Introduction and Strategic Plan Connections

This document is a compilation of the work of many individuals over several years. The information included below is built upon previous efforts of the @d181 Committee. In addition, with the support of the D181 Foundation and facilitation of Mary Morgan Ryan, a group of numerous community members, Board members, and staff worked on the Digital Learning Initiative (DLI). The DLI work is the core foundation for this Digital Learning Environment Plan and recommendation.

It is important to note, too, that the efforts outlined here are in addition to what has already been achieved in District 181. Previous work included the implementation of 1:1 learning environments in many elementary classrooms, the integration of technology in numerous special area classrooms (e.g., digital media, elementary music, middle school band, etc.), and a shift in instructional practices for teachers able to access technology purchased by the District, PTOs, and D181 Foundation. Although this has been inconsistently implemented, this work has provided a firm and broad beginning for the District to build upon.

The first goal in our District 181 Strategic Plan is to "Provide a high quality curriculum that enables all students to achieve their full academic potential and develop 21st century skills." Further, Strategy 1a-7 states that we are to "Integrate the Digital Learning Environment beliefs, needs,
resource deployment and replacement cycle, as well as digital learning environment professional development needs into curriculum and instruction related strategies outlined in 1a-5 and 1a-6." This document represents the administration’s recommendation to move closer to achieving our goal and specifically, Strategy 1a-7.

Implementation of this plan would address concerns that have been consistently outlined in previous Digital Learning reports, including:

- Lack of strategic vision
- Inconsistent access to devices
- Inequities between schools and grade levels
- Lack of a complete replacement cycle for all devices

These ongoing issues have resulted in significant challenges when we attempt to coordinate staff professional development, resource purchases, long-term budgeting, lesson planning, opportunities for teachers to provide differentiation and just-in-time learning for all students, and parent engagement related to technology. These challenges have in turn created confusion in our system as well as a financial burden for our Parent-Teacher Organizations, as they have provided substantial contributions to support our technology needs and have long been seeking clear direction from the District. The D181 Foundation additionally has provided considerable donations to assist in our digital learning work over the years.

It is the hope of the administration that this proposal will be approved, allowing us to take the next necessary steps to support our 21st century learners. There will be more work to do and further details to finalize, but action to approve this plan would establish definite direction on what we are doing and when, and enable us to clearly state to our community what they can expect in the way of digital learning in District 181.

With approval of this plan:

- We will have a strategic and comprehensive vision for digital learning that can be clearly stated to parents and the community.
- All students in grades 3-8 will have access to a personally deployed device at the same time starting next school year. No group of students will wait for a phased-in deployment plan.
- No matter the building, students will have the same digital learning opportunities.
- All devices will be on a District-maintained replacement cycle.
- We will have a multi-year plan for device purchasing to aid in budget decisions, curriculum renewal, and resource adoptions.
- We can better plan for and more consistently provide staff professional development.
- The D181 Foundation and the PTOs will no longer be asked to purchase instructional devices.

The administration does acknowledge that there is much happening in the District currently, and we have a number of important initiatives underway. Nonetheless, this is work that needs to be done for the benefit of our students. Additionally, improvements in digital learning will enhance and complement our work to write and development curriculum, select resources, and build assessments. The PTOs are also looking to us for guidance so they can do their work most effectively, and thousands of parents in District 181 are looking to us to lead.
Devices / Digital Tools

The following Board-approved Belief Statements reference devices and digital tools:

Digital Learning Belief Statement #1: “A variety of digital tools are necessary to support and facilitate student learning opportunities, to effectively assess student understanding, and to adhere to District and state standards which require technology use. We further recognize digital tools can strengthen students’ development in the areas of communication, collaboration, creativity, and critical thinking.”

Digital Learning Belief Statement #2: “A variety of digital tools are essential to support and facilitate differentiated instruction and can inspire students to become lifelong learners.”

Digital Learning Belief Statement #4: “We must provide equitable access to appropriate digital tools across our District 181 schools by grade level. Each teacher and student should be equipped with digital tools to use throughout the school day and at home as appropriate for learning and the learner.”

The following points outline our plan for the deployment of devices by school and grade level. (This plan fits within the Digital Learning Environment approved by the Board in September 2016.)

- Students in Grades K-2 will have a shared environment with a student:device ratio of approximately 3:1. The number of devices will be based on enrollment; schools with a higher number of K-2 students will receive more devices. The device in Grades K-2 will be an iPad. In the first year of implementation (2017-18), the iPad will not be more than two years old and would have been purchased by either the District or previously purchased by the school’s PTO. In subsequent years, the device may be up to three years old but still confirmed to be in good working condition.
- Students in Grades 3-5 will be in a 1:1 environment, with Grade 3 as the year when students will begin to take the device home. The device in Grades 3-5 will be an iPad with a wired keyboard. In the first year of implementation (2017-18), the device will be new or less than two years old. In subsequent years, the device will be purchased new at 3rd grade and move with the student for the next two school years. After a student completes 5th grade, the device will either be moved to the K-2 shared environment or sold at the conclusion of the lease.
- Students in Grades 6-7 will be in a 1:1 environment. The device in Grades 6-7 will be a Chromebook. In the first year of implementation, the device will be new or less than two years old. In subsequent years, the device will be purchased new at 6th grade and move with the student for the next two school years.
- Students in Grade 8 will be in a 1:1 environment. For just the 2017-18 school year, 8th graders will use three year-old MacBook Air laptops, which we anticipate will still be in very good condition for the purpose of instruction. Beginning with the 2018-19 school year, all middle school students will use Chromebooks.

It is anticipated that after a student completes 8th grade, the student’s parents would have the option to purchase the Chromebook for a small fee. (It may be possible that the device can be kept without the need to charge a fee.) We are planning to purchase the same model of Chromebook as is selected by High School District 86 to create greater consistency for families. However, because the Chromebook Operating System is the same regardless of the actual model of the device, the
decision on which specific model we purchase for District 181 students will include considerations for price and durability.

In regard to the specific devices to be purchased, we have budgeted and planned for the iPad Air 2 and Lenovo N22 Chromebook. (Technical specifications for both devices are posted on BoardDocs.)

When purchasing new devices moving forward, we intend to have a device inventory of approximately 5% above the anticipated 1:1 requirement so that: (1) students do not have an extended wait time if their device needs to be repaired or replaced, (2) we can account for the potential of new students beginning after the start of the school year, and (3) we have sufficient devices for staff. This +5% is included in the device budget. Please see the Deployment Plan (document posted on BoardDocs) for a chart showing how devices will move through our system over four years (2017-18, 2018-19, 2019-20, 2020-21). You will note that because we are working our way out of inconsistencies in the device amounts among schools and grade levels, it may take two or more years to achieve complete equity. For example, because PTOs at Prospect School, The Lane School, and Walker School purchased devices for their schools that are new in the current 2016-17 school year, we are working with the PTO Co-Presidents and the Principals to determine which of those devices will be sold or kept in their schools for the 2017-18 school year.

**Professional Development and Staffing**

_**Digital Learning Belief Statement #5:** “Ongoing staff professional development and support for all staff are necessary for successful technology integration throughout the curriculum. It is critical that professional development include opportunities both in and out of the classroom to support high quality instruction.”_

We recognize that professional development is essential to successful execution of this plan. Some of that work has already begun because as we have been engaging in extensive curriculum writing and development for all content areas this year, technology is being interwoven and integrated, just as it is in classroom instruction. We are building a solid foundation based on high quality curriculum.

It is also important to note that we have staff members already experienced in a 1:1 environment and/or experienced in the fundamentals of effective technology integration. While we have been referring to this work as an "initiative" at times, the reality is that our teachers and support staff have had exposure to technology. Some of our staff are already prepared for the impact of this District-wide plan due to their experience in D181, or in some cases, their experience in previous school districts.

Upon approval of this plan, the Department of Learning will engage the HCHTA and HESS leadership and the District’s Staff Development Committee in creating a multi-year PD plan that incorporates a technology focus where appropriate. The Curriculum, Instruction, and Assessment Advisory Council (CIACC) will also be asked to weigh in on this work. We anticipate the May 2017 Institute Day will have a technology component as part of our science training, and the tech learning will continue with the staff development sessions that take place in August 2017 prior to the start of school. Because this device roll-out is no longer being phased-in, the PD plan will be more consistently delivered.
We know that the most effective PD is ongoing and job-embedded whenever possible, so we will incorporate opportunities throughout the coming school year for staff to receive training and collaborate with one another. One way this will be accomplished is through the use of Teachers on Special Assignment (TOSAs). Our 2017-18 staffing plan will include three teachers working with their D181 colleagues to support effective technology integration and lesson planning, among other job-embedded PD activities. We anticipate that our Media Resource Center (MRC) Directors will also be essential in supporting the successful District-wide rollout of this plan and staff PD.

Another service to enhance our professional development offerings will be opportunities coordinated through the high quality trainers from Apple and Google and their partner organizations.

We plan to hold on increasing in-building Help Desk Technician staffing at this time, as we believe our current staffing levels will be sufficient for 2017-18. However, this is an area we will be monitoring closely. We will need additional technology help this summer due to the scale of our deployment plan to ensure we are ready for the start of next school year.

**Skills Map / Belief Statement #3**

*Belief Statement #3: “It is necessary to teach students a common set of digital skills, including the ability to find, evaluate, utilize, share, and create content using digital devices, information technologies, and the Internet. In applying these skills, we must support students in being responsible digital citizens who use appropriate behavior while engaged with technology. We believe these skills must be standardized by grade level and integrated into the curriculum.”*

Illinois has adopted the International Society for Technology in Education (ISTE) Standards, which emphasize the skills and qualities students need to engage and thrive in a connected, digital world. Examples include "creative communicator," "computational thinker," and "innovative designer." Additionally, we have D181 Information Literacy Standards, which are based on guidelines from state and national educational and technology organizations and are aligned with the Common Core State Standards. The research and media skills outlined in these standards are designed to be integrated across the District curriculum.

Beyond these standards, we previously identified the need for a technology skills map, a resource that would outline the specific tasks a student should be able to complete by grade level. For example, we know that keyboarding is a topic of concern for some staff and parents, as students need to be increasingly confident in their word processing for research, assignments, and testing. We do not currently have a set time in the school day at select grade levels to teach keyboarding skills. Rather, like many of the technology-based skills our students possess, it is learned organically as part of ongoing schoolwork and on personal time. The challenge is that we simply do not have time in the school day to focus specifically on such tasks as doing so would require a reduction in time spent on core subject areas such as reading, math, science, social studies, and/or other key learning opportunities.

While keeping those challenges in mind and acknowledging the potential benefit of a skills map, it is our intent to make this a key task of the TOSAs during the 2017-18 school year. While they are working side-by-side with their colleagues, we will ask them to work the teachers and support staff to identify lessons and units when select technology skills can be integrated into the curriculum maps which are currently being constructed. During the summer of 2018, this documentation could
be refined and plotted out by grade level for the year, thereby creating a realistic skills map to be adopted for 2018-19.

**Infrastructure**

It should also be noted that D181 has a very robust infrastructure to support the implementation of this plan. This includes but is not limited to WiFi access points, internet bandwidth, layer 3 routing, and distribution switching. While some school districts are still working to develop and implement the infrastructure necessary to successfully implement a digital learning environment such as the one being recommended by the D181 administration, this work has been ongoing and comprehensive.

**Learning Management System**

A Learning Management System (LMS) is a software application or web-based technology that is used for the management, organization, and delivery of resources, instruction, and learning processes, which often include assessing and monitoring student progress. Specific tools within the LMS can enable students to work in collaborative groups, communicate with peers and instructors, post completed assignments, receive feedback, work from multiple locations, and more. We have been focused on the Learning Content Management System side of the LMS as well as the Learning Management System itself. The content management side incorporates the support of content development, the opportunity to reuse that content, and the publication of the content. Additionally, we have been interested in the functionality of the LMS, which includes but is not limited to the following: course content delivery, curriculum management, skills and competencies management, skill gap analysis, individual development plan, assessing and recording, reporting resource management, and virtual organizations.

Canvas is the system that will be recommended for approval. (It was presented as an item for discussion for the February 13, 2017 meeting, and being presented for approval at the February 27, 2017 meeting.) Canvas is reported to be a reliable, customizable, user-friendly LMS. Students, teachers, and professional learning communities can use multiple devices to collaborate on-site or off-site. Its features include automated tasks, varied collaboration and communication tools, collaborative workspaces, assessment and progress monitoring tools, parent co-enrollment, instructional design management, and tools for aligning instruction to Common Core State Standards. Please see BoardDocs for related documents posted with that agenda item.

**Costs / Fees**

*Digital Learning Belief Statement #6: “Long-term systemic strategic planning and financial investment are critical to realizing and sustaining a robust District-wide digital learning environment...”*

All new devices purchased for distribution at the beginning of the 2017-18 school year will be on a three-year lease. The short-term and long-term funding solutions will be a combination of funding sources as follows:

- For the 2017-18 school year, the cost of the lease will be subsidized by the resale of older District-purchased and PTO-purchased iPad and MacBook Air devices. (Please see the following related documents posted to BoardDocs: Device Inventory and Remarketing, Diamond Assets Apple Trade-In Program, and District 181 Equipment Value Estimates.)
• For the 2018-19 school year and beyond, some funds will be allocated from the District budget and we will implement a new technology fee. The annual K-2 recommended fee is $25 per year and the recommended fee for Grades 3-8 is $75 per year. The administration has had extensive discussions with PTO representatives regarding the implementation of this fee. There was widespread consensus that the District should implement the fee as proposed. In fact, the PTO leaders were in agreement that this fee was warranted as families will see the benefit of the fee almost immediately. The fee amounts will be brought forward for Board approval during the 2017-18 school year in time for 2018-19 registration.

Please see the Deployment Plan (posted on BoardDocs) for an overview of the device purchases as they relate to long-term costs. Please note that device numbers are based on Kasarda "B" enrollment figures. It is important to note that approval of the plan is the action being sought from the Board on February 13, 2017. If that action goes forward, the Board will later be presented with lease agreements for the actual devices.

In 2017-18, the current Instructional Coaches will be assigned to positions that need to be filled (i.e. open classroom teacher positions). Assistant Superintendent of Human Resources John Munch is working with the Instructional Coaches in considering the best fit positions. The existing Instructional Coaches also would have the opportunity to apply for the TOSA role if desired. The funds already earmarked in the budget for the Coach positions will be reallocated for the TOSAs.

As noted previously, we do not plan to increase Help Desk staffing for 2017-18, but we will monitor this area. Due to the increased number of devices that need to be deployed during the summer, we do plan to increase the typical number of technicians who provide support during the summer months. The 2017-18 budget will include allocations for this need. Staffing needs for 2018-19 will be reevaluated during the 2017-18 school year.

Additional Cost Considerations (Beyond Devices and Staffing)

We are proactively identifying potential, and confirmed, additional expenses related to the implementation of this Digital Learning Environment plan. This ranges from software to support our curriculum (i.e. applications) to equipment. Depending on the item / purchase, the cost is being included in either the Department of Learning and/or Technology Department budget. Below are some examples of items that have been allocated in the 2017-18 budget.

• Learning Management System
  o Costs for Canvas are noted in the documents posted on BoardDocs.

• Home Filtering
  o We plan to replace our current web filtering system with a new system that also allows for at-home filtering. We anticipate there could be an increase of up to $10,000 for this additional service.

• Carts for iPads: We have a total of 58 carts that can store 30 iPads. We anticipate needing approximately 73 carts of this size.
  o $22,500 for 15 carts ($1,500 per cart)

• Cables for iPad Charging
  o $15,000

• Casper Licenses (Mac Management Tool) and Airwatch Licenses (iPad Management Tool)
  o We anticipate a decrease in the current licenses for Casper if we sell existing Mac computers, which will result in an $8,000 cost savings. However, we anticipate an increase of approximately $14,000 in the cost of Airwatch Licenses.
Miscellaneous Q&A

Will this Digital Learning Environment plan impact our students’ ability to complete standardized assessments?

• The District has been using both iPads and Chromebooks in various instructional settings for several years. We have enough experience with both to know their strengths and limitations. Additionally, both PARCC and MAP have confirmed that their assessments will perform properly on either device per their official Technology Requirements (posted on BoardDocs). As has always been the case, if an assessment is not compatible with the devices we have, we will administer the test with paper/pencil based on State guidance, an option necessary for many Illinois school districts.

Will a carrying bag be provided with the middle school devices?

• For 2017-18, we plan to purchase a device carrying bag for all middle schoolers which would hold either the Chromebook or MacBook Air (for 8th graders in 2017-18). It is important to note that hard-shell cases cannot be used on the Chromebooks we are planning to purchase due to the device converting into a tablet when folded. In lieu of a case, the carrying bag may help reduce the amount of damage the devices may otherwise experience in being transported between classes and from home-school in a 1:1 environment.

How are apps currently purchased for student devices?

• Currently, the purchase of apps is done at the building level through the building budgets, with apps chosen by teachers from among those apps approved by the App Review Committee. For 2017-18, we will collaborate with building administrators to budget for these purchases at the school and/or District level.

Which devices will staff be using?

• Staff in K-5 will have both a MacBook Air and iPad. Middle school staff will have a MacBook Air. While the middle school students will be using a Chromebook, the MacBook Air can run the same Google Chrome web browser, therefore they will be using the same essential tools that their students will be using. In order to fulfill their professional responsibilities, the middle school teachers need the more robust tools offered by a MacBook Air. While the MacBook Air is a more costly device, our research and experience shows that the MacBook Air is likely to last longer and provide greater performance. We plan to have the staff MacBook Airs on a four-year replacement cycle, while the student Chromebooks will be on a three-year cycle. The costs for staff devices are included in the plan budget, as shown in the Deployment Plan (posted on BoardDocs).

• Currently, the District’s Instructional Assistants are using 6+ year-old MacBooks that received hardware upgrades to make them more usable. There has not been a plan for IAs to have their devices replaced or refreshed. Therefore, we are planning to keep 125 of the 2013 MacBook Airs for the IAs instead of selling them, which would provide them with more current devices than they are using currently.

Will the K-5 iPads have a keyboard?

• The plan includes wired keyboards (not wireless / Bluetooth) to be included with each iPad. The Deployment Plan (posted on BoardDocs) shows the plan budget, which incorporates the cost of keyboards. We will work closely with teachers regarding the needed use of
keyboards at the elementary level and may reduce the cost of implementing this plan by reducing the number of keyboards. It is possible that purchasing classroom sets of keyboards will suffice, but the current budget accounts for the purchase of one wired keyboard per iPad.

What is going to be the role of PTOs moving forward as related to technology purchases?

- The administration does not believe the PTOs should be relied upon to provide essential curriculum tools for learning. In our conversations with PTO leaders, they have agreed with this point, that like textbooks, devices used as a primary tool for instruction and engagement should be provided by the District and coordinated at the District level. We also want to support the PTOs in being able to use their hard-earned funds for a variety of other projects and resources in the schools. With this plan, Grades 3-8 will be 1:1 and at the K-2 level, we will not want more devices than the shared ratio we have established. Therefore, PTOs will not be asked for additional devices and we will not accept additional devices. Instead, technology purchases will be limited to different, above-and-beyond technology tools that can be used to enhance learning in the classroom or through extra-curricular activities. This may include but might not be limited to whole-class presentation tools, software for enhancing information or providing additional skills acquisition opportunities for students, and other technology solutions that are not a part of the Digital Learning Environment plan outlined in this document. Any technology purchase recommendations from school PTOs will be required to go through an approval process at the school level and may involve the Department of Learning and Technology Department as needed.

Belief Statement #6 calls for a plan for curriculum and digital content renewal. How is that being addressed?

- The Board of Education approved a curriculum renewal cycle. As part of the work within each content area, staff will address digital content as appropriate. Separate from that process, our MRC Directors formed an App Review Committee to review applications (“apps”) and following an established process, determine if those apps are approved for purchase by staff to be downloaded to student devices. Currently, teachers select the apps for use from among those apps that are approved. As indicated in the Next Steps (below), we want to consider systemizing a standard suite of apps by grade level. However, we still want to allow teachers the opportunity to submit additional apps for consideration by the App Review Committee.

What will happen to the MacBook Airs that are on the 2015 lease?

- There are about 600 11" MacBook Airs on the 2015 lease that will need to be returned at the end of the 2018-19 school year. During the 2017-18 school year, approximately 500 of those devices will be deployed to 8th grade students. In the 2018-19 school year, those 500 MacBook Airs will be available for use as needed because the then-8th graders will have Chromebooks. The Applied Tech course at both CHMS and HMS will use approximately 70 of the remaining 100 devices in both 2017-18 and 2018-19 to support revamped curriculum. At the conclusion of the 2018-19 school year, all of the devices on the 2015 lease will return to the leasing company. Devices for Applied Tech will need to be budgeted for purchase or lease for the 2019-20 school year.
**Parent, Student, Staff, and Community Communication and Supports**

Good communication is critical for a successful Digital Learning plan. If this plan is approved, our first step involves a message from the Superintendent to all parents, staff, and Key Communicators that provides a high-level overview of the plan as well as access to this detailed proposal. We are finalizing efforts to make the news more reader friendly, i.e. by offering an audio/video version of the information. The key content will be sent to school/PTO newsletter coordinators for inclusion in their upcoming editions to help ensure parents and staff read this important news. We will ask principals to highlight key points of the plan when appropriate, as well, such as in staff meetings, newsletter columns, and PTO meetings. We will work with HESS and HCHTA leadership to address questions of their membership, and we will work with local media to communicate news about approval of our plan so this information can be shared with the broader community. Our current Digital Learning webpage and supporting resources will be fully updated as appropriate.

In the early fall, we anticipate creating a series of opportunities for parents to learn more about this work and how they can most effectively be engaged in digital learning alongside their students. This could involve a school-based meeting, possibly connected to an existing school event (i.e. Curriculum Night). We are currently envisioning a video series to complement that information, with short (five minutes or less) segments that could include these topics, among others:

1. The Plan and Purpose (i.e. why we’re doing this, the District-level plan)
2. Helping at Home (i.e. how to help with homework, apps, resources, tools)
3. Device Protection (i.e. care and repair protocols)
4. Security and Data Protection (i.e. filtering content)
5. Digital Citizenship (i.e. appropriate online behavior)
6. Digital Skills (i.e. working with you child to strengthen his/her technology readiness with age-appropriate resources)

Similarly, we need to ensure consistent messages and training is provided to students on these topics. Because we already have select schools and grade levels in a 1:1 environment, we have systems and forms in place for this work. The Department of Learning, Technology Department, and Communications Department will work together on these components and will involve additional staff (i.e. CIACC) and parents (i.e. PTO Presidents) as needed.

**Next Steps Upon Approval**

- We have a framework for parent, student, and community outreach related to digital learning. It will be refined and expanded as a systematic District-wide effort. This will include a review of communications (i.e. parent letters) and forms (i.e. Access to Electronic Networks form).
- At a future meeting, the Board will be presented with device lease agreements for approval.
- The Department of Learning will engage the HCHTA and HESS leadership and the District's Staff Development Committee in creating a multi-year PD plan that incorporates a technology focus where appropriate, as well as training for the LMS. CIACC will also be asked to weigh in on this work.
- The Technology Department and the Department of Learning will coordinate Apple and Google staff PD.
- The Human Resources Department and Department of Learning will finalize plans for the transition from Instructional Coaches this year to TOSAs in 2017-18.
• When creating the job description for TOSAs in 2017-18, we will include reference to creation of a grade level skills map.
• We will monitor staffing during the 2017-18 school year specifically in regard to Help Desk Technicians to ensure that our teachers and staff are well supported.
• We will work with the App Review Committee to consider how we can maximize their good work and potentially systematize a suite of apps by grade level.
• Belief Statement #6 specifically references periodic evaluation of the plan implementation as a measure of accountability. This will be done through the District Strategic Plan process.

Conclusion

This document represents the work of many. The administration wishes to thank the parents, community members, Board members, D181 Foundation members, PTO representatives, and staff who have been instrumental in the development of this Digital Learning Environment proposal.

Recommendation

The administration recommends that the Board of Education approve the Digital Learning Environment Plan as proposed.