

## Academic Plan for New Technology

The District Technology Committee developed recommendations for additional equipment to be purchased for each school. The goal is to get more computers and iPads into classrooms and to enhance our curriculum with technology. The following represents feedback from teachers and the committee in regard to how the 3 year technology plan will strengthen our academic programs throughout the district.

### Primary School

1. **Current Equipment:** 6 iPads per classroom x 25 classrooms = 152 iPads; Two Laptop Carts
2. **Rationale for additional equipment:** more accessible for students and flexibility for teachers, additional opportunity to work with Julianne to model lessons
3. **Number of Devices Being Requested:** 6 carts x 25 iPads =150 iPads
4. **Summary of new technology and how it will be utilized:**class wide research for nonfiction writing, typing club, word work, Seesaw, Clever app, reflex math, building words, increase fluency (see individual grade level input below)
5. **Number of students compared to number of iPads or laptops for students:** 302 devices; 526 students
6. **Implementation strategy:** Teachers will be informed when they arrive, Faculty Meeting presentations by Kara Abatto (Technology Committee Chair) and Julianne Rulison, Julianne is available to provide PD during grade level collaboration
7. **Professional Development Plan for usage:** Technology Tuesday offerings throughout summer of 2019 and 2020 to support transition to Chromebooks; Superintendent's conference days; Embedded PD through Instructional Support Specialist- All PD is facilitated by District employees
8. **Academic Plan for each grade level or subject area:**

| Grade Level  | Current Use   | Future Use   |
|--------------|---|--|
| Kindergarten | Keyboarding Club, Center Activities   | Whole group keyboarding which will help to free up time for more RTI.<br>Center Time Activities<br>RTI activities<br>Reteaching of Math skills |
| First        | Phonics Lessons, center reinforcement skills, spelling work: building words | Research in classroom, nonfiction writing, word work:whole class:Reflex math:typing club   |
| Second       | Keyboarding Club, Center Activities, Research for Research Reports and      | Reflex Math App/Fact Fluency, Coding Apps/Lessons, Keyboarding   |

|       |   |   |
|-------|---|---|
|       | Nonfiction Writing                                    | Practice, Whole group Research, Digital Citizenship Units, Use during a Literacy Block, Math Fact and Sight Word practice, Researching a topic, Utilizing for comprehension passages and RTI  |
| Third | Research, center activities through apps, keyboarding | Clever app, whole group instruction, individual research versus group research, math review and testing, ELA vocabulary review, enrichment  |
| SPED  |   | social skills apps<br>- <a href="http://calm.com">calm.com</a> , apps to help with self regulation<br>-QR Code centers<br>-video models for reading or math centers, social skills, independent reading expectations<br>-math apps<br>-ELA apps<br>-Using seesaw as a data tracking, student self assessment tool   |
| ELL   |   | Apps for: phonics, sight words, vocabulary, spelling, basic math, basic concepts.<br>Access to independent reading and assessments on Reading A-Z, including in Spanish.<br>Translation software for newcomers/beginners with little to no English, including speech to text/text to speech.<br>Ability to translate websites for research and background building. |

9. **Plan for monitoring usage:** Classroom visits, communication with Tech Committee, review sign out document, access to apps such as SimplyCircle and SeeSaw.
10. **Expected academic results:** students capability to use the keyboard, STEAM involvement, strengthen fundamental skills in Math, ELA and Writing, strength collaboration between students

**Middle School**

1. **Current equipment:** 175 Laptops plus 60 student desktops= 235 total
2. **Rationale for additional equipment:**

- a. The use of chromebooks would be beneficial, since we are using Google classroom, etc.
  - b. NYS is going to mandate computer based state testing eventually. They haven't set a date yet, but there is speculation it will be when the new tests come out in the spring of 2021 with the Next Generation Standards.
  - c. Curriculum materials are increasingly becoming online and it is difficult to use them in the classroom when we only have 35 computers per wing.
  - d. Technology curriculum has been added for students in 4-8
  - e. Grades 4-5 currently have "Exit Tickets"
  - f. Grades 6-8 are working on creating and implementing benchmarks
  - g. Students need opportunities to explore keyboarding, online research, interactive websites to support curriculum
  - h. Math Program (My Math and Glencoe) are web-based and students have access to a complete eBook, online classwork assignments, online reteaching videos (when absent), and online assessment with built-in data tracking
  - i. ELA Program (Journeys) has an online component that students can access
  - j. Students will require more time computers/laptops to familiarize themselves with the equipment in order to prepare for computer-based state testing
    - i. Building skills and stamina to type an essay by spring of grade 4
    - ii. Practice using online platform for modeling math and using symbols, as well as explaining answers in "writing"
  - k. Improve logistics such as moving the carts through the building more easily (class - class; period-period) and charging issues by the end of the day
  - l. District has moved to a Google platform
  - m. Each student has a Google account
  - n. Teachers interact with students through Google classroom
  - o. Students have work assigned to them via Google classroom
    - i. Students can complete work online (without paper)
    - ii. Students can submit work directly to the teacher online and receive comments and feedback. This is all saved digitally for students.
    - iii. Models the real world (college and career readiness)
  - p. Starting 2018-2019, we are using elementary student emails, Google Classroom, new MyMath series, new McGraw-Hill SS series, new MysteryScience program, and new FOSS Science kits with online student and teacher resources, FOSS Science and required keyboarding expectations using Exit Tickets and typingclub.com. New opportunities, new demands, keeping pace with the future.
3. **Number of devices being requested:** 10 carts x 25 Chromebooks = 250 Chromebooks
  4. **Summary of new technology and how it will be utilized:**
    - a. See numbers 2, 8, and 10
  5. **Number of students compared to number of iPads or laptops for students:** 435 devices; Total Students 692
  6. **Implementation strategy:**
    - a. See numbers 8 and 10

**7. Professional Development Plan for usage:**

- a. Technology Tuesday offerings throughout summer of 2019 and 2020
- b. Superintendent's conference days
- c. Embedded PD through Instructional Support Specialist - PD facilitated primarily by District employees with a focus on transitioning to Chromebooks at the MS level

**8. Academic Plan for each grade level or subject area**

- a. Implement 4-5 exit tickets more readily
- b. Implement 6-8 benchmarks
- c. Revisit the exit tickets and benchmarks with the possibility of increasing expectations as practice with and exposure to the technology increases
- d. Build familiarity with technology as a learning tool for students
- e. Interact with platforms that mimic those of state assessments
- f. Use existing lessons that teachers have created and build on them. It is a plus that we have slowly added technology hardware to our buildings rather than innondate. This has allowed teachers to slowly develop lessons and activities and find ways to use the technology effectively. Now as teachers are becoming more versatile in their use, they are better able to build it into their instruction.

**9. Plan for monitoring usage**

- a. Assign a specific laptop number to students at the beginning of the year.
- b. Google form must be filled out by every student when logging on to any computer/laptop. These forms can be accessed by teachers and IT. They include date and time stamps with the student's name.
- c. Carts must be signed out using Google Sheets. This tracks usage, popular times, etc.
- d. Cameras in the hallways to monitor use and misuse of technology

**10. Expected academic results**

- a. Engage students individually
- b. Prepare students for technology-based world
- c. Improved keyboarding skills (currently not enough computers in library to complete benchmarks thoroughly in library skills class; some select students do not receive library skills class)
- d. Build tech skills so students become more proficient - this may lead to offering current Freshman Computers class to 8th graders so they are ready for more electives when entering HS
- e. Prepare students for and begin some portfolios components prior to entering HS

**High School**

- 1. **Current equipment:** 150 laptops plus 120 desktops= 270 devices
- 2. **Rationale for additional equipment:** The largest request from all teachers and departments has been the increase in devices for the students for use during the school day.

- a. Many courses in the high school have moved toward the use of online work through the Google platform. A large portion of student assignments, papers, and projects are all done online through Google Classroom and/or using the Google Suite of applications.
  - b. Having a device in the students' hands will allow for increased collaboration and communication throughout the day and when students are working at home.
  - c. Multiple teachers have a need for the resources at the same time, preventing an efficient continuation with lessons, projects, research etc. The limitations now prevent teachers from signing out carts and causes a gap in the consistent use of devices across courses.
  - d. Throughout the year, teachers are constantly competing for access to laptop carts or the computer lab(s). Our computer labs are in high demand, especially with our Freshman Computers classes, Computer Science Courses, and some math courses using the new Computer Lab in Room 413 almost exclusively. The open periods of this lab are often booked, but it is a challenge for teachers with multiple sections to only have access to the "open slots" on a limited basis. Additional laptops are consistently being requested by staff on a regular basis.
3. **Number of devices being requested:** 10 carts x 25 Chromebooks = 250 Devices
4. **Summary of new technology and how it will be utilized:** As mentioned in #2 above, the students are more actively doing a majority of classwork on the Google platform. Through the use of Google Sheets, Docs, Forms and Slides, students can work collaboratively in school and open up communication amongst themselves and with their teacher. Once the Capital Project becomes a reality the students will be able to work online on projects across subject areas at a greater rate, as collaboration between disciplines continues to increase. For example, students will be able to work in math class with technology or art students simultaneously (STEAM).

For about seven years, there has been discussion about purchasing enough technology for a 1:1 mobile device initiative for students to have a device to bring back-and-forth (home to school). Many districts have gone in this direction. However, in speaking with our students (especially the Student Liaisons who visited Gloversville last year who has a 1:1 initiative), and in learning from other districts' rollouts, the Tech Committee and administration have decided that a less aggressive plan may be in our best interest. By purchasing additional carts of Chromebooks, we can: increase the everyday access to technology for students, allow teachers more flexibility and time to explore more opportunities to "bring the outside world in" through technology, and create the opportunity to shift our devices to a 1:1 initiative if the district decides to move in that direction in the future. In speaking to districts such as Guilderland, this model seems to be very effective. Guilderland started their 1:1 initiative by first expanding access to Chromebook technology via classroom sets of carts, that were eventually transferred over to student 1:1 use once the district felt that use and capacity were appropriate. Although moving to a 1:1 policy within ICC is not imminent, we feel that this increase in laptop/chromebook carts allows for a more flexible option in the future.

5. **Number of students compared to number of iPads or laptops (Chromebooks) for students:** 520 devices; 531 students
6. **Implementation strategy:** The strategy for rolling out these devices will be similar to previous roll outs, just more extensive. The carts will be divided amongst wings and departments, with a digital sign-out sheet. The goal, having enough carts so a teacher/class should never have to wait multiple days to sign out a cart.
7. **Professional Development Plan for usage:**
  - a. Technology Tuesday offerings throughout summer of 2019 and 2020;
  - b. Superintendent's conference days;
  - c. Embedded PD through Instructional Support Specialist - PD facilitated primarily by District employees with a focus on transitioning to Chromebooks at the HS level
  - d. Embedded PD by building teachers who are our "tech heavy users." We have had great success with peer-to-peer PD from teachers who are proficient in technology. Several of our teachers have already attended Google Summit PD and turnkeyed their training with other staff members. Staff have continually mentioned that some of the most valuable PD and training have come from their peers. We will continue with this model.
  - e. Continue with a "Tech Duty" if the schedule allows. This duty has brought additional access to support from with technology use in a peer-to-peer format.
8. **Academic Plan for each grade level or subject area:**
  - a. The academic plan has already begun at all grades, with several teachers using Google classroom. Teachers and staff will continue to use the Google platform and Internet resources more regularly with expanded access to devices.
  - b. In addition to the use of Google classroom: the technology department has implemented programs such as a flight simulator and the drone programs, as well as AutoCAD and other architectural design programs. The Art Department uses Photoshop in several classes. Program such as these require use of PCs, and MACs which have be utilized through computer labs and laptop carts. We have access to requisite technology for these programs, however continued demands for technology access creates more competition among departments for such access.
9. **Plan for monitoring usage:**
  - a. As the devices and programs are increased, so will our need for monitoring. Currently, we are working on setting and revising limitations with the Google platform, specifically YouTube.
  - b. In addition, we have been looking at various versions of SMS (student management systems) and MDM (mobile device management). In working with our technology director, we plan on getting the system that best fits our district's needs. Such systems will analyze student use of technology and allow us to make informed decisions on additional needs (academically, technologically).

- c. Computer lab, mobile device cart sign-in/sign-out sheets will continue to track staff use and need for technology. We currently have an online sign out calendar (Google Sheets) for labs and carts. This has been used successfully and also has shown the need for an increase in devices as staff have been in competition for time and devices.
- d. We are currently exploring the best way to implement a “Student Help Desk” to help bring students into the plan for monitoring and troubleshooting usage. A Student Help Desk will provide new learning opportunities for our students and the ability to take ownership in a vital component of our academic plan.

**10. Expected academic results:**

- a. With the addition of technology the students will continue to develop their technology skills both formally and informally. It is clear that improving students’ skills with a variety of technology will better prepare them for post-secondary plans.
- b. The students will be completing a Technology Portfolio (Grades 6-12) to formally assess their skills. This has been started in Grades 9 and 10. Students will have the ability to download their portfolio and present it to colleges/employers to showcase their work.
- c. Increased technology use will better prepare our students for the technological requirements and skills of the 21st century.
- d. Our Instructional Technology Curriculum Committee is working on a plan to implement “Digital Citizenship” teaching/learning into our classrooms. We have found that Digital Citizenship and the necessity for appropriate and responsible technology use is something that needs to be addressed with our students. This concept will be something that is taught and reinforced with our students to help them be responsible in high school and beyond.