only those that have been approved by the teacher of the current class.
- Failure to stay "on task" may result in loss of technology privileges and/or further disciplinary actions.
- Students may use the Internet only when authorized, and they must abide by the conditions of the _____ Network and Computer Resources Policy.
- **Students will not use personal or school equipment to listen to music, search personal images, shop online, play games, or communicate with peers or friends on school property, unless teacher approved.**
- No food or drink is allowed near any technology at _____.

I understand that if I violate any of the rules stated above or perform any other disruptive technology-related actions I may be subject to consequences, along with the loss of technology privileges.

I also understand that I may be financially responsible for the repair or replacement of stolen or abused hardware or materials.

Print Full Name Legibly _____ Date _____

Student Signature _____

Parent Name _____

Parent Signature _____

APPENDIX B

Academic Data

Lexile	Reading	Math
Spring Score: _____	RIT Score: _____	RIT Score: _____
Winter Score: _____	Percent: _____%	Percent: _____%
Spring Goal: _____	Spring Goal: _____	Spring Goal: _____

Achieve 3000 Lexile
Beginning Year: _____ Oct: _____ Jan: _____ Mar: _____ Jun: _____ Goal: _____

Books Read:

Achieve Articles Read: Aug: _____ Sept: _____ Oct: _____ Nov: _____ Dec: _____ Jan: _____ Feb: _____ Mar: _____ Apr: _____ May: _____ June: _____	ThinkCerca: Beginning Year Article Average: _____ Middle Year Article Average: _____ End Year Article Average: _____
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IXL: Skill Progress	Rapid Write Growth																				
<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>Excellent</th> <th>Good</th> <th>Satisfactory</th> <th>Needs Improvement</th> </tr> </thead> <tbody> <tr> <td>Beginning</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Middle</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>End</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Excellent	Good	Satisfactory	Needs Improvement	Beginning					Middle					End					Begin Average WPM: _____ Mid Average WPM: _____ End Average WPM: _____
	Excellent	Good	Satisfactory	Needs Improvement																	
Beginning																					
Middle																					
End																					

Khan Academy Growth: _____ points () _____ points () _____ points ()	NEWSELA: _____ Average () _____ Average () _____ Average ()
---	--

Response Growth
Beginning (emerging, developing, meeting, exceeding) Middle (emerging, developing, meeting, exceeding) End (emerging, developing, meeting, exceeding)

Organizational Growth
Beginning (emerging, developing, meeting, exceeding) Middle (emerging, developing, meeting, exceeding) End (emerging, developing, meeting, exceeding)

APPENDIX C1: Survey September

Pre: Student Survey



Please take your time and answer honestly to each question.

Would you rather receive a present you were longing for or an A in a challenging class?

- Present
- A in Class

After school, would you rather watch TV or complete your homework?

- watch TV
- complete homework

Do you learn more sitting next to a friend in class or sitting by someone you rarely talk to?

- by a friend
- someone I rarely talk to

Would you rather finish the last 10 pages of your book or talk on the phone with a friend?

- finish my book
- talk on phone to friend

Would you rather work on a poster board with a group or sit by yourself in a comfy chair and read a book?

- work on a poster with group
- sit in chair read a book

Do you feel more success from receiving a good grade or learning something new?

- receiving a good grade
- learning something new

Would you rather hand write a long response or type the response on a computer?

- hand write
- type

Do you think classmates VIEW technology more as an educational tool or a social device?

- educational tool
- social device

Would you rather sit by a group member to complete work or simply share a document to complete work?

- sit by a group member
- share the document

Do you prefer to read a tangible book (one you can hold) or an e-book?

- tangible book
- e-book

APPENDIX C2: Survey November

Enrichment November Feedback

I am thinking about a way to make enrichment time more engaging and would LOVE feedback.

* Required

My favorite literacy website is: *

- Achieve 3000
- Newsela
- Free rice
- Thinkcerca
- All are fine
- A combination

My favorite math website is: *

- Sumdog
- IXL
- Khan
- All are fine

My favorite news website is: *

- CNN news
- NBCLearn
- Both

I feel it would be beneficial if we could have time to research things we are studying. *

- Yes
- No
- Depends

Thinking about North Korea, what type of questions would you want to look up? *

- President
- Google Images
- Google Earth
- Facts about the people
- All of the above

What other things would you be interested in completing during this time? *

Never submit passwords through Google Forms.

APPENDIX C3: Survey December

December Tech Update

I will use feedback to help plan January.

* Required

Do you think enrichment activities are improved this month, are you learning more? *

- Yes
- No
- Indifferent
- Other:

Do you think enrichment activities are improved this month, are you more entertained? *

- Yes
- No
- Indifferent
- Other:

I feel it is beneficial when we have time to research things we are studying. *

- Yes
- No
- Indifferent
- Other:

Which literacy site is your favorite? *

- Achieve 3000
- Compass Learning
- Newsela
- ThinkCerca
- A combination
- Other:

Do you think having your activities tracked and posted on front board helps you complete them? *

- Yes
- No
- Other:

Do you like having time for independent study? *

- Yes
- No

APPENDIX E1: Enrichment Document Version 1 (Beginning of the Year)

Name: _____

Enrichment Time

Week #	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	*	*	*	*	*
	*	*	*	*	*
Week 2	*	*	*	*	*
	*	*	*	*	*
Week 3	*	*	*	*	*
	*	*	*	*	*
Week 4	*	*	*	*	*
	*	*	*	*	*

By the end of each week:

1 ThinkCerca Activity	30+ minutes IXL
2 Achieve Articles & Activity	3 Skills Practiced No Red Ink
1 Newsela Article with Quiz	***20 minutes Khan Academy***
***1 Game Financial Football ***	1000 Grains Free Rice (Level 20) Room 205

One or the Other

APPENDIX E2: Enrichment Document Version 3 (End of the Year)

ENRICHMENT TIME

Name: _____

Lexile	Reading	Math
Winter Score: _____	RIT Score: _____	RIT Score: _____
Spring Goal: _____	Percent: _____%	Percent: _____%

Achieve 3000 Lexile
Beginning Year: _____ : _____ : _____ Goal: _____

Week 1	Week 2	Week 3	Week 4
___ Achieve 1 %	___ Achieve 1 %	___ Achieve 1 %	___ Achieve 1 %
Title: _____	Title: _____	Title: _____	Title: _____
___ Achieve 2 %	___ Achieve 2 %	___ Achieve 2 %	___ Achieve 2 %
Title: _____	Title: _____	Title: _____	Title: _____
___ IXL (30mins)	___ Mathletics (30mins)	___ 1 TenMarks	___ NewsELA %
___ 1 TenMarks	___ Khan (30mins)	___ IXL (30mins)	___ Mathletics (30mins)
___ 1 ThinkCerca (S)	___ NewsELA %	___ 1 ThinkCerca (S)	___ Khan (30mins)
___ Academic Choice	___ 1 ThinkCerca (L)	___ Academic Choice	___ 1 ThinkCerca (S)
___ CNN Student News	___ 1 Rapid Write	___ CNN Student News	___ Academic Choice
___ 2 Rapid Write	___ NBC Learn	___ 2 Rapid Write	___ CNN Student News
___ Compass Learning (2R & 2M)	___ Academic Choice	___ Compass Learning (2R & 2M)	___ 2 Rapid Write
___% ___%	___ CNN Student News	___% ___%	___ Compass Learning (2R & 2M)
___% ___%	___ Compass Learning (2R & 2M)	___% ___%	___% ___%
	___% ___%		

