

2016

# Exploring effective classroom management techniques in a 1:1 classroom setting

Kenton Engels  
*University of Northern Iowa*

Copyright ©2016 Kenton Engels

Follow this and additional works at: <https://scholarworks.uni.edu/grp>

 Part of the [Curriculum and Instruction Commons](#)

*Let us know how access to this document benefits you*

---

## Recommended Citation

Engels, Kenton, "Exploring effective classroom management techniques in a 1:1 classroom setting" (2016). *Graduate Research Papers*. 91.

<https://scholarworks.uni.edu/grp/91>

This Open Access Graduate Research Paper is brought to you for free and open access by the Graduate College at UNI ScholarWorks. It has been accepted for inclusion in Graduate Research Papers by an authorized administrator of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

---

# Exploring effective classroom management techniques in a 1:1 classroom setting

## **Find Additional Related Research in UNI ScholarWorks**

To find related research in UNI ScholarWorks, go to the collection of [Curriculum and Instruction Graduate Research Papers](#) written by students in the [Department of Curriculum and Instruction](#), College of Education, at the University of Northern Iowa.

## **Abstract**

The purpose of this action research was to explore effective management techniques in a 1:1 classroom by seeking solutions to the problem of students being distracted on their devices during class. I conducted this action research in my classroom, with twelve participants in the 8th grade at Moses Junior High School (pseudonym) in Cedar Falls, Iowa for thirty days. After implementing three different management techniques, I collected and triangulated the data including: surveys, observations, interviews, assignments, and reflective journals. The major findings indicate that after participants raised their awareness about their Chromebook use during class, they increased their proficiency level on formative assessment tasks. They also slightly altered their perspectives on how to use their Chromebook and on how it affected their academic performance. I recommend promoting students' self-awareness by using the techniques studied as well as further research conducted on classroom management in a 1:1 laptop classroom.

Keywords: classroom management, students' perspectives, 1-1 learning environment, action research

Exploring Effective Classroom Management Techniques  
in a 1:1 Classroom Setting

A Graduate Action Research Report  
Submitted to the  
Division of Instructional Technology  
Department of Curriculum and Instruction  
In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts  
UNIVERSITY OF NORTHERN IOWA

by

Kenton Engels

Date: April 2016

MANAGEMENT IN A 1:1 SETTING

This Action Research Report by: Kenton Engels

Titled: Exploring Effective Classroom Management Techniques in a 1:1 Classroom Setting

has been approved as meeting the research requirement for the  
Degree of Master of Arts.

\_\_\_\_\_

Date Approved

\_\_\_\_\_

Graduate Faculty Reader

\_\_\_\_\_

Date Approved

\_\_\_\_\_

Graduate Faculty Reader

\_\_\_\_\_

Date Approved

\_\_\_\_\_

Head, Department of Curriculum and Instruction

**Table of Contents**

Abstract .....	4
Literature Review.....	7
Teacher Training .....	7
Physical Limitations/Concerns.....	9
Student Autonomy.....	10
Methodology.....	12
Context and Participants.....	12
My Role as a Researcher.....	13
Data Collection and Analysis .....	14
Data Analysis .....	16
Major Findings.....	16
Initial Understanding.....	17
Raised Level of Proficiency .....	22
Raised Perception.....	23
Conclusion and Recommendations.....	26
Summary of the major findings.....	26
Recommendations .....	31
Reflection and Conclusion.....	31
References.....	33
Appendix.....	35

## MANAGEMENT IN A 1:1 SETTING

### **Abstract**

The purpose of this action research was to explore effective management techniques in a 1:1 classroom by seeking solutions to the problem of students being distracted on their devices during class. I conducted this action research in my classroom, with twelve participants in the 8<sup>th</sup> grade at Moses Junior High School (pseudonym) in Cedar Falls, Iowa for thirty days. After implementing three different management techniques, I collected and triangulated the data including: surveys, observations, interviews, assignments, and reflective journals. The major findings indicate that after participants raised their awareness about their Chromebook use during class, they increased their proficiency level on formative assessment tasks. They also slightly altered their perspectives on how to use their Chromebook and on how it affected their academic performance. I recommend promoting students' self-awareness by using the techniques studied as well as further research conducted on classroom management in a 1:1 laptop classroom.

*Keywords:* classroom management, students' perspectives, 1-1 learning environment, action research

## MANAGEMENT IN A 1:1 SETTING

### **Exploring Effective Classroom Management Techniques in a 1:1 Classroom Setting**

Classroom management is an ever changing organic part of teaching and learning. It takes just minutes to understand but years to master. I have taught social studies to eighth and ninth graders for five years now at a junior high in Cedar Falls, Iowa. Recently at school, every student has been given a Chromebook. This new 1:1 implementation is great inasmuch as it allowed wider access to technology for students. The level of technology integration has had an impact in multiple areas, and teachers are learning every day on how to improve teaching. However, despite this new jump to use technology as a pathway to higher learning, challenges have arisen. The biggest complaint and barrier about the new learning initiative is that students are distracted and drowning academically with their new Chromebooks. This problem has caused many headaches and rash decisions that have not been thought through. Therefore, this particular action research hopes to provide a possible solution during this stressful time.

The potential gains with 1:1 implementation have hit a ceiling in my school district. This limitation is caused by the lack of preparation and development of management skills for teachers. Unfortunately, a teacher's typical "toolbox" of management skills does little good in this new endeavor. Due to this, stakeholders are missing out on effective instruction with the benefits of technology integration. The known causes of this problem are: lack of direction from building administration for staff to implement the 1:1, and a lack of communication on the purpose of the program.

A major hurdle to success in a 1:1 environment is the lack of knowledge that exists about how students react and behave when they are using the Chromebooks in class. It is easy for teachers to simply say, 'put the computers away' when a student is distracted, but what we encountered at Moses is more nuanced. When students use the Chromebooks in a lesson, they

## MANAGEMENT IN A 1:1 SETTING

are often attempting to multi-task or use the Chromebook as a hiding mechanism. This problem needs to be solved in that it frustrates teachers and hinders student learning.

I decided to conduct this action research to explore three effective classroom management strategies that focus on increasing student self-discipline and self-monitoring in a 1:1 classroom. Through the use of student input and direct teacher instruction I aimed to limit the amount of distractions that occur during a lesson that has technology integrated with it. The primary research question was:

1. What were students' initial understandings about using a Chromebook?
2. How would new classroom management strategies affect student learning with the Chromebooks?
3. What was student's perception for using a Chromebook in class?

The purpose of this action research was to solve a student management problem by adopting three classroom management strategies. The intended outcome was to affect student learning and have students be less distracted by their Chromebooks. The importance of my action research was to provide new ways for teachers to manage their newly found laptop laden classrooms.

The significance of my action research is two-fold. First of all, my action research is attempting to identify how to increase student learning. If students were better equipped to use the Chromebooks during class then there would be significant learning gains. Second, research-based evidence provides teachers with direction in terms of technology integration. Unlike myself, who has taken a strong interest in integrating technology in my classroom, I know that most teachers are under different levels of awareness when it comes to technology integration. Many have resorted to taking the situation into their own hands. Many do not have the time or

## MANAGEMENT IN A 1:1 SETTING

training to use Chromebooks to their advantage so instead they decide to ignore it. By sharing my action research results with my colleagues, I can give teachers a reprieve from this avoidance routine and increase student learning through more effective technology integration as a school-wide initiative.

### **Literature Review**

My action research was to increase student learning through the use of classroom management strategies in a 1:1 classroom. Classroom management is a subject in which countless research articles have been written. The purpose of my literature review was to find research evidence in which students are more self-disciplined in their use of Chromebooks during the school day. To that end, I have reviewed relevant research about *issues and strategies that are related to classroom management in a 1:1 classroom*. The studies highlighted below show multiple impacts of different classroom management strategies. Three major themes that I discovered are lack of teacher training, student autonomy and physical limitations/concerns.

### **Teacher Training**

The first theme relates to a lack of teacher training for the 1-1 learning environment. The biggest complaint by teachers in regards to many new items they face is training time. Schools use professional development for a myriad of new ideas and projects and because of this, teachers feel the strain of different initiatives (Baiocco, 2013). One of the most important initiatives is giving every student a laptop. Weston and Bain (2010) evaluated two major statewide laptop initiatives: Maine learning technology Initiative [MLTI] and Texas Technology Immersion Pilot [TTIP]. The research evidence concluded that time is a major factor for building relationships and implementing strategies. Teachers are under the strain of meeting numerous goals within many initiatives so this piece of evidence is not shocking. The authors

## MANAGEMENT IN A 1:1 SETTING

argued if all members of the community are embedded in these processes, then the question of how to manage the laptops will not need to be addressed because all students and teachers will be working towards the same goal (p. 13).

Another study highlighted the effects of teacher training in a single English classroom (Efaw et al. 2004). The students in the study were freshman in college and demonstrated a higher level of autonomy than a high school or middle school student would. This study was also conducted in 2004 when the internet was available but certainly not as capable as the time this review is being written. The authors collected interview data both from students and teachers to explain the benefits and dangers of using laptop technology in the classroom. One of the largest complaints from the study was that students now had a screen to hide behind that made teaching much more difficult. However, is it not true that teachers experienced off task behavior before and this is simply a variation on a theme? I think the teachers interviewed used this “off task” excuse to cover up a larger issue of not wanting to change pedagogy. Yet, the gap in training for these types of instances is still considered a problem, even in secondary education.

Dunleavy, Dexter and Heinecke (2007) conducted a study to fill the gap between teaching strategies and classroom management. The research evidence showed significant improvement in learning, “The increased capacities for student interaction, collaboration, communication and materials management as well as the ability to access online resources via the networked laptops are critical qualities for community-centered and knowledge-centered environments” (p. 450). Specifically, the management techniques that worked, were ones that emphasized the role of the teacher as a facilitator rather than commander. So not only is the amount of time necessary, how the time is spent training teachers about management matters as

## MANAGEMENT IN A 1:1 SETTING

well. Training teachers to facilitate more, rather than dictate, is one of the challenges this action research will to focus on.

### **Physical Limitations/Concerns**

The physical hardware headaches loom large in a 1:1 classroom and learning to manage them in a successful way can be difficult. Efav, Hampton, Martinez, and Smith (2004) stated, “Even miraculous positive results on student learning could be discounted if the use of such technology proves a menace for teachers to integrate into their daily practices” (p. 11). These gains in learning are balanced with the “menace” of a different management landscape. Pitfalls with the new technology listed by the research participants were equipment-related and engagement-related (p. 14). For example, teachers found that having electrical cords in the classroom created a new distraction that did not exist prior and therefore had to be addressed. This new physical classroom shift, coupled with students who forget to charge their devices, brings new stressors to the already complicated task of classroom management.

One way to understand the new learning environment is to problem solve with peers. In a summary article of several studies about the cause of failing 1:1 laptop programs written by Bryan Goodwin (2011), he claims that teacher collaboration is a key predictor on how successful a laptop initiative program might be (p. 79). If teachers are given time to consult their peers about how they are using the physical technology, improvement should be expected in a wide range of areas. Sometimes even simple solutions, such as sharing what worked for one teacher’s decision about charging cords can help a colleague to a large degree.

Further along the lines of the physical challenges of a 1:1 classroom, Holcomb (2009) conducted a review of laptop programs in multiple states and schools with numerous socio-economic backgrounds. Her conclusion about physical limitations and concerns was that

## MANAGEMENT IN A 1:1 SETTING

teachers who were unconfident in their laptop and software skills lack the motivation required to manage students and learning in a 1:1 classroom (p. 53). Teachers are ready to help take students' learning higher but need to have the soft skills of managing the new design and layout of the classroom first. Once teachers have the training as well as understand the new physical space, they will feel more motivated to deepen student learning by providing student autonomy.

### **Student Autonomy**

The second theme is related to student autonomy, which is a strategy that requires teachers to take significant risks. Dunleavy et al. (2007) conducted a qualitative study, about value-added teaching based on technology integration, and in particular the areas in which teachers changed their classroom management. In his study, one teacher gave the students autonomy while circulating the room. A different teacher managed the room by limiting students' access through the use of a computer content filter. A filter helps teachers by allowing them to preset what websites their students can access and which ones they don't. The second teacher could then trust that the filter was managing the distraction so she remained at her desk. The teacher who circulated around the room rather than controlling student web-traffic saw better results. Other teachers stated that technology changed the way they taught and presented information (p. 441). This change relates to more constructivist learning and ultimately is better for students. The teachers that choose to adopt more of a commander type role saw the possibilities of the students' products diminished (p. 445). This research reinforces what is already known about educational theories and their effectiveness (Frick, 1989), but is interesting to note here in the field of classroom management because management styles are often more about what a teacher allows rather than prohibits. The study noted however, if a teacher already struggles with classroom management, there are no new tricks to learn when computers are

## MANAGEMENT IN A 1:1 SETTING

introduced. Old methods of redirecting distracted students must be learned before new management strategies can be enacted (p. 449). I believe that although management styles differ widely, simple tenets of 1:1 classroom management techniques can be applied by all staff.

In a more comprehensive look, Hatakka, Andersson, and Grönlund (2013) focused on student choices and the outcomes on student learning. They found that “most students know that their choice to use social media or play games, instead of listening to the teacher or doing assignments and homework, is detrimental for their learning. Still they report having difficulties finding strategies to cope with the distraction (p. 103). However, Hatakka et al. (2013) does qualify this distraction by saying that perceived ‘high achieving’ students reduce their social media use over time while ‘low achieving’ students run into coping problems. The trick for teachers is how to teach this level of autonomy to all students, not just the self-perceived high achieving ones.

The above mentioned articles provide excellent research evidence that classroom management can affect student learning. Since teaching in a 1:1 laptop environment relies on many factors for success, it is good to have this literature to help prove that management is a crucial component. Based on the above-mentioned studies, my action research project aimed to take on a different approach in order to affect student learning. While, Weston and Bain (2010) focused on lack of teacher training, I focused on how to learn new strategies without cumbersome professional development days. Further, Efaw et. al. (2004) explained that hardware can be an issue but my research will not be focused on physical limitations but rather promoting self-discipline. This strategy should transfer to having students remember to charge their Chromebooks and the like. Finally, Dunleavy, Dexter, and Heinecke (2007) come closer to the topic of this research but it is focused on sixth graders and how one particular teacher

## MANAGEMENT IN A 1:1 SETTING

succeeded by giving greater autonomy. My action research used self-discipline and autonomy as a primary classroom-management strategy. This research could add to the existing body of knowledge to give educators another way in which to maximize student learning through the use of classroom management.

### **Methodology**

As discussed in the previous sections, more and more schools are beginning to have one laptop for every student, it is crucial in developing a richer curriculum for higher student learning then having a concrete foundation of management strategies. My action research was targeted at a specific issue; managing a room full of students *with* laptops. In this section of the report about the research methodology, I explain the context and participants, my role as a researcher, classroom management strategies, and data collection and analysis.

### **Context and Participants**

This action research was conducted at Moses Junior High (pseudonym) in Cedar Falls, Iowa. The school consists of students ranging from seventh-ninth grade. The junior high has an approximate enrollment of 525 students and is located in a university community of about 40,000 people. The students that attend the school come from a middle-socio economic background. The research was conducted on a specific group of 8th grade students. This class contains 24 students overall, however, this study focused on fifteen students from this class whose age ranges are 13-14 years old. This class was selected because of their age; 8th grade is an important time to learn study habits before high school. Also, this group was chosen because they are highly representative of the general 8th grade population at the school and the results from them would better suit the stakeholders of the institution. As a final note, all of the students in this group had Chromebook laptops and brought them to use in class every day.

## MANAGEMENT IN A 1:1 SETTING

### **My Role as a Researcher**

I have been teaching at the school where the research was conducted for five years. I teach 9th grade U.S history and 8th grade economics. Economics is a required class for all 8th graders in order to move onto high school. My role as an action researcher allowed me to see my classroom through a new, wider lens. I chose to conduct this research with these participants in order to better understand how students approach learning when they have more technology at their fingertips than at any other part in history. Certainly, this level of connectivity should have an effect on attention and the scaffolding of essential concepts taught during the school day.

I received approval from the Institute Review Board at the University of Northern Iowa. I also received the permission from the principal, the district superintendent, the guardians of the students, and the students themselves. To obtain permission from parents I sent home with students a brief statement explaining the intent of the project and the potential risks that they might face. Also on the permission form, I informed students of the potential benefits and risks of participating. To avoid any ethical dilemmas I had a colleague pass out and collect said permission forms. I did not want students to think they would gain class credit or any other reward not explicitly stated by joining their teacher's study. No research experiment comes without risk. However, between the participants themselves, the parents of the participants, and the inherent parts of the study explained above, students and parents alike could decide if participating was a good idea. I conducted this action research with an expectation to help solve a problem within the whole school, but at this stage it was more manageable to collect the data in my own classroom as an action research project.

## MANAGEMENT IN A 1:1 SETTING

### **Three Classroom Management Techniques Implemented**

I implemented three classroom management techniques for this action research. The first management strategy was to project a large digital timer in front of the room through my laptop. Students were given instructions to finish a problem-solving task that required reading and analyzing within ten minutes. When the timer reached zero students were instructed to stop so that the class could move onto the next activity. All students who participated were involved in this classroom observation. This observation was conducted multiple times during different tasks in an effort to reduce any novelty effect that this new management technique had. The second strategy was to place an “Open/Closed” sign at the front of the room. Students were instructed to adjust their Chromebook lids according to what the sign read. Again, this observation was conducted multiple times to reduce the novelty effect of introducing a new management technique into their classroom routine. The third strategy was to ask students to install an independent extension named “Time Tracker” to their web browser. This extension keeps track of the websites they go to and how long they spend there. This was done for eight days which included a two-day weekend where they were not at school but the tracking continued. It should be known that I had no access to the specifics of this tracking information. I chose these three management strategy methods because they were easy to implement and if the results were favorable they could be easily transferred and taught to other educators.

### **Data Collection and Analysis**

The data collected was qualitative in nature, including interview, observation, and my reflection journals. I chose this method because the goal of my action research was to improve self-discipline within the students. The measures used within the project were better equipped for qualitative questions rather than quantitative numbers.

## MANAGEMENT IN A 1:1 SETTING

To get a better understanding of the students' perspectives and their Chromebook usage, I also collected quantitative data by collecting survey data to determine a base reading for on task efficiency. To triangulate this survey data I developed a correlation between their survey answers and also had them complete a formative assessment in class about the day's objective. As a classroom teacher, I know there are many factors that can skew formative assessment results. Nonetheless I wanted to have some correlative data to go along with the base reading survey. I also developed the semi-structured survey questions while completing my IRB package and received feedback from the IRB reviewer. I also received feedback from my instructor as well as a peer who was currently involved in conducting his own action research project at a different school. After collecting the base data I pursued collecting qualitative data that coincided with the strategies I mentioned in the previous section.

The focus of my observation data was student interaction with Chromebooks, teacher's instruction, and interaction with their peers. I also wrote a reflective journal for each observation and data analysis. In the reflective journal, I wrote what I learned each day and my plan for the next action.

At the end of the eight days, students completed a survey that asked specifically about how much time they spent on their computers overall and their perspective of how that affected their learning. The quantitative data that was collected centered on the formative assessment scores achieved after completing the day's objective. A score of 70th percent or higher was considered proficient. That score was determined based on the district's policy of what constitutes proficiency and is applied by all teachers at the school. The number of students who got one hundred percent as well as those who fell below proficiency was also collected.

## MANAGEMENT IN A 1:1 SETTING

Finally, by using the stratified sampling technique five student were interviewed. This method was chosen to include not all of the participants but rather random individuals from different ability groups as was seen on their formative assessment scores. Also, one student was purposefully chosen because s/he identified in the base reading survey to be consistently off task. The interviews were then transcribed, coded, categorized, and arranged into the themes.

### **Data Analysis**

The quantitative data were statistically analyzed by calculating means and percentages. The short answer survey results were analyzed by categorizing answers and grouping them into themes. After the implementation of each classroom management strategy, I analyzed the observation data by compiling how much time students spent on their Chromebooks. I compared the survey data with observation data. In terms of interview data, I color-coded data first, then arranged them into categories and then to themes. I compared the interview data with the survey data and observation data. I further triangulated my observation data with my reflective journals to better understand how the techniques used, affected students Chromebook usage.

### **Major Findings**

The following four major themes emerged from my action research: 1) participants' initial understanding of classroom management issues in the 1-1 learning environment, 2) their raised awareness about their Chromebook habits during class, 3) their increased proficiency level on formative assessment tasks, and 4) their slightly altered perspectives on how their Chromebook usage affected their academic performance. This section will seek to explore those themes as they were revealed in the data.

## MANAGEMENT IN A 1:1 SETTING

**Initial Understanding**

I started to collect observation data about how students behaved currently even before my class management implementation in order to compare and contrast the results of before and after my action research. To gain an overall view of student's' perspective, I used a survey to collect twelve students' opinions on whether they were distracted by their Chromebook use.

Table 1:

*Results of Pre-Implementation Survey*

Questions	Answers										
How often are you distracted in class with your Chromebook? (scale of 1 time to 5 times)	Mean: 2.33 times										
What did you do when you did not follow the teacher's instruction while using your Chromebook? (Choose as many that apply)	<table border="1"> <tbody> <tr> <td data-bbox="813 1157 1096 1402">Working on an assignment from another class</td> <td data-bbox="1096 1157 1385 1402">10 participants</td> </tr> <tr> <td data-bbox="813 1402 1096 1507">Checking email</td> <td data-bbox="1096 1402 1385 1507">8 participants</td> </tr> <tr> <td data-bbox="813 1507 1096 1612">Playing a game</td> <td data-bbox="1096 1507 1385 1612">6 participants</td> </tr> <tr> <td data-bbox="813 1612 1096 1787">Watching a YouTube video</td> <td data-bbox="1096 1612 1385 1787">4 participants</td> </tr> <tr> <td data-bbox="813 1787 1096 1871">Searching for</td> <td data-bbox="1096 1787 1385 1871">5 participants</td> </tr> </tbody> </table>	Working on an assignment from another class	10 participants	Checking email	8 participants	Playing a game	6 participants	Watching a YouTube video	4 participants	Searching for	5 participants
Working on an assignment from another class	10 participants										
Checking email	8 participants										
Playing a game	6 participants										
Watching a YouTube video	4 participants										
Searching for	5 participants										

## MANAGEMENT IN A 1:1 SETTING

	<table border="1"> <tr> <td data-bbox="813 216 1097 394">something else online</td> <td data-bbox="1097 216 1386 394"></td> </tr> </table>	something else online							
something else online									
Rate how many times a week your teacher redirects you when you are somewhere on your Chromebook that is not related to class.	Mean: 1.75 times								
Which of the following strategies did you use to prevent you from Chromebook distraction? (check all that apply)	<table border="1"> <tr> <td data-bbox="813 957 1097 1209">Limiting the number of tabs you have open</td> <td data-bbox="1097 957 1386 1209">8 participants</td> </tr> <tr> <td data-bbox="813 1209 1097 1314">Close the lid</td> <td data-bbox="1097 1209 1386 1314">4 participants</td> </tr> <tr> <td data-bbox="813 1314 1097 1566">Using paper notes instead of computer notes</td> <td data-bbox="1097 1314 1386 1566">2 participants</td> </tr> <tr> <td data-bbox="813 1566 1097 1808">Tracking time spent on non-educational websites</td> <td data-bbox="1097 1566 1386 1808">1 participant</td> </tr> </table>	Limiting the number of tabs you have open	8 participants	Close the lid	4 participants	Using paper notes instead of computer notes	2 participants	Tracking time spent on non-educational websites	1 participant
Limiting the number of tabs you have open	8 participants								
Close the lid	4 participants								
Using paper notes instead of computer notes	2 participants								
Tracking time spent on non-educational websites	1 participant								

## MANAGEMENT IN A 1:1 SETTING

As indicated in Table 1, to answer the question “How often are you distracted in class with your Chromebook?” on a scale of 1 to 5 times, the mean score was 2.33 out of five with zero students reporting a score of higher than three. Also, only one student reported having zero distractions. This perception is notably different than I have about these students. Students then chose from a list of options pertaining to how they specifically used their devices. Ten out of twelve indicated that they used them to complete assignments from another class. Half of the students reported they checked email, watched YouTube videos, played a game and searched elsewhere online. This level of multitasking and distraction clearly suggests that students possess misconceptions about their own Chromebook use during instruction. When students were asked to give advice to new teachers who had to teach in a room where all students had Chromebooks, all but one student said something along the lines of how the teacher should arrange the room so they could see all screens. Students also indicated on the survey that they were almost never redirected by teachers while on their Chromebook; which, again, is notably different than my perception. Finally, seven out of twelve of the participants suggested that to curb their Chromebook distractions during class they should limit the number of tabs they had open at any one time.

The findings from this initial survey combined with the observations and then paired with the students’ formative assessment results, suggest that students tended to have distracted habits. The learning objective for students was to synthesize what they had learned in previous lessons to explain a type of economy to implement if they were put in charge. Two students failed to complete in time due to their Chromebook use. The remaining ten students were proficient and five of those achieved 100% in their explanations. This level of proficiency can no doubt be improved upon. It was observed that students have a habit of starting class on their devices but

## MANAGEMENT IN A 1:1 SETTING

are quick to comply when asked to close their screens or eliminate tabs. However, after my implementation of classroom management strategies, there was an increased awareness of Chromebook use among the participants. The following findings reinforce the notion that to change student learning, student self perception needs to change.

### **Raised Awareness**

In general, students at Moses Junior High are consistent with coming to class on time and prepared with the necessary materials. However, the habit of coming to class, sitting down, and opening one's Chromebook was immediately noticeable. I observed seven of the twelve participants beginning class with their Chromebooks open and on a different website than was required for economics class. Three of those students were on a textbook website from a previous class that day. The remaining four students were on various social media websites as traffic to those websites are not blocked by any higher authority at the school. As class began and the objective for the day was being announced, all seven of those students had their Chromebooks open. Therefore the first management technique I tried was putting a sign up in front of the class that had "open" on one side and "close" on the other. The sign was explained to the students and the hope was that students would make it part of their routine to notice the sign and make the appropriate decision. After the sign was implemented all students in the class followed its indication. This 100% participation allowed me to know for sure that all participants were involved despite the anonymity granted them from the IRB application.

The second management technique I implemented involved me, the teacher, projecting a large countdown timer in the front of the room. The purpose of doing this was to instill in students the idea that their time was limited. Further, the goal was to eliminate the time for being distracted because students had to complete their task in the allotted time. I was hoping to

## MANAGEMENT IN A 1:1 SETTING

increase efficiency during class. This had an immediate impact on students' task completion. All students finished their formative task and eleven out of the twelve achieved 100%. One participant commented, "Oh shoot, we have to hurry up." Another echoed: "I want to get this done so I don't have homework tonight." Students worked more diligently on their task of comparing economies and showed no signs of distraction. Further, no complaints were heard about this new limit put on their work time. Although, I noted that this technique could not be used every day for a few reasons. After multiple times using the projected timer technique, students slowly learned they only needed to wait out the timer to discover that few to no extra consequences existed by not completing the assigned task. It appears that a novelty phenomenon occurred within the room and that with repeated exposure, students would develop old habits with their class time. Previously, students would claim that they would finish work at home and go on viewing websites on their Chromebook. This notion returned to students feeling as if the timer was a gimmick only to get them to complete work. Second, at times it is not conducive to time students in their ability to understand a concept. Many of the formative tasks assigned to students were simple but certainly a teacher would not want to put time constraints around understanding more complex material. Regardless, an effect was noted using this raised awareness timing technique.

Additionally, students were observed during this technique to communicate with their peers more so than during the base reading. All students participated more openly in seeking information and answers to problems. This potentially has more benefits than simply teaching students about their Chromebook use. During the interviews when asked if students observed this they explained they had not noticed the change but agreed with the observation. They

## MANAGEMENT IN A 1:1 SETTING

explained, “it would be better to hear from my friends more often.” Ultimately, other techniques were needed to discover more truths about the topic.

### **Raised Level of Proficiency**

The ultimate goal of this action research was to find ways to reduce Chromebook distraction as it was thought to be causing a decrease in student learning. Finding out what factors lead a student to not understand an essential concept at school is difficult and is almost always the result of multiple factors. Still, if eliminating a potential contributing factor to a decrease in student learning was possible, I wanted to find out. This section explains the findings as it relates to how students performed on formative assessment tasks.

According to my observations from both techniques, students’ proficiency on assessments increased during this action research. On average, more students received 100% and more students achieved proficiency. I was pleased to discover this information as it was assumed that that would be the outcome. Of those students interviewed, they also observed this change while noting that it was a small change in behavior to accomplish a change in learning. Students were explicitly told in the interview afterward that their scores increased. One student said, “That makes sense.” Another student chimed in saying, “I felt more focused in this class because of being timed.”

This finding, that students felt more accomplished and less confused, is profound. Students also responded that they would use their Chromebook less in the future when a teacher is giving instructions. I also noted a novelty phenomenon, however, with this finding. Students saw the timing as a game, but considered having a sign in front of the room as another rule to follow and therefore only did so with limited enthusiasm. It seemed that when I introduced something new, students were thrilled at a change but regressed slowly back to how I observed

## MANAGEMENT IN A 1:1 SETTING

them during the base reading. Still, it was considered a breakthrough to have students independently report that they felt more successful because of these implemented changes.

### **Raised Perception**

Most nuanced was the fourth theme mentioned. Students distinctly thought that their peers at school had a distraction problem but consistently reported that they were not a victim to such a problem. I have observed that students tend to over-rate their effort when it comes to school work. Frequently, students perceive homework as longer than it will take, and perceive minutes of work on a particular task to equate to hours. This misperception is the root of many conflicts in education. Some educators perceive this to suggest that children are insubordinate or lazy, when in reality; the students feel they did their best. This dichotomy is what made this last set of findings so intriguing. When exposed to the perspective of a teacher who had worked hard to prepare a lesson, the majority of students expressed sympathy explaining, "I never thought about it that way." The findings in this section seek to clarify how Chromebook distractedness has a perception problem.

Students were observed as having a different perception of themselves than I did when it came to their level of distraction with Chromebooks. This was primarily measured by a triangulation of student surveys, observations, and students keeping track of how they spent their time specifically on their Chromebooks. Participants had installed an extension on their web browsers that kept track of how much time they spent on each specific tab as well as kept a running total.

One way in which students' perception was different was how they indicated if they checked their timer throughout the eight days or not. The majority of students said they checked their progress more than once with one student explaining that he/she had checked it five times

## MANAGEMENT IN A 1:1 SETTING

or more. These results speak to the increase in self-awareness they experienced during different parts of this action research project. Also, since formative assessment scores increased, a correlation was found between checking their Chromebook usage and improving their learning. The more often students checked their usage, the more their learning improved.

Next, students were asked an open-ended question about how they perceived their overall results. Again, I could not access their individual itemized results, just the surveys they completed about the task. Although participants could have answered in a variety of ways, the overarching theme of how they responded is that they only felt so-so about their distracted behaviors. One student confessed, "I go on YouTube a lot." This realization has untold consequences as it relates to student learning. Further research should be conducted to see how much learning is lost due to video watching. Additionally, one student explained he was right where he thought he needed to be. He said, "After looking at the results, I feel that I am using my Chromebook in the right way."

Despite seeing their results and the many different sites they visited in eight days, 2/3rds of participants answered, "no" they had not lost out on learning in the past week. These results run counter to the previous findings that they had been gaining a higher sense of perspective. Unfortunately, showing students the amount of time they used their device was not a strong enough indicator to them that they might be distracted at school. Students either reported spending far too little time, an hour (in eight days), or far too much, 29 hours. This extreme range in such a small sample size could be a result of too few participants but if it is similar to other classrooms, it means that some students are dedicating a sizable chunk of their week to surfing the internet. (The time measured was in and out of school). Again, this realization of time spent did not translate into an admission or realization that it could be affecting their learning.

## MANAGEMENT IN A 1:1 SETTING

Table 2: *Post-implementation Survey Results*

Survey Questions	Responses
How often did you check your time tracker during the week? (on a scale from 0 times to 5+ times)	Mean: 3.92
Based on your results, do you think you lost out on learning?	No: 66.67% Yes: 33.34%
What was your overall time spent on different websites during the class time in the last week?	Range: 1 hour 12 minutes-29 hours
Do you think your results are really different than your peers? Or do you expect them to be about the same?	Different: 75% Similar: 25%

Ultimately, students were asked if they thought their results differed greatly than other participants in the study and also the entire school. Nine out of the twelve students reported that they thought their results were higher than their peers at school. Despite the large range in time spent total, the majority of students reported spending most of their time on sites they had been asked to be on with only a slight deviance now and then. The interesting finding here is that students wished to think that they were not distracted but they noticed other people must be. It should be noted that since the school recently became a 1:1 school, teachers have been lecturing in their own ways about the importance of managing a new device. Since how much they internalized these lectures is unknown; it is possible that they are heightened to point out when a student is playing a game in class because it directly conflicts with the information they are

## MANAGEMENT IN A 1:1 SETTING

receiving. Nevertheless, students perceive their Chromebook usage as unique and if other students are struggling academically it must be due to their rampant Chromebook use during class. This finding also helps to explain how students think new classroom management techniques would affect learning for all. Students revealed that they thought if students were tracked by teachers and administrators that they would simply find another solution rather than give up Chromebook time. One participant even offered punishment ideas saying, "I think teachers should take away students computers more."

### **Conclusion and Recommendations**

#### **Summary of the major findings**

The major findings from my action research shows that initially participants lacked an understanding about the proper behaviors for using their Chromebooks. First, it was observed that students have a habit of coming to class starting with their Chromebook open, instead of focusing on the teacher or any work on the board. Second, students were under the impression that their use of the Chromebook was their option. Some students took notes on paper while others typed in a Google doc. It was also observed that these students participated less in classroom discussion and less amongst their peers. Some of these findings could be specific to my classroom and my style of teaching. Nevertheless, it provided lots of room for improvement.

After implementing a digital timer, there is an immediate impact on students' task completion. Students begin to make the amount of work on the Chromebooks fit the time given. Although, there did seem to be a novelty impact at first, the results showed that a small increase in engagement is to be expected with this strategy. Further, students were more willing to discuss potential answers and were more on-task. Two immediate downsides to this tactic were: the effects spiked and then wore off, and the decrease in differentiation. First, the results were

## MANAGEMENT IN A 1:1 SETTING

highly encouraging. More work got done in a less amount of time and therefore student learning increased. More students performed highly on the formative assessments and were less distracted. However, by the fourth time of implementation I observed students returning to old habits and knowing that if the timer expired, possibilities existed to still complete the assessment. Second, some students in a school have an Individualized Education Plan that requires that extra time be given on tests and homework. By intentionally limiting time, it robs students of part of their education plan that they are promised.

When I had students track their own Chromebook usage, the perception they had about themselves was revealing. Students claimed that they noticed their peers were distracted by Chromebooks but they themselves were not. Further, students explained that they thought their peers learning was hindered but their own was not. This result was surprising in as much as it shows the level of awareness that students have. Based on this finding more research is recommended but it can be said that students are not aware of how their Chromebook use is affecting their learning. Overall, changing the habits of students starts with increasing student self-awareness.

The impact of my action research has several aspects, some minor and others potentially major. First, I will specifically address what I have learned from this action research. This study has changed how I will teach in a 1:1 environment in the future. The biggest take away is realizing that students simply do not recognize that their Chromebook usage is taking away from their learning. So, instead of taking away the device or switching the lesson to more traditional tools, I will make an effort to communicate the role of the Chromebooks in the class. I will engage students in written reflection about the change of their habits. To that end I will have bi-weekly checks where students will rate how they feel they did with their computer and then

## MANAGEMENT IN A 1:1 SETTING

record their current grade in the course. This intentional connection will impact students habits based on the findings I discovered from this action research report.

Secondly, I will address the impacts at the school I work in. It is difficult to pinpoint what detracts from a student's ability to learn. The school day has so many interventions and complex moving parts that it is difficult to discern what caused a particular student on a particular day to perform like s/he did. There are of course theories. However, as it pertains to this subject I will only focus on technology-aided distractions. As more and more direction comes from administrators for educators to steer their classrooms towards the use of technology, it is more pertinent than ever to learn instructional practices that succeed in a 1:1 environment.

At Moses Junior High, teachers are looking for ways to improve student learning. Many teachers have complained about a drop off in attention since the introduction of Chromebooks in students' lives. These findings would greatly improve the chance that a student focuses more in class. Sharing the techniques used within this study with others will change the habits of students one day at a time. Perhaps not every teacher was fully prepared to deal with Chromebooks in the classroom and was therefore unaware at the magnitude this change could have in the classroom.

No one technique was found to be a home run fix. Rather, the findings suggest that the root of the problem is two-fold. First, students perceive themselves as being on task when, in reality, they are distracted. Second, if students are forced to change their routines in how they handle the Chromebooks, changes can be seen in as little as five attempts with the new routine. At a local school level this revelation is profound. Until now, many students and teachers alike have decided that students will make the best choice for themselves when it comes to Chromebook use. However, it was found that students think they know what is best but results

## MANAGEMENT IN A 1:1 SETTING

proved otherwise. Therefore, communicating more often about proper Chromebook usage and establishing dedicated intentions, would decrease the amount of pupils distracted and thus improve student learning.

First, I will share this information with our district technology leaders. Our school district has a technology coordinator what could help disseminate this research to more teachers than just at my school. Second, I will share what I learned from this report during professional development days at the beginning of the school year. Since so much of what students do with their computer relies on routine, it is imperative that teachers establish communication and routine in the beginning. One potential hurdle to this is that some teachers simply do not use the Chromebooks often enough to warrant establishing good habits. However, the information should still prove helpful. Also, I will communicate that students perceive themselves as doing nothing wrong when they are on a different tab than what the teacher directed. So instead of getting angry or changing activities, teachers will know to teach awareness. It would be best if teachers successfully modeled this with their own device use.

The goal of my action research was to find a home run fix-all technique that could be found by simply observing and surveying students. I would like to acknowledge the two major limitations of my study. I only conducted this research in a short time frame—only eight weeks. Therefore, there is a novelty effect about the implementation of the three classroom management strategies. Also, the results of this study were limited by my personal bias, such as a lack of research experience (the first time to conduct action research), and the close relationship with the participants. It is therefore more likely I might project my previous impressions on students. Third, there was a limited number of participants for this study—twelve students.

## MANAGEMENT IN A 1:1 SETTING

It is encouraging to have found improvement through minor twists in habit, but it appears that it would require more research to find a more efficient way for students to be self aware about their Chromebook use. Originally, I expected to find that once students were shown data that correlated to their scores on assessments, they would change their habits. Unfortunately, the findings from this report suggest otherwise. Although students did change initially, they began to resume old habits after a while. It was disappointing to see that behavior had not changed. Also, I assumed that having students dedicate this much discussion and analysis to the topic would communicate, at least on a subconscious level, that this was something their teacher valued and hence they would increase their opinion of it.

The limitations of this research posed a problem in finding mass answers. I believe that teachers at my school could use these techniques and see an acceptable result. However, the participating students were low in number and in diversity. It is too difficult to use some of the survey and interview responses and apply it to a larger group. In future studies, it would be better to poll an entire population of a school. This of course would require a much longer period for which to conduct the study due to the number of observations and interviews that would need to be conducted. Despite these limitations, conclusions can be drawn that have a meaningful impact for teachers.

In conclusion, the findings of my action research suggest that other teachers would benefit from studying these results. Students want to learn but are just as lost about adding a teaching tool to their learning regimen as educators are. Considering the immense scope of possibilities that the device promises, it is clear that teachers will need to learn how to best use them, rather than ignore or hide them.

## MANAGEMENT IN A 1:1 SETTING

### **Recommendations**

It is recommended that if schools are going to go 1:1, and it is my opinion that they should, they should have specific training in place that helps teachers manage the change. As stated previously in Weston and Bain (2010), educators create better learning environments when accurately prepared in incorporating technology. Teachers can still manage their rooms in their own style and certainly do not have to follow a script. However, the information in this report suggests that instilling better habits would go a long way in increasing student learning.

Teachers should communicate more about their expectations for Chromebook use in class. Although student choice is admirable, and in some cases desirable, the findings recommend that students learn about how to establish strong routines. This can be accomplished by more frequent communication from their teachers.

Finally, it is recommended that further research be done concerning self-awareness in students. Although this is admittedly a difficult and complex topic, more research on what causes adolescents to shift their thinking about how they learn can only improve student learning overall.

### **Reflection and Conclusion**

Much is at stake within the results of this research. Students that are in 1:1 school buildings are given greater access to resources and the ability to create products that increase their learning. It also connects them to other learning communities like they never have before. The research question posed at the beginning of this paper, and the results found, offer a new perspective on the emerging topic of managing and preparing for classrooms filled with devices in the hands of every student.

## MANAGEMENT IN A 1:1 SETTING

I appreciate how the process of action research allows for immediate feedback. While there were challenges to this particular research project, overall, the results can help teachers. First, teachers can immediately begin to change the habit of their students by using the open/closed sign technique. This will help students enter the classroom knowing that the teacher recognizes the existence of the devices and is intentional in their use. This elevated level of trust will address the comments made by the participants in this study that they felt disconnected to the material. Second, teachers can have students track their Chromebook use to help change their self-awareness and engage them in personal reflection. This technique would begin to show students their level of distractedness so they can identify next steps in becoming better learners. These techniques and others will have an immediate effect on classrooms and students.

In conclusion, this action research contributes to the budding literature on the subject of classroom management in 1:1 schools. Although it may not answer as many questions or solve as many problems as intended, it is a step in the right direction towards using internet connected devices to their potential. When teachers understand the perspectives of their students, they will be able to deliver instruction in a more engaging and rich manner. This will ultimately lead to an increase in student learning.

## MANAGEMENT IN A 1:1 SETTING

**References**

- Baiocco, C. A. (2013, January 1). *An exploration into teachers' perceptions of professional development and the influence on school culture* (Doctoral dissertation). Retrieved from *ERIC, EBSCOhost*. (ED556175)
- Bebell, D., & Kay, R. (2010). One to one computing: A summary of the quantitative results from the berkshire wireless learning initiative. *Journal of Technology, Learning, and Assessment*, 9(2), 1-60.
- Bebell, D., & O'Dwyer, L. M. (2010). Educational outcomes and research from 1:1 computing settings. *Journal of Technology, Learning, and Assessment*, 9(1), 1-16.
- Dunleavy, M., Dexter, S., & Heinecke, W. (2007). What added value does a 1:1 student to laptop ratio bring to technology-supported teaching and learning? *Journal of Computer Assisted Learning*, 23(5), 440-452. doi:10.1111/j.1365-2729.2007.00227.x
- Efaw, J., Hampton, S., Martinez, S., & Smith, S. (2004). Miracle or menace: Teaching and learning with laptop computers in the classroom. *EDUCAUSE Quarterly*, 27(3), 10-18.
- Frick, E. (1989). Theories of learning and their impact on OPAC instruction. *Research Strategies*, 7(2), 67-78.
- Greaves, T., & Hayes, J. (2008). *America's digital schools 2008: Six trends to watch*. Shelton, CT: MDR.
- Goodwin, B. (2011). One-to-one laptop programs are no silver bullet. *Educational Leadership*, 5, 78-79.
- Hatakka, M., Andersson, A., & Grönlund, Å. (2013). Students' use of one-to-one laptops: A capability approach analysis. *Information Technology & People*, 26(1), 94-112. doi:10.1108/09593841311307169

## MANAGEMENT IN A 1:1 SETTING

- Holcomb, L. B. (2009). Results & lessons learned from 1:1 laptop initiatives: A collective review. *Techtrends: Linking Research & Practice to Improve Learning*, 53(6), 49-55.  
doi:10.1007/s11528-009-0343-1
- McGrail, E. (2007). Laptop technology and pedagogy in the English language arts classroom. *Journal of Technology and Teacher Education*, 15(1), 59-85.
- Stager, G. S. (2015). Outside the skinner box: Can education technology make a course correction?. *Independent School*, 74(2), 26-33.
- Weston, M. E., & Bain, A. (2010). The end of techno-critique: The naked truth about 1:1 laptop initiatives and educational change. *Journal of Technology, Learning, and Assessment*, 9(6), 1-26.
- Windschitl, M., & Sahl, K. (2002). Tracing teachers' use of technology in a laptop computer school: The interplay of teacher beliefs, social dynamics, and institutional culture. *American Educational Research Journal*, 1, 165.

## Appendix

### Participant Interview questions

1. Please share your experience of using your Chromebook to accomplish tasks the teacher setup for you.
2. Please share your experience as detailed as possible.
3. Let's talk one task at one time?
4. How do you use the Chromebook for academic learning in general, and for learning
  - a. Social Studies in particular?
  - b. Please provide some examples.
5. What are some changes in your habits of using Chromebook?
6. What have you gained by monitoring your Chromebook habits?
7. What are the techniques you used to manage your Chromebook use translate well to other parts of life?
8. What would you change about the techniques that could possibly increase your focus?