NEVADA READY 21 IMPLEMENTATION AND OUTCOME EVALUATION

First Year One-to-One Implementation at Traner Middle School

2018-2019
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CONTENTS

EXECUTIVE SUMMARY

Traner Middle School became a one-to-one school during the 2018-2019 school year with every student receiving a personal device to use in school and at home. The Office of Accountability conducted an implementation and outcome evaluation to assess the strengths and areas of opportunities to strengthen the program after its first year of implementation.

Implementation

Generally, the one-to-one program was implemented as planned with strong support from the Office of Technology and Digital Learning Coaches. Every student received a personal device for school and homework. Based on the BrightBytes survey data, implementation was generally successful. Teachers report that almost all students (96%) regularly have access to a computer in class and that other components of the program (e.g., on-site technical assistance) have been successful. Based on the BrightBytes survey, the majority of students report they are regularly asked to use 21st century competencies in the classroom such as collaborating with classmates, developing multimedia a presentations, or conducting research.

Focus groups with students indicated that students benefitted from having a way to track their homework and assignments digitally, that communicating with their teachers was often easier digitally, and that the collaborative projects the devices facilitated were helpful. Most teachers in the focus groups thought the devices had helped improve their capacity to develop students' 21st century skills. They noted having tech support on campus was critically important for effective implementation.

Barriers to implementation included inappropriate use of the devices in class (e.g., games) and lack of clear expectations for computer use; themes that came up frequently in student and staff focus groups. Focus groups with students indicated that the added responsibility of having to keep track of a device was challenging. They were also frustrated by behavior policies that punished them when they did not bring a charged computer to school. Some students indicated they wished devices were used less often in the classroom, as they were often a distraction to learning.

School Engagement

Based on the climate survey, 7th grade students reported higher engagement compared to their 6th grade year. Eighth grade students did not report changes in school engagement. Students were less likely to be absent during the first year of one-to-one implementation compared to the previous school year.

Student Behavior

Based on the climate survey, both 7th and 8th grade students reported an increase in student respect and a decrease in bullying compared to the previous school year. Teachers reported an improvement in student behavior during the 2018-2019 school year. However, students were more likely to be suspended from school during the first year of program implementation compared to the previous school year.

INTRODUCTION

The Nevada Ready 21 (NR21) grant aims to provide students with a technology-rich education that includes the development of 21st century skills. The 2018-2019 school year was the first year that Traner Middle School implemented a true one-to-one program. Every student received a personal device that they could use in school and take home to use for schoolwork. In addition, there was on-site technical support and technology coaches to help teachers and students with implementation and provide support when needed. Prior to implementation, teachers participated in professional development to increase their understanding and integration of 21st century competencies and technology instruction in the classroom.

EVALUATION METHODOLOGY

The purpose of this evaluation is to provide an initial report of the one-to-one program at Traner Middle School after one year of implementation. The Office of Information of Technology asked the Office of Accountability for support with a comprehensive evaluation of Traner's one-to one-initiative. The Office of Accountability developed an evaluation plan to examine the following research questions:

Program Implementation Research Questions:

1. Were the one-to-one program activities implemented as planned at Traner Middle School? What was successful about implementation? What barriers occurred during implementation and how were they addressed?
2. To what extent are students learning and using 21st century competencies in the classroom?
3. Did program implementation (e.g., use of 21st century competencies in the classroom) improve at the end of the 2018-2019 academic year compared to the beginning of the school year?

Program Outcome Research Questions:

4. Has school engagement improved since the implementation of one-to-one?
5. Has student behavior, and teachers' perceptions of students' behaviors, improved since the implementation of one-to-one?

We used the following data sources to answer the research questions:

BRIGHTBYTES SURVEY DATA

Students and teachers participated in a survey through BrightBytes.net to explore 21st century learning and assess program implementation. Five hundred ninety-six students and 41 teachers completed the pre-survey between September 24-October 22, 2018, and 518 students and 48 teachers the same survey at the end of the year between April 15-May 13, 2019. Students and

teachers responded to questions in four main categories: classroom, access, skills, and environment.

Classroom

Teachers and students respond to how often they use or are asked to use the "4Cs": Communication, Collaboration, Critical Thinking, and Creativity. For instance, students were asked to indicate how often they collaborate online with classmates: at least weekly, monthly, every few months, or never. Students and teachers are also asked about digital citizenship such as how often they are taught to act respectfully online.

Access

Students and teachers are asked about their access to computers at both school and at home.

Skills

Students and teachers responded to questions about their foundational, online, and multimedia skills. Foundational skills include items like "I learn technology easily" and participants indicate their agreement with this statement on a 5-point Likert scale from 1 "strongly agree" to 5 "strongly disagree." Online skills include questions regarding frequency of social media use as well as how easy or difficult it is for students to download and install software.

Environment

Teachers were asked questions about policies, support, and professional learning around technology use in the school. In addition, both teachers and students were asked about how they felt technology influenced their learning and education.

CLIMATE SURVEY DATA

Each year, all WCSD students in grades 5-9 and 11 complete a school climate survey that asks them questions about their perceptions of their school and their social and emotional competencies (SECs). The survey is typically administered in the spring, however, in the 2018-2019 school year the survey was administered in late fall to reduce spring testing burdens on schools and students.

Participants

For the current evaluation, we assessed three years of climate data and two cohorts of students. Students enter their student ID when they take the climate survey, which allows tracking of students from year-to-year. We were thus able to assess if students reported any significant changes in their perceptions of school climate and SECs from year-to-year. For each climate variable, we ran multilevel models to allow us to examine any changes overtime within each

student. To assess changes within the same students, we examined an 8th grade and a 7th grade cohort of students.

8th Grade Cohort. At Traner Middle School, there were 91 students who were in 8th grade during the first year of one-to-one implementation and who also took the climate survey all three years they were enrolled at Traner. We examined these students' climate survey responses and compared them to their previous two years of middle school (the 2017-2018 school year and 2016-2017 school year).

For comparison, we also examined trends in student climate data at a similar middle school in the district. This school was chosen because it had the same 6-8th grade configuration as Traner, and in previous years has had similar test scores and demographics, including the percentage of students who quality for Free or Reduced Lunch (FRL). At the comparison school, 89 students took the climate survey all three years they were enrolled at that middle school.

7th Grade Cohort. There were 140 7th grade students at Traner Middle School during the first year of program implementation (2018-2019 school year) who also took the climate survey the previous year in 6th grade. Using multilevel modeling, we assessed these students' climate responses in their 7th grade year when one-to-one was implemented, and compared them to their 6th grade year prior to the one-to-one program.

We examined the trends in student climate data at three similar middle schools in the district. These schools were chosen because they have the same 6-8th grade configuration as Traner and have had similar test scores and demographics in previous years. At two of the comparison schools, this was their first year on a 6-8th grade configuration (they previously only served 7th and 8th grades) and thus were not able to be used to compare to the 8th grade cohort.

Measures

Student Engagement. Students responded to seven questions to assess their level of engagement with school. For example, students indicated their level of agreement on questions such as "Most of what I learn in school is interesting," and "School keeps my mind really busy." All responses are on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). All seven items are then averaged for a total score on school engagement. A mean score of 2.5 or higher would indicate that students are generally agreeing with each statement.

Self-Management of Schoolwork. Students responded to six questions to rate how easy or difficult for them it is do certain behaviors such as "Doing my schoolwork even when I do not feel like it," and "Planning ahead so I can turn a project in on time." Students indicated their responses from 1 (very difficult) to 4 (very easy).

Student Respect. Students responded to six questions regarding student respect such as "Students at my school treat teachers and staff with respect" and "Students at this school think it

is important to follow the rules." As with student engagement, responses are on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree).

Bullying. Students responded to three questions regarding bullying at their school such as "students at this school are often bullied." Responses are coded so that higher numbers indicate more positive responses, or perceptions that there is less bullying.

Staff Climate. Staff also complete a school climate survey each year. Fourteen questions assess how common or uncommon certain student behaviors are such as bullying among students, disruptive student behavior, and truancy. Staff indicate their perceptions of how common these behaviors are from 1 "Very common" to 4 "Not at all common." Unlike with the student climate survey, teachers are not tracked by a unique identifier and so we are unable to compare the same teachers across years. Therefore, we only can compare mean scores of overall teacher responses.

FOCUS GROUPS

Four, hour-long focus groups were held with 11 students and 15 staff members. Students were recruited by their teachers and signed parental consent was obtained. Students participated during the regular school day and staff participated after school. The focus groups all occurred on the same day and were held in the last week of the school year. Two moderators from the Office of Accountability facilitated the focus groups and asked open-ended questions about participants' experiences and attitudes regarding the one-to-one program. The focus group protocols can be found in the Appendix.

ATTENDANCE AND DISCIPLINE ADMINISTRATIVE DATA

We analyzed WCSD administrative attendance and behavior data to assess how school attendance and discipline changed (or didn't change) during the first year of one-to-one implementation compared to the previous school years. We calculated the average proportion of days students were absent each year. For students who were enrolled at Traner at least 10 days, we calculated the number of days absent divided by the number of days they were enrolled. We coded discipline data as either 0 = "student did not have a discipline event during the school year" and 1 = "student had at least one discipline event during the schools year". We did this three times; for minor incidents, major incidents, and suspensions. As with the climate data, we examined data for both the 8th grade and 7th grade cohorts.

8th Grade Cohort. We examined attendance rates and behavior incidents for 8th grade students who were enrolled at least 10 days at Traner Middle School when they were in 6th, 7th, and 8th grades. There were 151 students at Traner Middle School enrolled at least ten days all three years of middle school.

7th Grade Cohort. There were 193 7th grade students enrolled at Traner Middle School during the first year of program implementation who were also enrolled the previous year as 6th graders.

We examined whether this 7th grade cohort of students had any changes in their attendance and discipline during the first year of one-to-one program implementation.

RESULTS: IMPLEMENTATION

EVALUATION QUESTION 1: WERE ACTIVITIES IMPLEMENTED AS PLANNED?

NR21 identified the following primary components of a successful one-to-one rollout, including:

- Distribution of functional, personal devices to each student for school and home use
- Providing a Common Sense Media Digital Citizenship curriculum for students to learn appropriate and productive online behaviors
- Providing on-site technical support for students and staff to troubleshoot any technology issues that might arise
- Professional development for staff to support their understanding of how to use technology as a way to enhance student learning of academic subjects as well build students' 21st century competencies. WCSD defines 21st Century Competencies as the following:
    - Collaboration
    - Knowledge Construction
    - Real-World Problem Solving and Innovation
    - Use of Technology for Learning
    - Self-Regulation
    - Skilled Communication
- Integration of 21st Century Competencies into instruction and student work

Throughout the first year of implementation, the Office of Technology closely monitored and assessed implementation at Traner Middle School. All students received a personal device and completed a digital citizenship curriculum. Staff were provided with professional development before and during one-to-one implementation and regular on-site support was available. Listed below is a snapshot of the implementation results from the perspective of students and teachers obtained from the BrightBytes survey data:

- ✓ All students received a personal device to complete schoolwork
    - 96% of teachers reported that they are able to obtain computers for their students when they need them "All the time"
        - 2% of teachers reported they are able to obtain computers for their students "Over half the time"
        - 2% of teachers reported they are never able to obtain computers for their students when they need them
    - 84% of students reported being allowed to take their computers home

- 69% of teachers perceived the quality of computers to be “Excellent” or “Above Average”. Only 9% of teachers reported the quality of computers is “Below Average”

✓ All students have completed the WCSD Common Sense Media Digital Citizenships curriculum, through which they learn appropriate and productive online behaviors
- 84% of students reported that they were taught how to act respectfully online
- 80% of students reported they that were taught how to protect their identity through the safe use and storage of person information
- 81% of students reported that they were taught how to check that websites are safe
- 70% of students reported that were taught how to be careful of emails form unknown sources
- 57% of students reported they were taught how to share information about themselves online

✓ Professional development for staff to support their understanding of how to use technology as a way to enhance student learning of academic subjects as well build students’ 21st century competencies
- 87% of teachers reported they spent at least nine hours participating in school-sponsored professional development
- 87% of teachers agree or strongly agree that technology use in class can enhance student learning
- 64% of teachers agree or strongly agree that learning is more engaging when using technology

✓ Providing on-site technical support for students and staff to troubleshoot any technology issues that might arise
- 73% of teachers report that the quality of support for problems disrupting instruction is at least average or above
- 89% of teachers report that the quality of support for answers to routine questions is at least average or above

All students received a personal device to use at school and at home. Most students used their device in the classroom. Focus groups revealed that some students lost their privileges or were not able to use the computers in the classroom. This was sometimes a burden for teachers who had to develop two lessons plan: one for most of the students who had their computers and one for students who did not. It is unclear how many students did not have a computer to use, but according to the BrightBytes survey data, 4% of teachers reported that students did not have access to computers all of the time. The overall quality of computers was also rated highly by the teachers.

The majority of students reported that they were taught how to act respectfully online and protect their personal information. Just over half (57%) of students reported they were taught how to

share information about themselves online. Overall, it seems that most students reported they were taught safe online behaviors.

Having technological support readily available is critical for successful implementation of one-to-one initiatives (Penuel, 2006). It is important to have available onsite assistance who can address any technological issues that arise so that such issues do not impede instruction time. According to BrightBytes post-survey data, 89% of the teachers reported that the quality of support for answers to routine questions is average or above average (compared to 73% in the pre-survey).

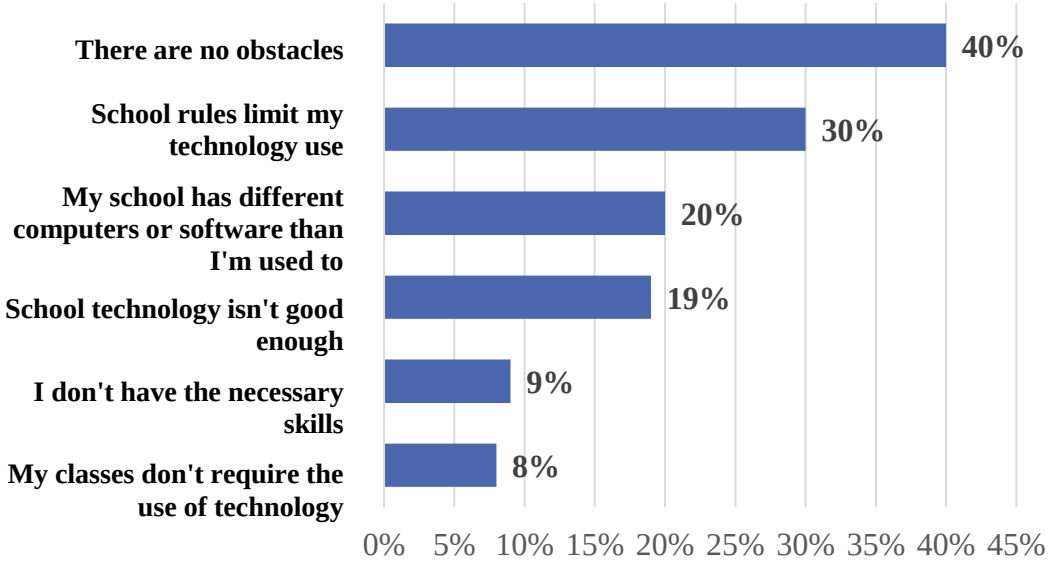
It is evident that in order to continue to implement one-to-one successfully, there needs to be a full-time staff person who is available to address technical issues that arise. Teachers expressed great appreciation and highlighted the importance of having a full-time staff member dedicated to addressing technological issues in focus groups.

> "*Having that one dedicated one-to-one person, as opposed to in years past when we've had technology people part-time, or they had split roles – having [one person] do that as his sole job is necessary"* - Teacher
>
> *"The system we had worked out was for [the IT person] to go to the kids to minimize instructional loss so kids weren't wandering around and looking for [that person]. That only works if your IT person is monitoring it at all times – which he did."* - Teacher
>
> *"One of the best ideas was help request – if a student had an issue, they can sit there and send an email for a help request and he can just find them – he can just look at their schedule and see what room they are in."* - Teacher

BARRIERS TO IMPLEMENTATION

While many aspects of the implementation of the one-to-one initiative were successful, there were still significant challenges to successful implementation. In the BrightBytes survey, students were asked what some of the obstacles were that prevented them from use of technology at school. As seen below in Figure 1, 40% of students indicated that there were no obstacles. However, the most common obstacles students cited were school rules and the software being different than what they are used to.

Figure 1. Student Reported Obstacles to Implementation



Many of the barriers to implementation were made evident in both the teacher and student focus groups. Below we describe some of the most common barriers noted by teachers and students. Although these were significant barriers to implementation that do need to be addressed, it is important to note there were also many things that went well for program implementation. Both teachers and students identified many benefits to the technology (as described later in the evaluation) despite the following barriers.

Inappropriate use of the devices

Both teachers and students noted during focus groups that the devices were not always used for academic reasons and often distracted from learning. Students recognized how easily distracted they could get using the devices.

> "*I would get distracted like, I would watch YouTube or I would play games*" - Student

> "*Lots of people are just messing with google and not listening to teachers*" - Student

> "*Some kids don't listen to the teacher now, the boys mess around more and play games and our teacher broke down a few times. They were so frustrated with it*." - Student

> "*Computers get too distracting, some kids are hiding behind their screens in class so they can be on their phone*" - Student

Students also admitted that having the devices made cheating much easier.

> "*People can also share tests and copy off each other now. I've done that a ton. So much easier to cheat*." - Student

Students mentioned that not all students took care of their devices and some devices had cracked screens or were missing keys. As mentioned above, when students did not have their devices or power cords for whatever reason, teachers often had to spend extra time planning two lessons: one for students with computers and one for students without computers.

> "*I think it created a ton of frustration. Had to police kids a lot more. They know when I go to laptop to monitor them, they'd flip over and change what they were doing. They flung their computers around. You're asking a lot for 11 or 12 year old*." - Teacher

> "*The trouble I'm running into is that we have several students for whatever reason no longer have a computer. And so now if you use the computer you also have to have a pencil/paper option for students without computers. So it ends up being twice the work. You can plan this great [lesson] and websites can have all this great information, and now you have to come up with something else for those who don't have a computer*." – Teacher

Many teachers expressed grave concerns regarding video game distractions.

> *"We should not downplay the video games and the addiction for games and notifications on everything. It's a problem as a society that I think really needs to be looked at. Everyone says – just teach them not to use it – teach them how to regulate their time. But they are addicted – you can't tell an alcoholic not to drink. This is addiction we are dealing with and it's not about just teaching them the right way."* –Teacher

Further, many teachers noted how quickly students were able to learn work-arounds and loopholes in order to access inappropriate content or evade monitoring via Landschool. Teachers described several loopholes students used to avoid content restrictions on the student Wi-Fi network included students using hotspots on their phone, using the incognito window, or used the guest Wi-Fi. Students would then quickly communicate how to "game" the system to their peers.

> *"It sucks that they found them [the loopholes] but it's also really cool because they are thinking so creatively – you're in trouble but good job! Now can we put some of that energy toward your math homework?"* – Teacher

> "*There were just too many workarounds that were easy for them to figure out. Then once one knows how to bypass something, it spreads like wildfire. I even had them all forget the guest network, but they figured out how to get around that*." – Teacher

Teachers unanimously wished more games could be blocked (and more permanently). However, teachers did request more flexibility around which sites and applications are blocked. For instance, many teachers used YouTube as an important teaching tool in their classroom.

> *"I would be devastated if YouTube was blocked because I've had kids where I've tried to teach something five different ways and they are still not getting it, so I have them go on YouTube and find their own videos to get it from there. And that works."* – Teacher

> "*If we could just figure out a way to block Fortnight that would solve a lot of problems*." –Teacher

> "*I wish we had a way to add software programs to override the "adding apps function.' Teachers should be able to disable that and download what they need and use professional judgment*." - Teacher

Using the technology as a resource, not a replacement for teaching

Preliminary research suggests that blended learning, or the combination of both face-to-face instruction and online instruction, is moderately related to better outcomes compared to face-to-face instruction only or online instruction only (Means et al., 2009). Teacher focus group results indicate that there is a learning curve around how to effectively use the new technology to enhance student learning, rather than replace in-person instruction. At first, teachers felt like they had to use the devices in their classrooms all the time. As the year progressed, they learned how to use the devices more efficiently in their classes.

> "*The [computer use] was heavy in the beginning and I feel like it just naturally balanced out. The feedback from the kids helped with that, we as a staff are learning how to use it in a more meaningful way and so we didn't feel that pressure to have to use it just because they were new and we were starting to use them more authentically*." – Teacher

> *"[It's important] to listen to the kid's input on whether or not they are feeling burnt out by the technology. Because that happened around the end of the 1st quarter – the kids were just like "I hate the laptops right now, my eyes hurt form looking at the screen every class."* – Teacher

> "*Just having the awareness that the technology does not replace good teaching. If what you were doing before computers was good, it can make it better. It could get better with technology, but it also might not*." - Teacher

Students also did not want to use the computers all of the time. There were times when students indicated they would have preferred using pencil and paper.

> "*I really don't like using my computer…I'd rather do paper stuff [written assignments] so it won't be as complicated as using the computer*" - Student

> "*Back when I didn't have it, we worked with partners face to face more instead of being on computers. I liked that better. You could talk more, but now everyone just sits with each other on their computers and doesn't talk.*" - Student

Student lack of computer literacy skills

Teachers learned quickly that many students did not know basic computer skills like how to open a Word document or turn their computer on and off. Many teachers had to spend instructional time filling in gaps in students' basic computer literacy skills before they could use the devices for classroom instruction.

> "*So many kids need basics of computing. You mistake their fluidity with social media as computer literacy, but they really don't have that and need a class on it*." –Teacher

> "*I had a ton of kids who had never learned how to open a Word document*." – Teacher

> "*I had students who didn't know how to escape from programs. Like, just hit the escape button. Or control-alt-delete. Or copy and paste*." – Teacher

Lack of clear computer use guidelines for students

Some staff indicated in the beginning of the year, there were not clear expectations for computer use. Teachers reported that students would often forget their computers or would forget to charge them and thus could not be used in class.

> *"We didn't have our progressive discipline squared away from the start and I think that was a mistake."* – Teacher

> *"Our biggest struggle 1st semester was allowing for loaners because it encouraged irresponsibility on the part of the students; if they forgot their computer for whatever reason, we would just provide them with a loaner."* – Teacher

> *"Go in with very clear and explicit expectations: you will come to school with your laptop every single day if you don't there will be repercussions, your laptop will be charged every day – if you don't this is what happens. Without that, it's hard"* – Teacher

> *"They come in with a charged cellphone but not a charged computer. And I want to see real consequences when they are consistently coming unprepared for class."* – Teacher

Students noted that the increased responsibility was sometimes burdensome. Several students also indicated the computers were heavy and that made it difficult to carry them around school all day.

> *"It's our responsibility to keep it safe. But we're still young and you make mistakes"* - Student

"If you don't charge your computer, you get a write-up. If it's my computer to use, don't I have right to charge it and use it the way I want?" - Student

"I was always too tired to charge it when I got home late. How many of you charge it as soon as you get home <no hands up>. Yeah, that's what I thought. Then I was always rushing to do it in the morning." – Student

"There's a lot of responsibility which is a good thing for the people who actually want to be responsible. It's a bad thing for the people who are irresponsible and don't care." - Student

"*We carry our binder and our computer on top and it's heavy*" – Student

Problems with computers freezing in class

"*Sometimes it freezes, and you have to restart it again. And after like 3 minutes if you don't the cursor, it freezes again and you have to restart it. It's so annoying to me, because when I'm doing a test and I'm on the last question, I get so mad because I have to restart it*." - Student

Lack of Wi-Fi in students' homes

Several teachers brought up the concern that many students do not have Wi-Fi in their homes. This made access at home not equitable for all students.

"*A lot of kids didn't have Internet at home. Makes it hard for kids to do what they need to do when they don't have internet*." - Teacher

"*I think it's important not assuming kids know the basics. They couldn't even answer the question about whether they had internet on Brightbytes, because they don't know the difference between having a data plan and having full-time Internet through Wi-Fi*." - Teacher

"*We are a low SES school, one of our biggest barriers is the majority of families do not have Wi-Fi at home. So this whole idea of oh it's so great because you have one-to-one classroom, is not accessible to everyone. That is something they need to be cognizant of. I know recently someone got a grant to get kids mobile hotspots – that's really awesome because we could offer that to our families in need. I did not realize how few students had Wi-Fi.*" - Teacher

Implementation Key Findings

- Generally, the one-to-one program was implemented as planned with strong support from the Office of Technology and Digital Learning Coaches; every student received a personal device for school and homework
- The first year of implementation resulted in a huge learning curve for both teachers and students. As the year progressed, teachers learned how to best use the devices in their classroom
- The lack of progressive discipline and computer use rules/guidelines made it difficult for teachers to know how to respond when a student forgot their computer or their computer was not charged
- Distractions on the computer, such as video games, were a significant source of concern for both teachers and students

EVALUATION QUESTION 2: TO WHAT EXTENT ARE STUDENTS LEARNING AND USING 21ST CENTURY COMPETENCIES IN THE CLASSROOM?

The one-to-one initiative also aims to enhance students' day-to-day learning and use of six core 21st century competencies: collaboration, knowledge construction, real-world problem solving and innovation, use of technology for learning, self-regulation, and skilled communication. To assess 21st century competencies, we examined data from a BrightBytes survey which students in teachers completed in September/October of 2018 (pre-survey) and again in April/May 2019 (post-survey).

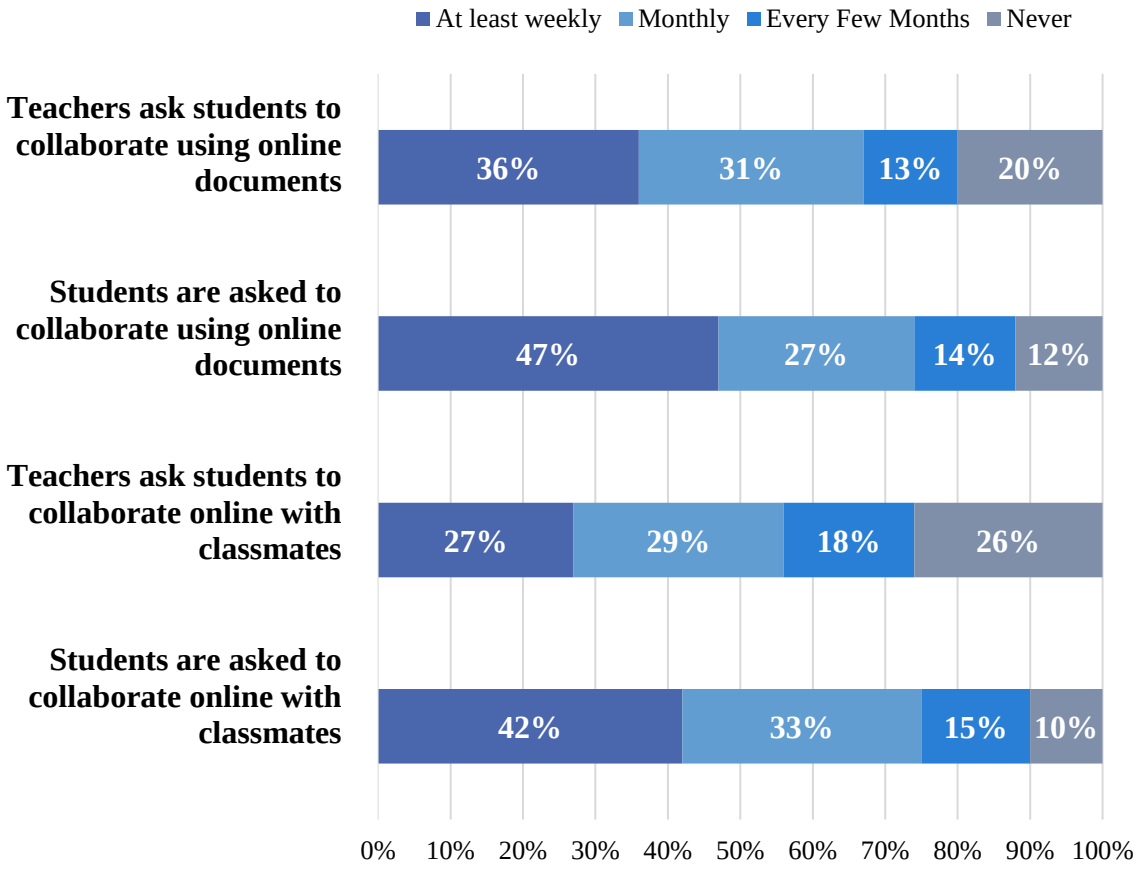
COLLABORATION

- ✓ **75% of students report being asked to collaborate online with classmates at least monthly**

Students can use their personal devices to collaborate with their peers online. Survey results show that 75% of students were asked to collaborate online with classmates at least monthly. Figure 2 shows how teacher and students responded to collaboration questions in the BrightBytes survey.

"I feel like the students are more comfortable asking other people for help. Whether it's related to the content or the technology, they are willing to ask someone else for support if they need it." – NR21 teacher

Figure 2. Teacher and Student Perceptions of Collaboration Use

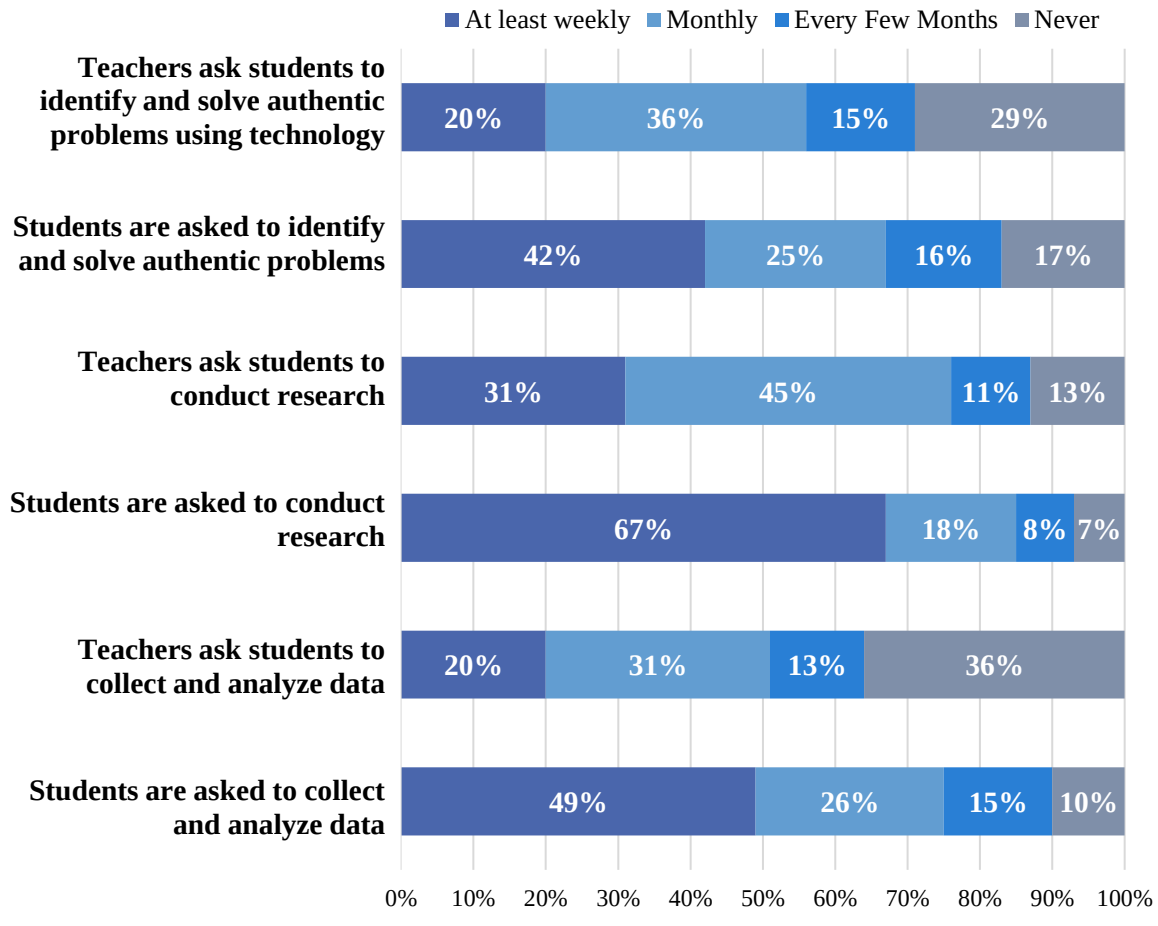


"We like collaborating in google docs. And it makes presenting easier. And it's actually fun because you get to talk to your friends." – Student

- ✓ **67% of students report they are asked to identify and solve authentic problems at least monthly**

Knowledge construction is an important 21st century skill in which students build knowledge rather than just simply accessing or reproducing knowledge. In the post-survey, two thirds of students reported they were asked to identify and solve authentic problems at least monthly. Figure 3 shows how both teachers and students responded in the BrighBytes survey.

Figure 3. Teacher and Student Perceptions of Knowledge Construction Use



REAL-WORLD PROBLEM SOLVING AND INNOVATION

- ✓ **58% of students say they are asked to plan and manage a process for solving real-world problems that considers advantages and risks at least monthly**

Real-world problem solving is an important skill for students to develop. Students do so by working on a substantial real-world problem, or engaging in an activity that involves the creation of a new product, method or idea.

USE OF TECHNOLOGY FOR LEARNING

- ✓ **66% of students say that at least monthly they are asked to use computers to solve problems efficiently**
- ✓ **69% of students say they are asked to use digital tools to collect and organize information at least monthly**

The one-to-one initiative allows for all students to use technology to engage in learning. Students can use technology for a lesson, and at a higher level can use technology to construct knowledge.

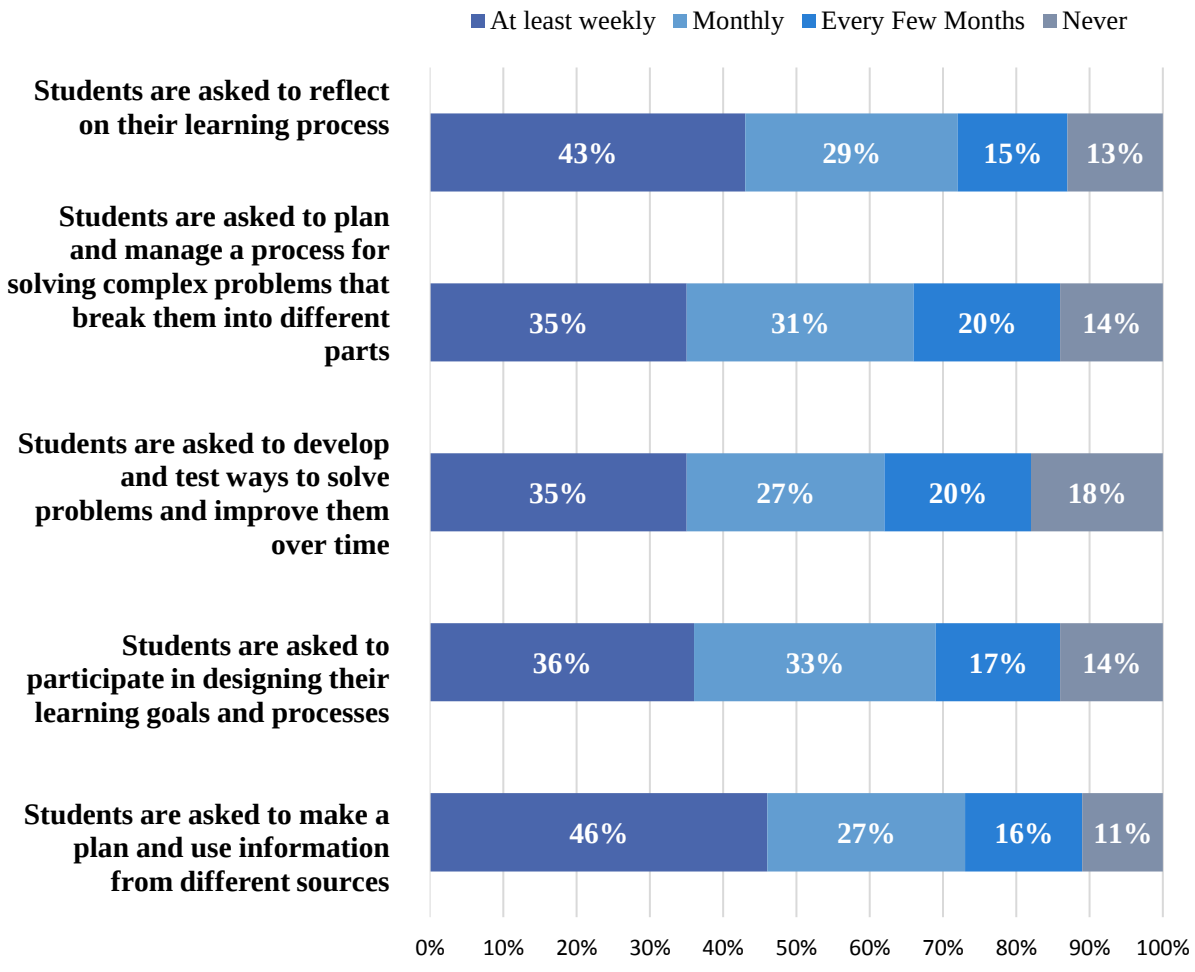
Teachers and students recognized the pros and cons of using technology for learning. Students and staff in focus groups reported that it was useful to have the technology to conduct research and make different kinds of presentations. However, there were times when they felt the technology was overused. For instance, students expressed that the computers were often frustrating to use in math courses.

> *"I just want to have paper in math. It's easier to work out the problems with pencil and paper."* – Student
>
> *"I don't want [to use the computers] in every class – just certain classes. It would be better to not have it in math. In social studies you have to research a lot so it helps to have the computers."* –Student
>
> "*Students were not super fond of GoMath, so I steered away from that and used other tools to engage kids"* – Teacher

- ✓ **69% report that they are being asked to participate in designing their learning goals and processes**
- ✓ **72% of students say that they are asked to reflect on their learning process on at least a monthly basis**

Students engage in self-regulation when the activity is long-term and students have to set long-term goals, when students have to plan and monitor their own work, and have the opportunity to revise their work based on feedback. According to survey results, over two-thirds of students are asked to engage in such behaviors at least monthly.

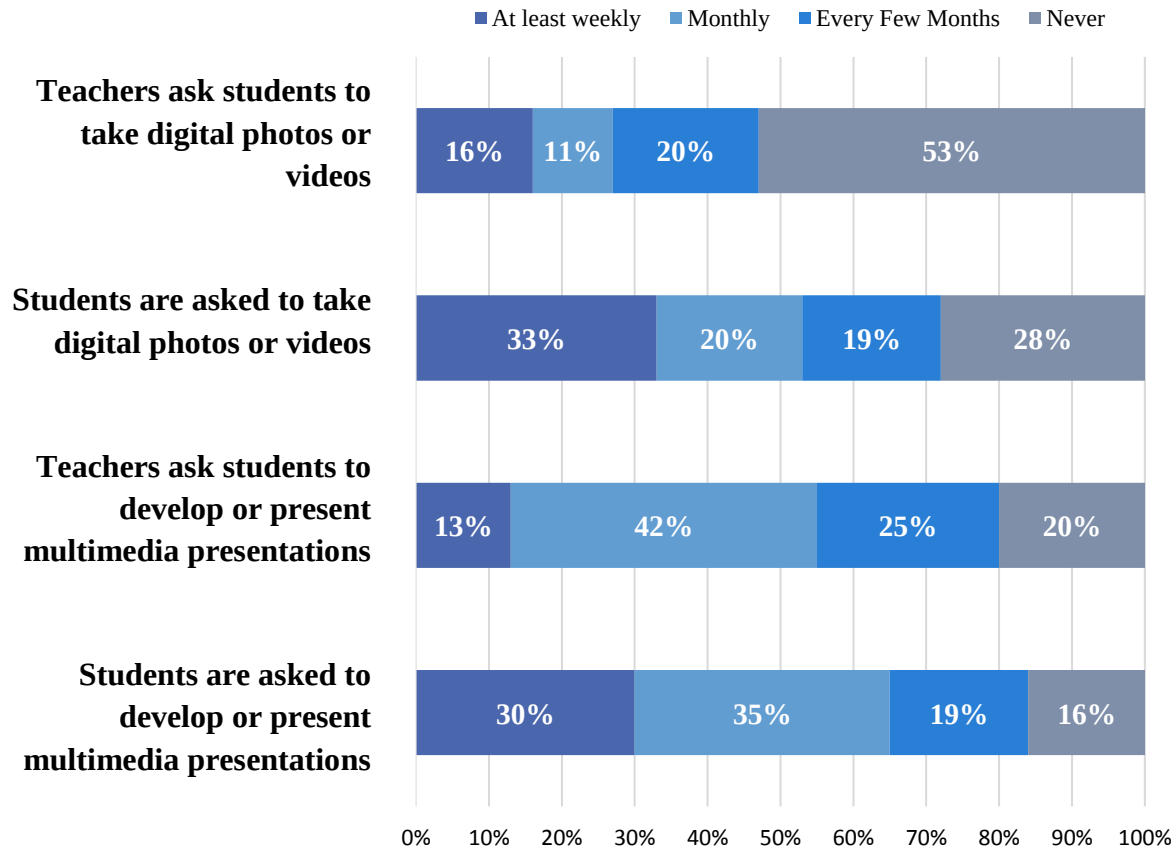
Figure 4. Student Perceptions of Self-Regulation Use in the Classroom



- ✓ **65% of students reported being asked to develop a multimedia presentation at least monthly**

Students practice skilled communication when the activity requires extended use of multi-modal communication, or when students are required to provide and present evidence to an audience. Survey results indicate that almost two-thirds of students reported they are required to develop multimedia presentations at least monthly.

Figure 5. Teacher and Student Perceptions of Skilled Communication Use



These findings mirror feedback from both student and teacher focus groups about the primary ways they use their devices. Students enjoyed learning different ways to make presentations and teachers expressed that a lot of students would take what they learned in other classes and use that same presentation mode in their class.

"*It helps with giving presentations – you can make your own backgrounds or add a picture if someone doesn't understand what you are talking about*." - Student

"If their ELA teacher has been using PowerPoint or Google Slides and their social studies teachers did something different; I give kids the option – make video, make a PowerPoint, make a Google Slide – I let them choose whichever one they wanted. They would default to the one they used in their other classes because they felt comfortable with it. It was cool to see them make connections to their other classes." - Teacher

21st Century Learning Key Findings

- At Traner MS, students reported they primarily used their computers to conduct research, develop multimedia presentations, and collaborate with their classmates
- Students enjoyed using the computers for research and presentations but found the computers burdensome in some classes like math

EVALUATION QUESTION 3: HAS PROGRAM IMPLEMENTATION (E.G., USE OF 21ST CENTURY COMPETENCIES IN THE CLASSROOM) IMPROVED FROM THE END OF THE 2018-2019 SCHOOL YEAR COMPARED TO THE START OF THE SCHOOL YEAR?

Overall, there were not large changes in the pre and post BrightBytes survey data. There could be a number of reasons for this, and one possible explanation could be that by the time students and teachers completed the pre-survey, students and teachers had already been using the devices for a couple of months. The focus groups revealed that both students and teachers felt that being able to conduct research was a very valuable use of the computers. In the pre-survey, 85% of students indicated they were asked to conduct research on at least a monthly basis compared to 87% in the post-survey.

There was a small increase in students' multimedia use. In the pre-survey, 57% of students reported they are asked to develop or present multimedia presentations and this increased to 65% in the post survey. Further, in the pre-survey, 28% of students indicated they were never asked to do this which dropped to only 16% in the post-survey. This reflects some of the focus group findings that both teachers and students became more comfortable with the computers throughout the school year and especially started utilizing some of the presentation tools more often.

Another possible explanation for the lack of changes between the pre and post BrightBytes survey data might not be related to the technology at all. During the focus groups, teachers did not view the technology as something that enhanced 21st century teaching and skills. Instead,

they expressed that 21st century competencies should always be included in teaching, regardless of whether technology is available or not.

> *"It's good teaching. Regardless if you have a laptop in front of you or you don't; the technology aspect is not really that big of a part of 21st century learning."* –Teacher

> *"Collaboration or knowledge construction should be within any pedagogy that a teacher has; so technology is just a small piece of it."* –Teacher

RESULTS: STUDENT OUTCOMES

EVALUATION QUESTION 4: HAS SCHOOL ENGAGEMENT IMPROVED SINCE THE IMPLEMENTATION OF ONE-TO-ONE?

Successful implementation of one-to-one programs can have positive impacts on student outcomes. One-to-one programs can relate to increases in student engagement and motivation (Penuel, 2006) as well as decreases in student behavioral issues (Lee, Huh, Lin, & Regeluth, 2018). There might be several reasons why one-to-one programs lead to increased engagement and decreased behavioral issues. One possible explanation is that one-to-one programs lead to increased personalized learning or a student-centered approach to learning (Lee et al., 2018). The novelty of using computers can also enhance student engagement (Harper & Milman, 2016).

We assessed school engagement in several different ways. First, we explored student responses on the annual climate survey before and after one-to-one implementation. We looked specifically at students' report of their engagement in school and their perception of how easy or difficult it is for them to manage their schoolwork. The focus groups also revealed important findings for school engagement. Last, we examined district attendance data to assess any changes in attendance after the one-to-one program was fully implemented.

> "*It has really changed the culture of our school: [the one-to-one program] has given it more of an academic tone to our school than it has been in years past*." -NR21 Teacher

STUDENT ENGAGEMENT

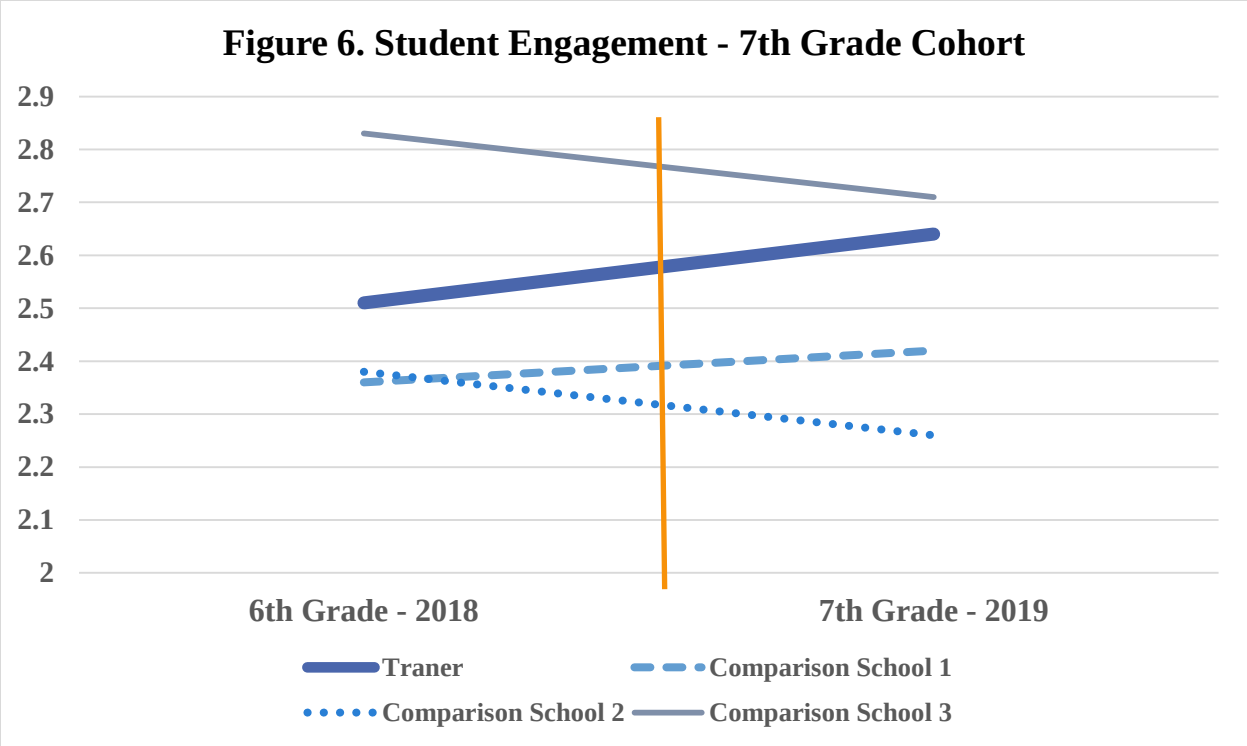
We first examined the 91 students in the 8th grade cohort who started at Traner Middle School in the 2016-2017 school year and took the climate survey all three years they were in middle school

Traner Middle School. Between 6th and 8th grade, there were no significant increases or decreases in student engagement. In 2017, 6th graders rated their overall engagement at 2.65. This dropped in 7th grade to 2.56 although this change was not statistically significant (B = -0.09, $p = 0.18$). In 8th grade, the same students rated their overall engagement at 2.61 which was not a statistically significant change (B = 0.04, $p = 0.18$). In other words, there were no changes in students' self-report student engagement ratings after the implementation of the one-to-one program during their 8th grade year.

We also examined student engagement trends from 6th to 8th grade in a similar middle school in WCSD. Overall, their self-reported student engagement scores significantly dropped between 6th in 8th grade. In 6th grade, students' average engagement rating was 2.8 which significantly dropped to 2.67 in 7th grade (B = -0.11, $p = 0.15$), and dropped again in 8th grade to 2.61 (B = -0.17, $p < 0.01$). Thus, although Traner 8th grade students did not report higher school engagement after the one-to-one program was implemented, they also did not report a decrease in student engagement that 8th grade students reported in a similar middle school.

Next we examined school engagement in the 7th grade cohort of students. One hundred forty students took the climate survey in 6th and 7th grade and reported higher student engagement in 7th grade (2.64) compared to 6th grade (2.51; B = 0.13, $p = 0.01$). That is, 7th grade students indicated they had more school engagement after the one-to-one program was implemented compared to the previous year.

Starting in the 2017-2018 school year, there were two more middle schools that served grades 6-8 that were similar to Traner Middle School. Thus, we assessed the trends from 6th to 7th grades in those schools. At all three of those schools, student engagement did not increase from 6th grade to 7th grade. Further, at one of the schools, there was a significant decrease in student engagement (B = -.012, $p = 0.04$). Therefore, while 7th graders at Traner Middle School were reporting higher levels of student engagement after the one-to-one program was implemented, 7th graders at other schools were reporting either no changes in engagement or a decrease in overall engagement. Figure 6 displays these trends for the 7th grade cohorts across the four schools (in each figure, the orange line shows when one-to-one program implementation occurred).



The results from the teacher focus groups revealed that teachers felt that students were more engaged with the schoolwork (when they weren't playing video games).

> "*I find that they are engaged, they compare things for what one student found to what others found, there's more communication happening in groups. They seemed to be focused, excited, motivated, and engaged.*" – Teacher

The teacher focus groups revealed that the technology allowed teachers to provide their students with more differentiated and individualized instruction. These findings are consistent with other research studies that suggest technology can enhance differentiated, student-centered learning (Lee et al., 2018).

> *"It's provided a lot of opportunities for teachers to differentiate students within the curriculum."* –Teacher

> *"I love that we can do so many things that are self-paced. I can assign an Ed Puzzle and it might take one kid 10 minutes to do it and it might take another kid 25-30 minutes to do it and so it can be self-paced – and they can watch it over again if they didn't get it. It's really great to have access to these individualized things because we have the laptops."* –Teacher

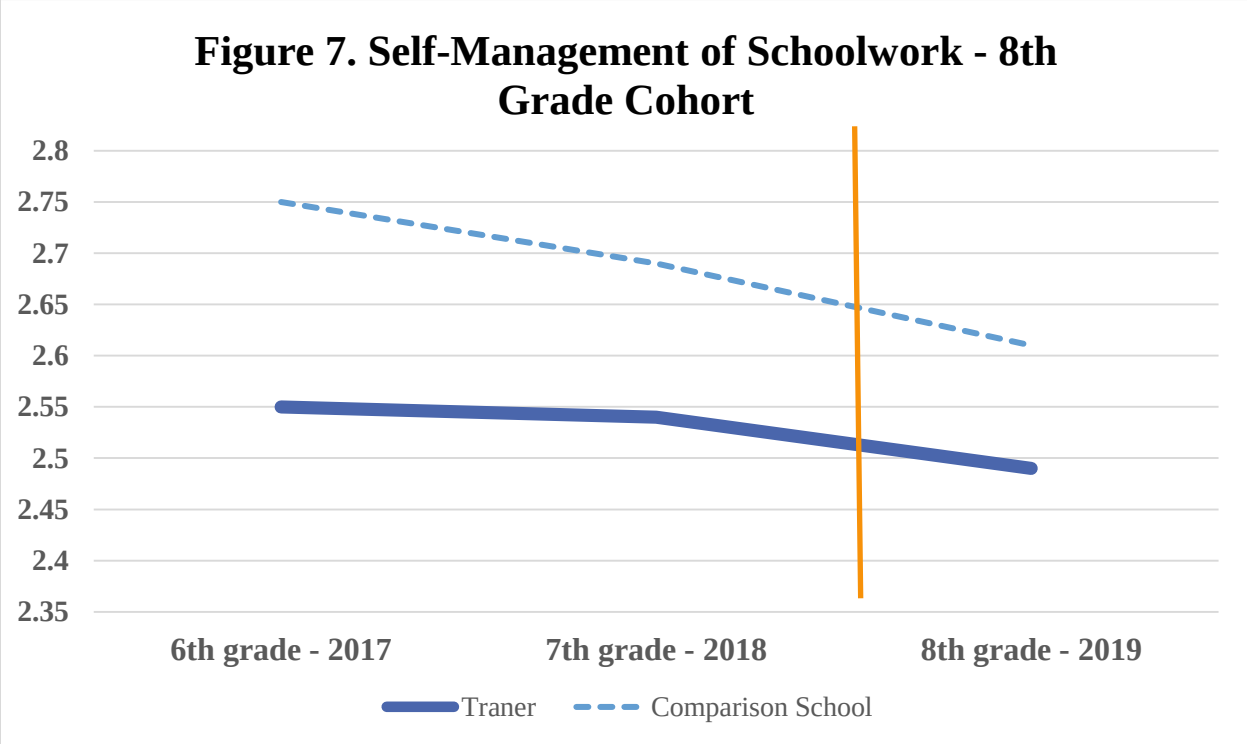
> "*We used it for individualized learning, higher kids and lower kids could differentiate own learning. Mainly we used it to learn at own pace, and figure out how deep or how shallow to go with our time.*" - Teacher

Overall, students expressed that learning with the computers could be more fun especially since it is something they have never had before. Teachers indicated that if students want to be organized and engaged in their schoolwork, technology provided opportunities to do so.

SELF-MANAGEMENT OF SCHOOLWORK

Self-management of schoolwork (SMS) is an important social emotional competency (SEC) that assess how well students feel they are prepared for tests, how well they are able to finish their homework, etc. There were no significant changes in self-management of schoolwork for the 91 students in the 8th grade cohort.

In contrast to Traner Middle School, the students at the comparison school experienced a significant decrease in their self-management of schoolwork SEC. For these students, there was no significant change in SMS between 6th and 7th grade; however, in 8th grade these students were reporting significantly lower SMS scores compared to the previous years (B = -0.08, p = 0.02). Even though Traner Middle School students did not report an increase in SMS between 6th, 7th, and 8th grade, they also did not report a decrease in those skills, which is not true for students at the comparison school. Figure 7 shows these trends.



In contrast to the school engagement results, there was no significant change in SMS between 6th and 7th graders for the 7th grade cohort (B = -0.11, p = 0.07). Thus, this cohort of students did not

report an increase in SMS skills after the implementation of one-to-one. The results were similar for the three comparison schools: there were no changes in SMS competencies between 6th and 7th grade students.

Focus group results revealed that some students felt it helped them stay on top of their schoolwork. They indicated it was nice to see all of their assignments in one place. Other students liked getting immediate feedback and believed that it helped their learning.

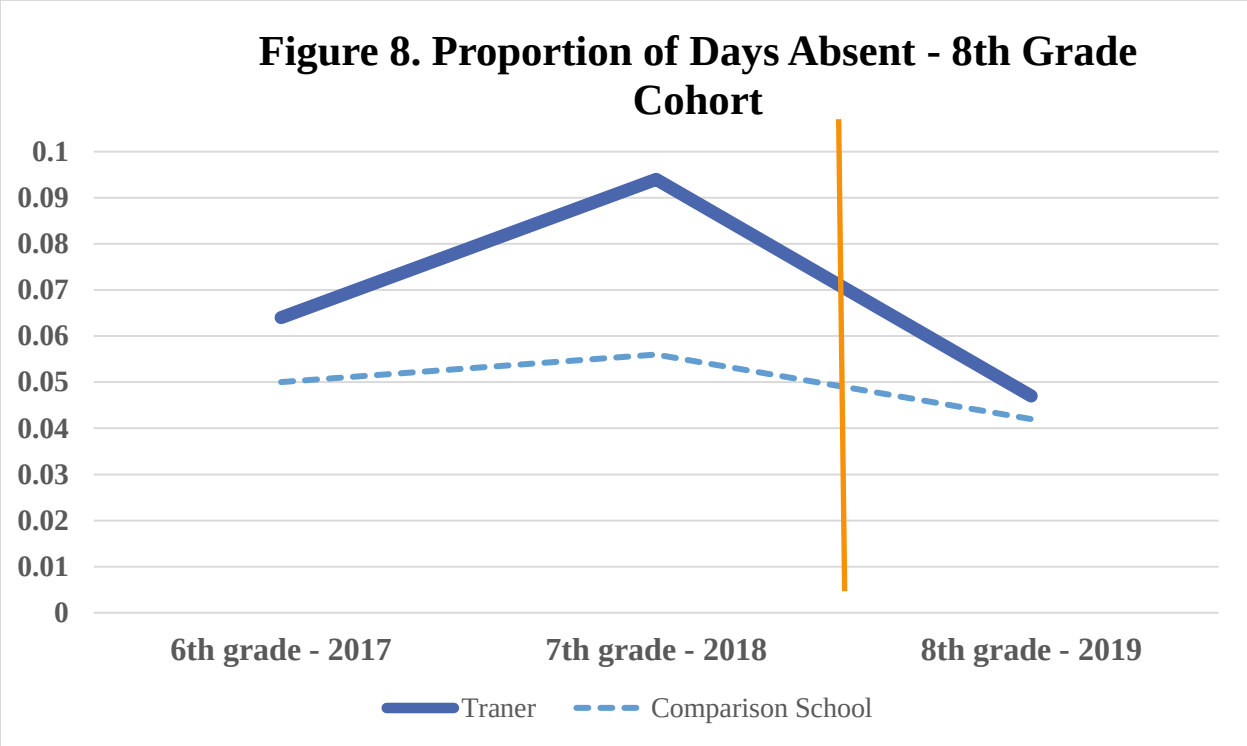
> *"One of the good things is that it helped me so some of my work that I have not completed – it showed me all my missing work; it helps getting assignments done."* – Student

> *"It got my grades up – it showed me what work was missing – and I could do it all and I got my grades up in that class."* - Student

> "*Great that students' work didn't get lost all the time. It was a lot easier for them to be organized and know what they were missing*." - Teacher

ATTENDANCE

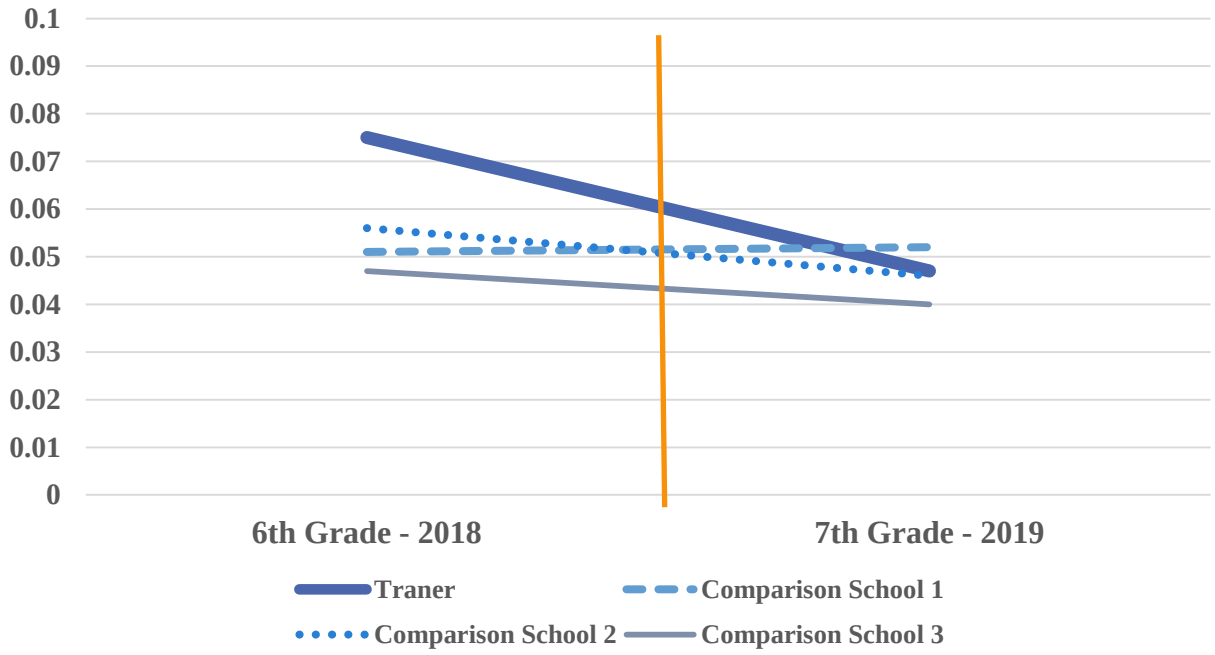
At Traner Middle School, there was a decrease in the proportion of days absent after the implementation of the one-to-one program. In the 2017-2018 school year when the 8th grade cohort was in 7th grade, students were absent 9.4% of total days enrolled on average. This decreased to an average of 4.6% in the 2018-2019 school year, during the first year implementation of one-to-one, which was a statistically significant decrease ($B = -0.05$, $p < 0.01$). There was also a significant decrease in the proportion of days absent at the comparison middle school, however, the decline was smaller ($B = -0.01$, $p < 0.01$). On average, students at the comparison school were absent 5.5% of the days they were enrolled in the 2017-2018 school year, and that decreased to 4.2%. Figure 8 shows these trends.



This pattern is similar for students in the 7th grade cohort. In the 2017-2018 school year, one year prior to full one-to-one implementation, 6th grade students were absent an average of 7.5% of the days they were enrolled. The following year (2018-2019 school year) when the students were in 7th grade, this number declined to 4.7%. Again, this decrease was statistically significant (B = -0.03, $p < 0.01$) indicating that these ***7th grade students were less likely to be absent after the one-to-one program was implemented.***

We also examined trends in absenteeism at the same three comparison schools. For students at the first comparison school, there was no significant change in absenteeism between the 6th and 7th grade school years (5.1% vs. 5.2%, $p = 0.9$). At the second comparison middle school, there was a significant, albeit small decrease between 6th and 7th grade (5.6% vs. 4.6%, B = -0.01, $p = 0.05$). Last, there was a small decrease for 7th grade students at the third comparison school between their 6th and 7th grade years (4.7% vs. 3.9%, B = -0.01, $p = 0.01$). ***Thus, three out of four of the schools all experienced a decline in absenteeism rates for 7th graders between the 2017-2018 school year and the 2018-2017 school year, the largest decline was for Traner Middle School students (an average decline of 2.8% of days absent; see Figure 9).***

Figure 9. Proportion of Days Absent- 7th Grade Cohort



"*I feel like the students have more ownership; if there are absences, a lot of the students know to go to Google Classroom or wherever their assignments are and they know how to find sites to know what the assignment was that day. So if they want to be on top of their education and their academics – they can*" – NR21 teacher

School Engagement Key Findings

- 7th grade, but not 8th grade students, reported an increase in student engagement during the first year of one-to-one implementation
- There were no changes in student reports of self-management of schoolwork; however, students at another school experienced a decrease in these skills
- Staff reported the devices made it easier for them to provide differentiated and more student-centered learning in their classrooms
- Both 7th and 8th grade students were absent significantly less during the 2018-2019 school year compared to the previous school year

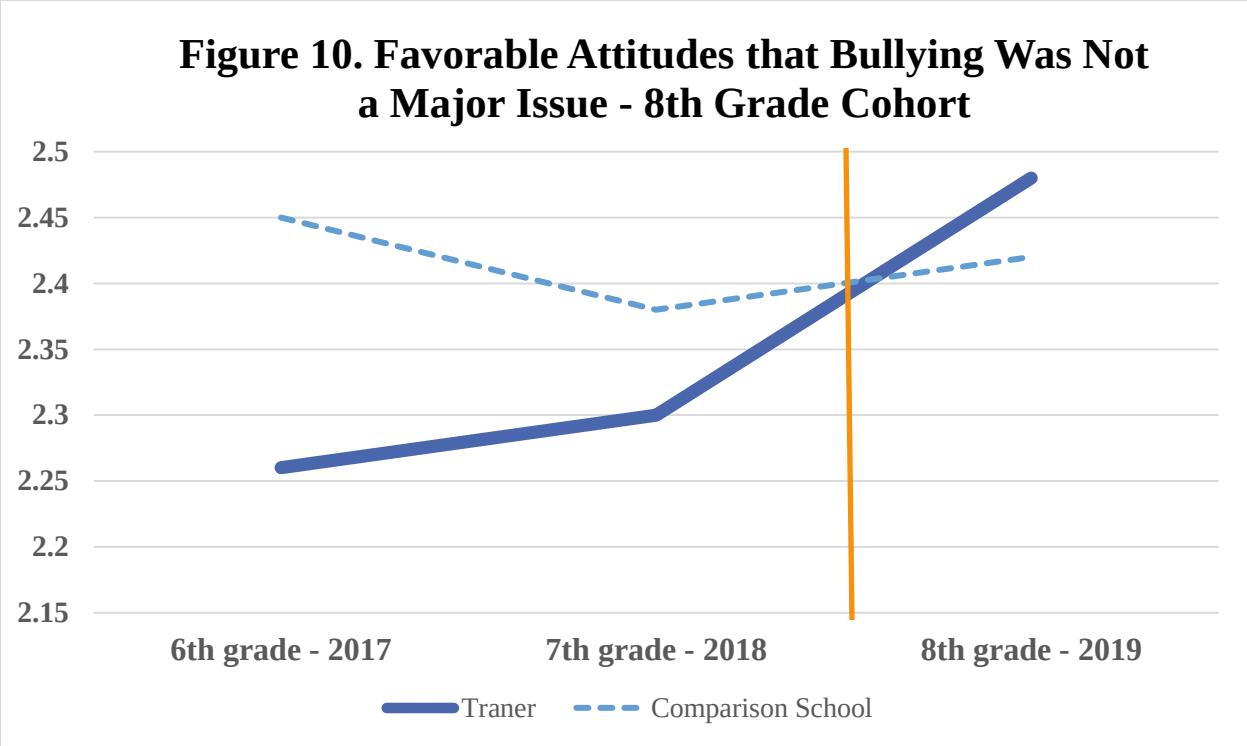
EVALUATION QUESTION 5: HAS STUDENT BEHAVIOR IMPROVED SINCE THE IMPLEMENTATION OF ONE-TO-ONE?

Similar to school engagement, we examined student behavior in several different ways. We explored student climate survey results for both student perceptions of how students treat each other and perceptions of bullying at the school. In addition, we also examined teachers' perceptions of student behavior. Last, we explored trends in discipline reports to assess whether there was a decrease in student discipline events after the implementation of the one-to-one program.

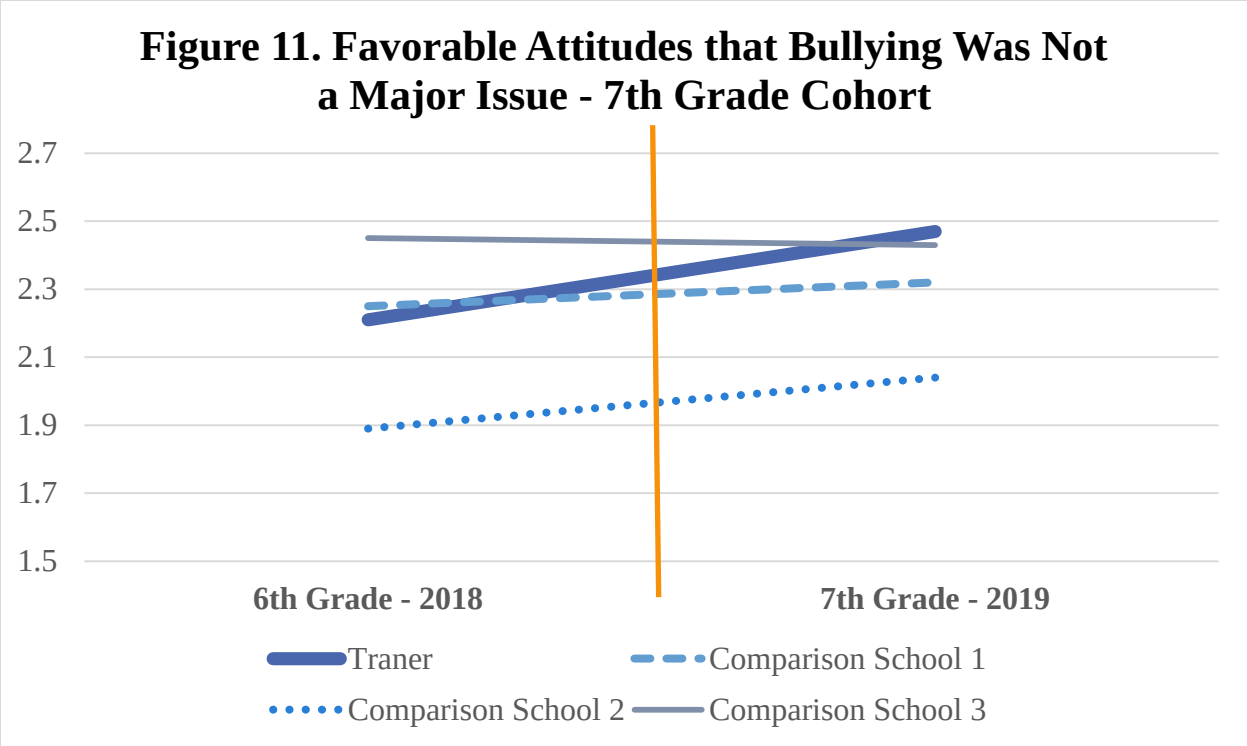
BULLYING

We explored student responses to the climate survey data to assess trends in bullying. First we examined the 8th grade cohort of students (students who were in 8th grade during the first year of implementation). Compared to their 6th grade year (2016-2017 school year), students did not report any changes in their perceptions of bullying at the school in their 7th grade year (B = -0.03, p = .69). In contrast, compared to their 7th grade year (2017-2018 academic school year), students reported that perceptions of bullying were more positive in their 8th grade year (B = 0.18, p = 0.03), which is the same year the one-to-one program was fully implemented (see Figure 10).

In contrast, students at the comparison school reported no changes in bullying behavior at their school. More specifically, there were no changes in perceptions of bullying between 6th and 7th grade (B = -0.07, p = .44), and there were no changes between 7th and 8th grade (B = -0.03, p = .69). ***Thus, at Traner Middle School, 8th grade students reported more positive perceptions of bullying after the implementation of one-to-one, but the same pattern did not occur at a school that was not one-to-one.***

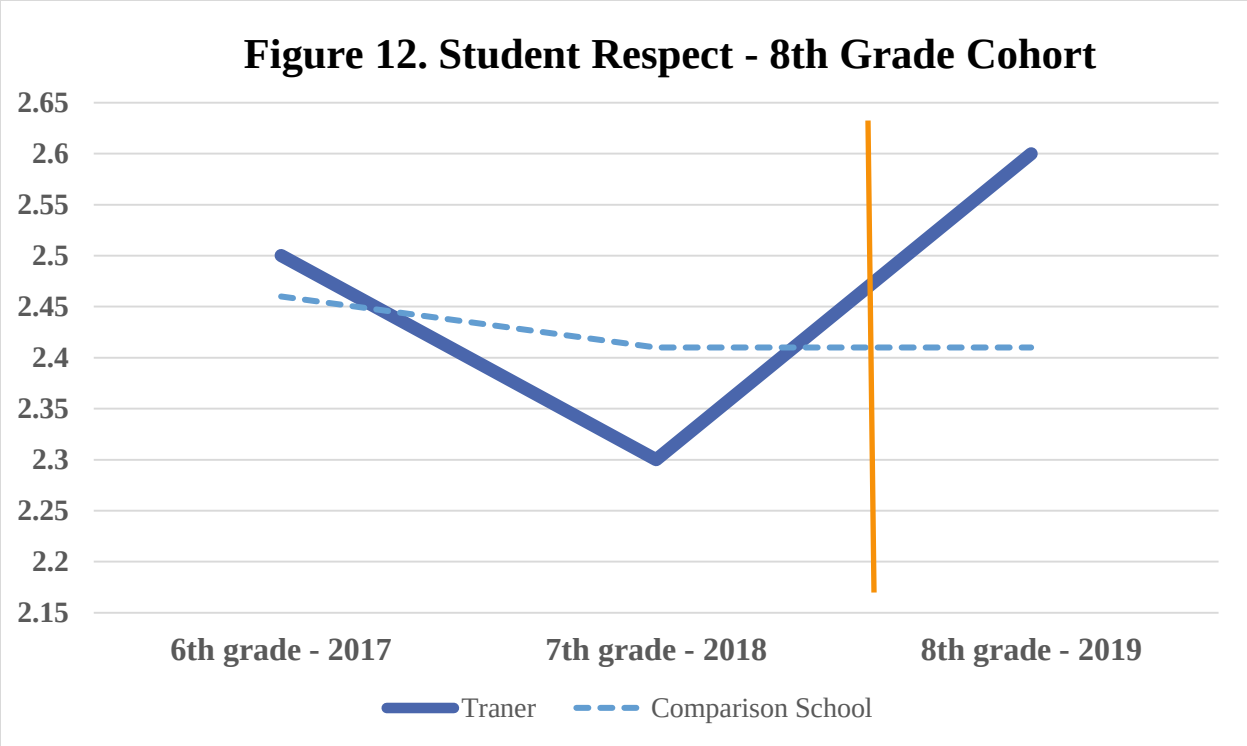


The pattern of results for perceptions of bullying are similar for students who started 6th grade in the 2017-2018 school year (or one year before the implementation of one-to-one). At Traner Middle School, students reported significantly better perceptions of bullying at their school between 6th and 7th grade, or before and after the implementation of one-to-one (B = 0.25, $p <$ 0.01). At the three comparison schools, there were no significant changes in perceptions of bullying. ***Thus, at Traner Middle School, students reported less bullying among students after the implementation of the one-to-one program but this was not the pattern at similar middle schools that did not have a one-to-one program (see Figure 11).***

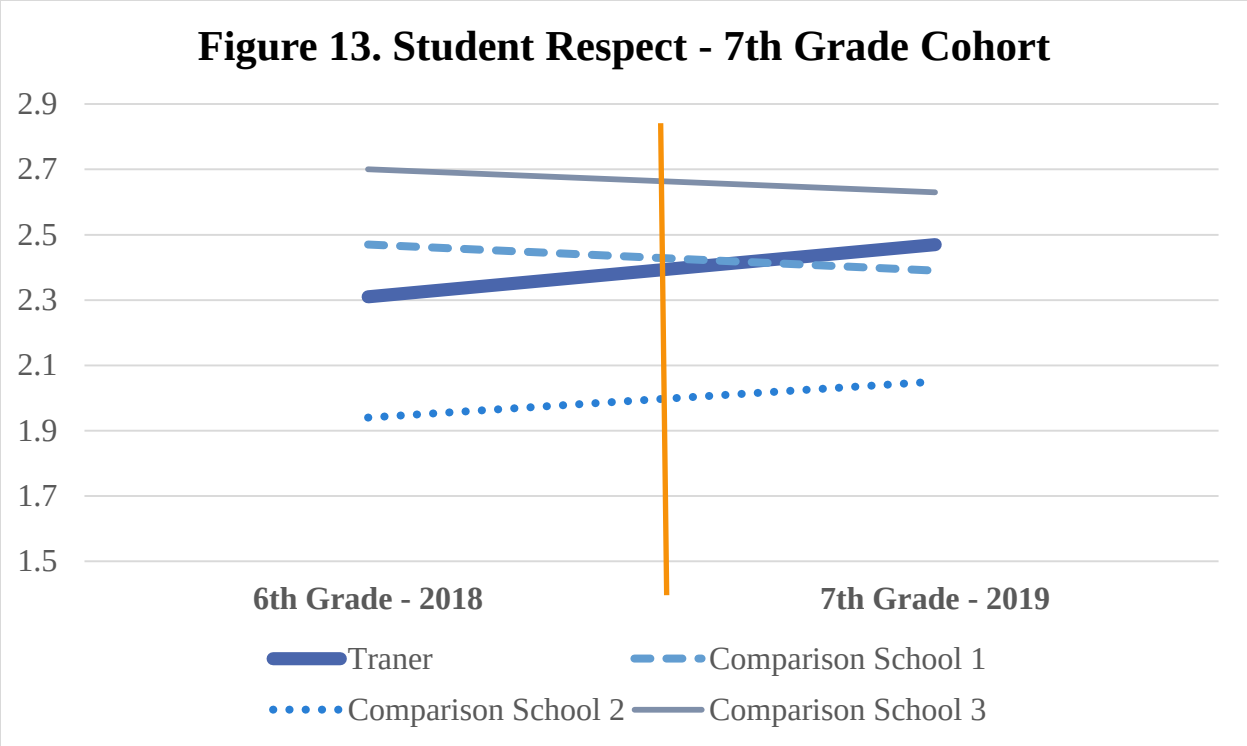


STUDENT RESPECT

For the students who were in 8th grade during the first year of implementation, there were no changes in their perceptions of student respect between 6th and 7th grade (B = -0.12, *p* = 0.1). ***However, between 7th and 8th grade, or after the one-to-one program was implemented, students did rate student respect higher (B = 0.22, p < 0.01).*** The comparison school did not show the same trends: there were no differences in perceptions of student respect throughout middle school for students who started 6th grade in the 2016-2017 academic school year (see Figure 12).



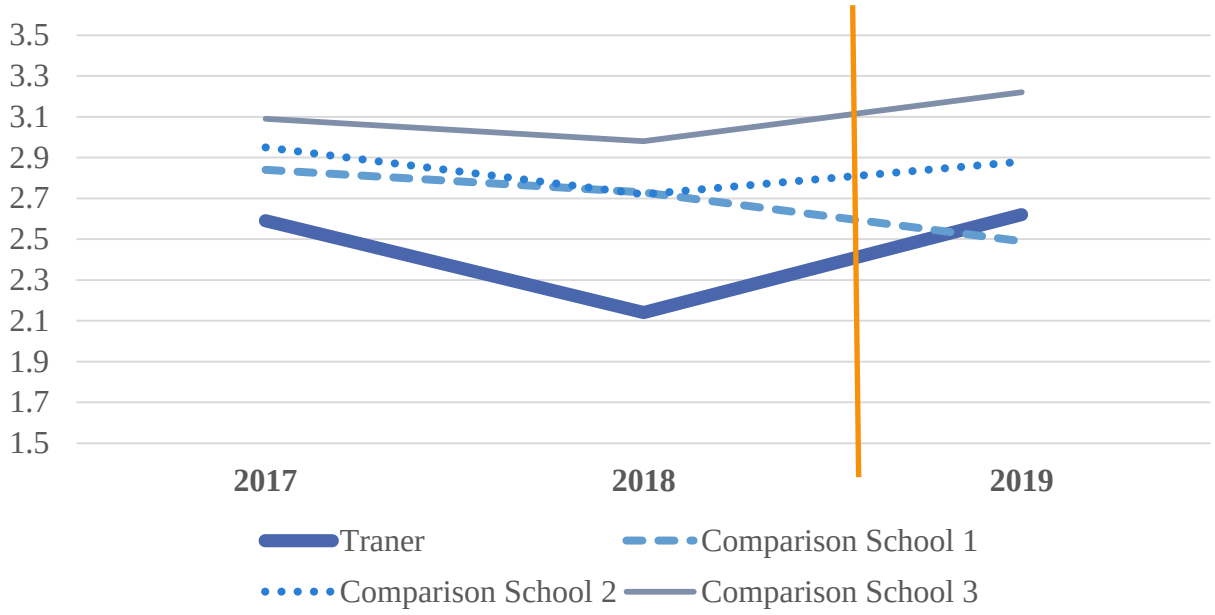
The results are similar for students who started 6th grade in the 2017-2018 school year. At Traner Middle School, between 6th and 7th grades, there was a significant increase in perceptions of student respect (B = .16, p = 0.01). ***In other words, after the one-to-one program was implemented, 7th grade students reported more student respect compared to their 6th grade year when the one-to-one program was not yet fully implemented.*** There are no significant changes in student perceptions at the three comparison schools (see Figure 13).



TEACHER PERCEPTIONS OF STUDENT BEHAVIOR

Results indicate that ***there was a statistically significant increase in teachers' perceptions of student behavior at Traner MS in the year that one-to-one was implemented*** (2.14 vs. 2.62). At the three comparison schools, there were no statistically significant changes in teachers' perceptions of student behavior (see Figure 14).

Figure 14. Favorable Teacher Perceptions of Student Behavior

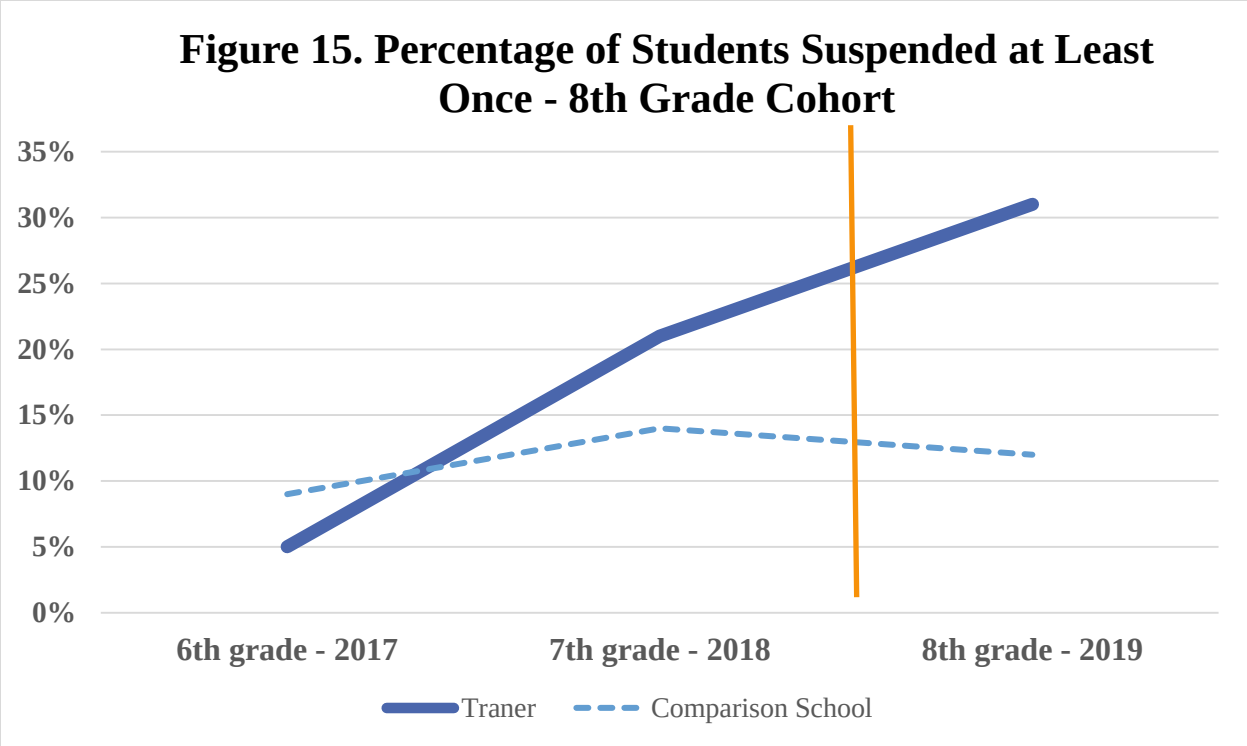


DISCIPLINE EVENTS

We ran a cross-tabs analysis to compare the number of discipline events that occurred in each year. For minor behavior incidents, major behavior incidents, and suspensions, we coded each student as 0 = no behavioral incident or 1 = at least one behavioral incident for each school year.

8th Grade Cohort

Students who were in 8th grade during the first year of one-to-one implementation experienced fewer minor behavioral incidents (47% of students) compared to their 7th grade year (62% of students) and their 6th grade year (61% of students). There was no significant change in the number of major behavioral incidents that students experienced in the first year of program implementation compared to their previous years in middle school. ***However, students in the 8th grade cohort were more likely to be suspended during the first year of program implementation. In the 2018-2019 school year, 31% of students were suspended at least once. This increased from their 7th grade year (21%) and their 6th grade year (5%). The comparison middle school, did not experience any changes in suspensions.*** In the 2018-2019 school year, 12% of students were suspended at least once compared to 14% in the previous year (not a significant decrease; see Figure 15).

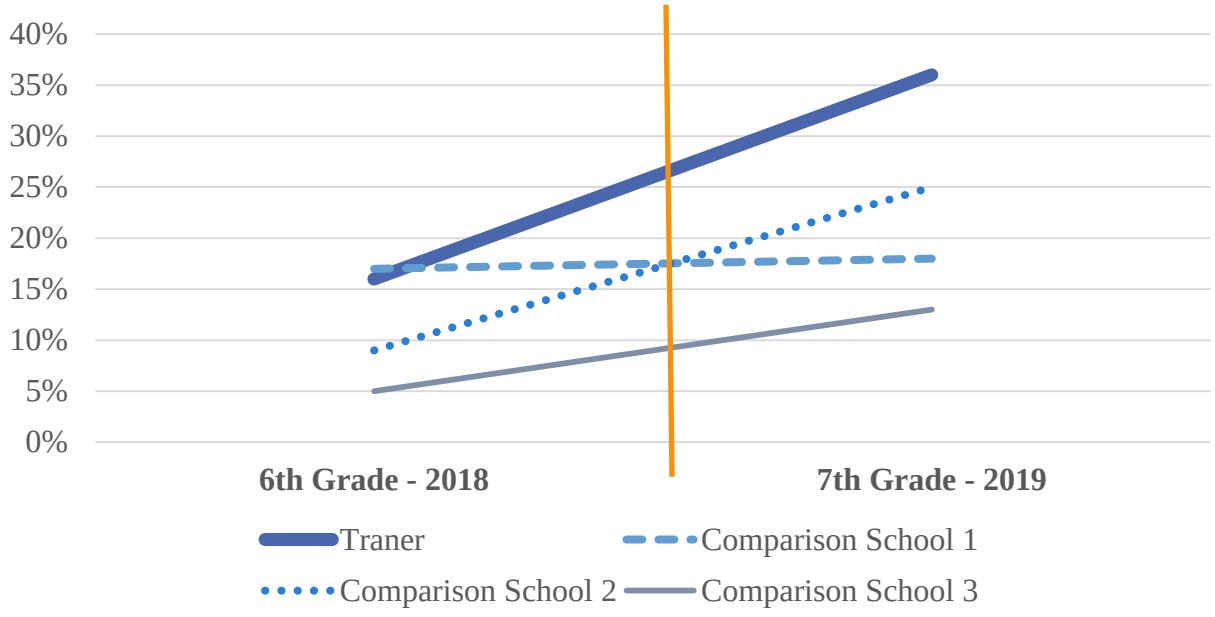


7th Grade Cohort

Students who were in 7th grade during the first year of one-to-one implementation experienced more minor behavior incidents compared to their 6th grade year. Sixty-nine percent of students experienced at least one minor behavior incident compared to 42% the previous year. At two of the comparison middle schools, there was no change in minor behavior incidents in between 6th and 7th grade (between the 2017-2018 school year and the 2018-2019 school year). The third comparison school did experience an increase in minor discipline events: 37% of 7th graders experienced a minor discipline event in the 2018-2019 school year compared to 18% the previous school year.

At Traner, there was no change in the number of major behavior incidents during the first year of program implementation compared to the previous year. However, seventh grade students were more likely to be suspended at least once during the first year of implementation (38% of students) compared to the previous school year (16% of students). Two of the comparison schools also saw in an increase in suspensions from 6th to 7th grade: At one comparison school, in the 2017-2018 school year, 5% of students were suspended at least once which increased to 13% in the 2019-2019 school year. There was a similar pattern at another comparison school where 9% of 6th graders were suspended in the 2017-2018 school year which increased to 25% in the 2018-2019 school year. There were no changes in suspensions between 6th and 7th grades at the other comparison school middle school.

Figure 16. Percentage of Students Suspended at Least Once - 7th Grade Cohort



Student Behavior Key Findings

- 7th grade and 8th grade students reported a decrease in school bullying during the first year of one-to-one implementation
- 7th and 8th grade students reported an increase in student respect during the first year of one-to-one implementation
- Teachers at Traner MS reported that student behavior improved during the first year of one-to-one implementation
- There was an increase in suspensions at Traner MS during the first year of one-to-one implementation

SUMMARY OF RESULTS

Overall, results from both program implementation and outcome indicate there were several successes about the first year of the one-to-one program at Traner Middle School. All students received a personal computer and 96% of teachers reported that students had access to the computers all of the time. All students completed a digital citizenship curriculum and the majority of teachers indicated they completed at least nine hours of professional development on

the one-to-one program. Both BrightBytes and focus group data suggest that the one-to-one program has excellent potential to allow students to gain 21st century skills.

Climate survey data, focus group data, and attendance data indicate an increase in school engagement during the first year of program implementation. Students who were in 7th grade during the first year of program implementation rated their overall engagement higher compared to when they were in 6th grade, or before the one-to-one program was implemented. Students at other similar middle schools did not rate their engagement as any different between the two years, or reported that their engagement decreased. Eighth grade students at Traner Middle School did not report an increase in engagement during the first year of program implementation, but 8th grade students at a similar middle school reported a decline in engagement. Further, students were less likely to be absent during the first year of program implementation compared to the previous school year.

Behavior data yielded mixed results. Both student and teacher climate data indicated that student behavior improved during the first year of one-to-one implementation compared to the previous school years. However, there were significant increases in the number of suspensions for both 7th and 8th grade students. This is inconsistent with research on other one-to-one programs which find that behavioral problems tend to decrease (Lee et al., 2018). As noted in the teacher focus groups, there was a lack of clear progressive discipline guidelines for computer use, which could be related to the increase in suspensions. Further, one teacher reported that students use their devices inappropriately during in-school suspension so much that it was not a punishment for them. Whatever the reason for the increase in suspension, it will be important to continue to monitor suspension rates for Traner Middle School students in future evaluations and to have clear behavioral guidelines around computer use.

Several important areas for improvement were identified. Both teachers and students indicated many students use the devices inappropriately. Students could be easily distracted by watching YouTube videos or playing games. Students also admitted the devices made it easier to cheat. Teachers wished they could block the games and other sites that were distractions. However, even with resources like Landschool, students were still able to find loopholes to get around any blocked game such as using the hotspot on their phones. In addition to inappropriate online use, some students did not treat the computers well and a small amount of students lost their computer privileges. This forced teachers to plan two lessons: one lesson for the majority of students who had their computers and one for the students who did not.

Moving forward, it will also be important to have very clear guidelines for computer use and expectations. Teachers were frustrated that progressive discipline regarding the computers was not clear from the beginning of the school year. Many students forgot their computers at home or did not charge the computers before coming to school and teachers did not have a clear way to address this. Students also noted the huge responsibility that came with having the computers. While this could be empowering for students, it was also burdensome at times. Having very clear

computer expectations with specific progressive discipline outcomes associated with those expectations, is important for any school implementing one-to-one.

Despite the barriers that Traner experienced in the first year of one-to-one implementation, there were a lot of successes. Moving forward, schools should ensure that teachers have discretion to decide when it is best to use the technology in their classrooms. As many teachers noted in the focus groups, the technology can be a very useful tool if it is used as a supplement to learning and not a replacement. Further, students do think the technology can be beneficial, but they do not want to necessarily use the computers all of the time. Research suggests that technology is most conducive the learning when it is *interactive* and used to work on projects with peers and teachers (Darling-Hammond, 2019). Thus, it is important to remember that *how* the computers are used in the classroom is key. Technology can be very beneficial for learning if used appropriately. It will be important to continually monitor the one-to-one program during the second year of implementation, as well as first year of implementation at several other WCSD sites.

In the current evaluation, we did not assess academic outcomes. Typically, one year of implementation is not sufficient time to see any meaningful academic changes. However, it will be important to assess academic outcomes in future evaluations. The relationship between one-to-one programs and academic outcomes is less clear. Some research has found no relationship between one-to-one programs and student reading and math test scores (Gulek & Demirtas, 2005). One study found that in a 4th grade classroom, literacy improved after the second year of one-to-one implementation (Suhr et al., 2010). One-to-one programs might also have a positive relationship with writing scores as students often use the computers for writing (Gulek & Demirtas, 2005). Future evaluations should link academic outcomes directly to implementation as better implemented programs tend to have better outcomes (Durlak & DuPre, 2008).

"*It has equipped them with the ability that they might not have had because not all of them have access to technology at home. And I feel like they can go to high school now or college and understand how to organize their work, understand how to research, and understand how to use a digital tool to help them learn*." -NR21 teacher

APPENDIX

WCSD Student Focus Group Protocol
Traner MS NR21

Introduction and Overview

***[Introduce yourself and co-facilitator*].**

Thank you for agreeing to talk with us today. We are working on a project to learn more about the one-to-one program that you have been using during this school year. As you all know, you were each given a computer at the beginning of this school year to use in your classes and for your homework. The main purposes of this program is to provide you all with a technology-rich education and promote 21st century learning skills. We are interested in learning how this program has impacted you. The purpose of this focus group is to learn more about what you have liked about this program, how you think it has affected your education, and where there might be room for improvements.

Remember, there are no right or wrong answers. You're the expert on how you feel and what you think.

This interview is confidential. This means that no other teachers, your principal, or any other staff will see your responses. This also means that everyone here must agree to respect each other's opinions and to keep in trust what is said here today. ***Does everyone agree to be respectful and to keep what is said today private?***

Please be completely honest. Only a team of outside researchers will look at your responses and will summarize the responses.

I would like to tape record this discussion. Tape recording allows me to concentrate on talking with you and not on taking notes, although I will sometimes write things down. ***Is it OK with you if I tape this conversation?*** [If a person is not comfortable, do not record].

Before getting started…

- Let's set the basic structure for the focus group:
  - Because our conversation will be recorded, I ask that everyone use first names only.
  - Make sure everyone has an opportunity to share. You are welcome to pass on any question you do not wish to respond to.
  - Please be respectful of what the other group members have to say. It is important to be courteous and wait for your time to share your opinion.

Are there any questions before I start?

I am now going to turn on the recording, which is used as a backup to our note-taking.

Okay, let's get started. Let's begin with a round of introductions. Please tell us your first name and what grade you are in.

- **"Tell us about the 1-1 program in your school and what, if anything, you have liked about it?"**
  a. How has the 1-1 program impacted how well you do in your classes?

    b. Do you think you get along with your teachers more, less, or the same as before you started using your own computer?
    c. Do you think you get along with your classmates more, less, or the same as before you started using your own computer?
- **"What do you find challenging about the 1-1 program, if anything?"**
    a. Are there any parts of the 1-1 program you do not like? If so, what and why don't you like it?
    b. Do you have any recommendations for how the program can be improved?
- **"What impact, if any, has the 1-1 program had on you, your approach to school, or the way you think about things?"**
    a. What, if anything, did you learn from the 1-1 program that you don't think you would have learned otherwise?
    b. Has the 1-1 program helped you enjoy learning or school more? Or do you like school just as before the 1-1 program?
    c. Has the 1-1 program helped you complete your schoolwork?
- **What is one thing that you want to change about this program and one thing you would definitely keep the same for next year?**

Thank you for all of your feedback today!

WCSD Teacher Focus Group Protocol
Traner MS NR21

Introduction and Overview

***[Introduce yourself and co-facilitator*].** Thank you for agreeing to talk with us today. We are here today to conduct focus groups to better understand the 1-1 initiative at Traner Middle School. We are interested in getting feedback from teachers on what is working with the 1-1 program and where there might be room for improvements. We are also interested in better understanding how it has affected your teaching and your perspective on how it has impacted students.

This focus group is confidential. We will be sharing the feedback we receive today with the Office of Information Technology but we will not include any personal names or any other identifying information in that report. Your feedback will also be included as part of a larger evaluation on the 1-1 program at Traner MS.

Please be completely honest. Only a team of outside researchers will look at your responses and will summarize the responses.

I would like to tape record this discussion. Tape recording allows me to concentrate on talking with you and not on taking notes, although I will sometimes write things down. ***Is it OK with you if I tape this conversation?*** [If a person is not comfortable, do not record].

Are there any questions before I start?

I am now going to turn on the recording, which is used as a backup to our note-taking.

1. **Tell us about how the 1-1 program is going at your school, and what, if anything, you have liked about it?**
    a. Did you feel you had enough training and support to successfully implement 1-1 in your classroom?
    b. How easy or difficult for you to understand and integrate 21st century competencies into your teaching?
2. **What have you found challenging about implementing the 1-1 program?**
    a. Technological issues?
    b. Issues transitioning from how you previously taught to the 1-1 format?
3. **In what other ways has the 1-1 program impacted your teaching?**
    a. Has the program made it easier or difficult to teach and manage your classes? How so?
4. **How do you think the 1-1 program has impacted students and their learning?**
    a. Have you noticed any changes in student behavior?
    b. Have you noticed any changes in student engagement?
5. **What recommendations, if any, do you have that would improve the 1-1 program?**

Thank you for all of your feedback today.

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