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Maggie L. Walker Governor's School
School Technology Plan 2016-19

Developed by the MLWGS Technology Committee

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> **"Our diverse and supportive community develops students' character and ability to contribute, collaborate, and lead."**
>
> *Section of 2016 Maggie L. Walker Mission statement*

Executive Summary

Forward

This technology plan is intended to convey the current and future vision of the unique role of instructional technology for the gifted students at Maggie L. Walker Governor's School. Developed for our students, parents, teachers, Board members, community members, potential applicants, and other stakeholders, this three year plan was designed to align with the Virginia Department of Education's Addendum plan. Additionally, it reflects the most recent updates to MLWGS's strategic plan and revised mission and vision statements.
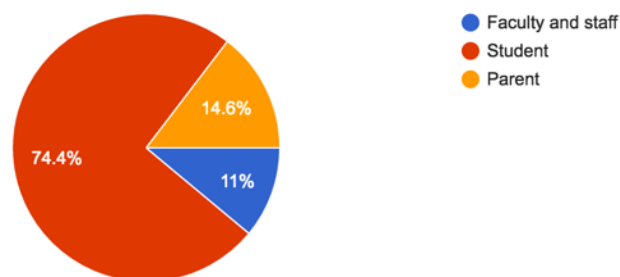
We are committed to the core belief that the availability and effective use of current instructional technology is essential to meet the school's mission of developing gifted students' ability to contribute, collaborate, and lead.

Determining our needs

In accordance with suggestions from the Director and School Advisory Council (an advisory body of parents, students, and faculty), the Coordinator of Instructional Technology formed a technology committee to update the educational technology plan for Maggie L. Walker Governor's School. The resulting multidisciplinary team of teachers developed this plan over the course of the 2015-2016 school year.

To begin our process, the technology committee had an off-site retreat to undergo a comprehensive review of the existing technology plan and the school's progress in spite of the loss of our full-time Coordinator of Technology staff member in 2013. Additionally, we reviewed the VDOE recommendations from the 2013 school evaluation pertaining to technology to help inform our work.

As directed in the prior technology plan, we continued by developing a needs assessment and collecting data from all stakeholders. This survey, which contained both quantitative and qualitative responses, was distributed electronically through a wide range of communication tools as well as in-person requests to groups representing the various community stakeholders. With a robust response from 308 stakeholders across all groups, we began analyzing the data.

The review of documents and the data identified several key areas of need:

- Improved robustness and stability of wireless network infrastructure
- Time and flexibility for teachers and students to explore, innovate, and collaborate
- More IT support staff
- Clarity of vision in regards to technology
- Proficiency with current hardware/software (teachers & students)
- Content-specific teacher training
- Expanded course offerings in a variety of areas dealing with technology

To provide transparency of our process, the Coordinator of Instructional Technology presented progress reports to administration, faculty, and the School Advisory Council at key points in the plan's development. The feedback we received was integrated into this final plan. Moving forward, as the plan is implemented, these same bodies, collectively representing the students, parents, faculty, and administration, will complete a annual review of our progress and refine the plan's goals, objectives, strategies, or evaluative indicators based on the technology landscape at that time. Prior to each annual review, we will administer a survey to collect feedback regarding our progress.

Our Strengths

MLWGS has several initiatives in place that are strengths in regard to physical, technical, and human resources. Additionally the data from our survey identified several other assets our school has currently.

<u>Physical and technical resources</u>
- Access to a network with wireless access, networked printers, and increased bandwidth capacity.
- A teacher laptop program that has been in place over 15 years, with laptop updates every three years.
- Student access to desktop and laptop computers in a variety of configurations.
    - Mobile laptop labs (Windows and Mac) available on each floor
    - Multimedia Mac lab equipped with software for digital graphics, video, and music production
    - Recording/listening lab in the Languages department
    - Multipurpose Windows desktop computers in the library and in several classroom-sized labs.
- Ceiling-mounted projectors in every teaching space with integrated wall-mounted controls in nearly every classroom.
- ActivBoards in 50% of classrooms.
- Five TV monitors installed in common areas for digital media messaging system.
- Individual email addresses and storage space on the server for both teachers and students, both of which are available on-campus and off-campus .
- Site license for *Mathematica*, a college-level mathematics software, which covers installations for on-campus and student-owned computers.
- Classroom sets of a variety of scientific data collection instruments.
- Audiovisual peripherals and portable response devices available for teacher and student use, including digital still cameras, video cameras, clickers, and slates.
- Access to Microsoft *365 and Office* applications for all computers (including up to five personal devices for faculty and staff.)
- Access to Google Apps for Education.
- Access to school site-license for Adobe Creative Cloud software.
- Access to high quality online databases for research in a variety of disciplines, most of which are available off-campus.
- A suite of communication tools for grades, attendance, and college applications: *PowerSchool*, *Naviance*, and a computerized messaging alert system.
- Online learning management system, *itslearning*®.
- Online curriculum management system, Rubicon Atlas.
- A bring-your-own-device BYOD support infrastructure for students to bring their own personal learning devices to school and access the school network.
- Digital citizenship pilot program, "Global citizens online" is already in existence in our building.

- Librarian who compiles resources related to tech integration and makes them accessible to the faculty
- Frequent efforts to share usage of instructional technology by colleagues in the classroom.
- Instructional technology training is a regular, built-in component of professional development.
- Development and delivery of digital content through blended environments.
- Utilizing technology in the development of summative assessments .
- Access to two Makerbot 3D printers.

Human resources
- **Coordinator of Technology** (PT - 0.4) with a portion of duties allocated to administering the integration of educational technology
- **Technology Assistant** (FT) with most of time dedicated to updating, maintaining, and troubleshooting on-campus hardware and software
- **NEW** N**etwork Technician** to update, maintain, and troubleshoot servers, filters, firewalls, and other network infrastructure.
- Five faculty members, **Technology Integrators**, who in addition to their regular teaching responsibilities, provide instructional technology integration consultation and collaboration throughout the school year for their department, are part the school technology committee, and additionally teach educational technology workshops during Freshmen Orientation.
- Formal and informal technical and planning assistance from experts in area school divisions, such as technical consulting assistance from Goochland and Henrico Public Schools.

Goals

Goal 1 [data-driven decision-making]: The community of MLWGS will use technology to support a culture that utilizes data and research to inform decision-making.

Goal 2 [communicating vision]: The technology and leadership teams of MLWGS will communicate the vision, goals, and objectives of this technology plan to the broader MLWGS community.

Goal 3 [teacher proficiency]: Teachers will engage students in curricular content and interdisciplinary collaboration through the meaningful and effective use of technology in support of our mission as a school for Government and International Studies.

Goal 4 [student proficiency]: Students will apply technology effectively to demonstrate their understandings of the curriculum and pursue profound and connected learning related to their personal interests.

Goal 5 [infrastructure and resources]: The community of MLWGS will maintain a technical infrastructure and curricular framework that provides multiple modes for delivering instruction, and human and technological resources to support teaching and learning at school and within the wider global community.

Goal 6 MLWGS will provide a safe, secure, and effective educational technology environment for students, staff, and parents.

Objectives and Strategies

Goal 1 [data-driven decision-making]: The community of MLWGS will use technology to support a culture that utilizes data and research to inform decision-making.

Objective 1.1 - Use data to inform selection and allocation of technical resources.

Strategy 1.1.1 - Interpret data from MLWGS surveys as well as professional research to determine most appropriate technology to support active student-centered classrooms.
Evaluation: Administration and technology integrators review data to determine efficacy of current and future technology purchases for both school-wide and department specific needs.
Budget: TBD (Will vary depending on purchasing decisions that are made)
DRI: Administration, Department Chairs(dept. specific needs), and Tech Integration Team

Strategy 1.1.2 – The librarian will analyze usage statistics as one factor in continually refining the toolbox of online resources to which the MW Library subscribes. **Evaluation**: Librarian analyzes statistics to inform recommendations about online subscriptions outlined in the library's annual budget proposal. **Budget**: no impact. **DRI**: Librarian

Objective 1.2 – Use data to help develop the school's strategic plan.

Strategy 1.2.1 - Interpret data from MLWGS surveys as well as professional research to guide strategic plan as it relates to technology annually.
Evaluation: Administration and committee members will continue to evaluate data and potentially update strategic plan in order to remain in line with current best practices regarding technology uses in education. **Budget**: TBD- will depend on what tools are used to collect appropriate data. **DRI**: Administration, School Board, Strategic Plan committee

Objective 1.3 - Use data to inform day-to-day teaching practices, curricular offerings, and professional development offerings.

Strategy 1.3.1 - Explore leveraging computational abilities to apply statistical analysis and ensure that assessments are statistically significant prior to taking actions

Evaluate: Determination will be made by Director of Curriculum regarding the feasibility of implementing statistical data into evaluation of assessments. **Budget:** No additional cost **DRI:** Director of Curriculum

Strategy 1.3.2 - Interpret data from MLWGS surveys to inform curricular offerings based on student interests and demands, as well as higher education and/or professional expectations **Evaluate**: Administrative team will review course offerings and feedback from surveys to ensure that student needs are adequately met. **Budget**: TBD (Depends on data collection tools and potential addition of part-time or full-time teaching positions for specialty classes) **DRI**: Administrative team

Strategy 1.3.3 - Interpret data from MLWGS surveys to inform professional development offerings based on faculty interests and demand, as well as best practices regarding technology uses in education. **Evaluate**: Administrative team and department chairs will review professional development offerings and feedback from surveys to ensure that faculty needs are adequately met. **Budget**: TBD (Depends on professional development programming pursued) **DRI**: Administrative team, Department Chairs, Technology integrators.

Strategy 1.3.4 -Explore ways to collect more Freshman readiness data and Q1 progress data, to minimize and manage student schedule changes in the early weeks of school, especially in math and languages. **Evaluate**: Development of reporting system for pre-assessments to identify potential misplacement of student before first interim period. **Budget**: no direct impact. **DRI**: Dept. Chairs and guidance.

Objective 1.4: Explore the use of new and emerging technologies to enhance learning.

Strategy 1.4.1 - Assemble a group/committee tasked with identifying emerging technologies that could positively impact instruction. **Evaluate**: Assembled committee will publish and present report annually to school community. **Budget**: no direct cost. **DRI**: Group assembled by Technology Integration Team

Strategy 1.4.2 - Leverage relationships with vendors to acquire loaner equipment for piloting emerging technologies in order to generate data to inform future acquisitions **Evaluate**: Published list of partner companies and resources provided and data regarding pilot. **Budget**: No direct cost. **DRI**: Coordinator of Instructional Technology

Strategy 1.4.3 -: Explore recent innovations in how technology is and can be used to modify the school's day structure, calendar, and course offerings to meet the unique needs of our gifted students. **Evaluate**: Generate report and recommendations to be included in future strategic plans. **Budget**: no direct impact. **DRI**: Coordinator of Instructional Technology, SAC tech-sub committee.

Goal 2 [communicating vision]: The technology and leadership teams of MLWGS will communicate the vision, goals, and objectives of this technology plan to the broader MLWGS community.

Objective 2.1 – Administrators and the technology team will utilize technology to engage all stakeholders in transparent and ongoing communication about the technology plan and its implementation.

Strategy 2.1.1- Publish an email newsletter focused on instructional technology best practices within the school, new applications, news, and procedures. Share through Smoke and Scales. **Evaluate**: open stats on mailchimp; supervisor of instructional technology. **Budget**: No direct cost. **DRI**: Coordinator of Instructional Technology

Strategy 2.1.2- Instructional leaders will engage teachers, students, and community in a conversation about the goals of technology integration at MW including progress toward specific goals, requests for assistance and request for help from the broader community. This can take place in several forums: faculty meetings(ie. "Tech Tip"), PTSA meetings, SGA, SAC committee, and screencasts or other online engagement method. **Evaluate**: Inclusion on meeting agendas. Periodic technology user surveys / satisfaction surveys to judge needs and / or progress. **Budget**: No direct cost. **DRI**: Administration and Coordinator of Instructional Technology.

Strategy 2.1.3 - Through platforms such as social media and the director's blog, the director of MLWGS will communicate with the community about the school's vision regarding technology integration (as it develops) as well as periodic instructional highlights that showcase how teachers and students are leveraging technology for teaching and learning. **Evaluate**: posts. **Budget**: no direct cost. **DRI**: Director of MLWGS.
To inform conversation about vision/purpose of technology integration at MLWGS: Resource Guide: Leveraging Technology for Innovation and Global Engagement - http://bit.ly/1t6T1sj

Goal 3 [teacher proficiency]: Teachers will engage students in curricular content and interdisciplinary collaboration through the meaningful and effective use of technology in support of our mission as a school for Government and International Studies.

Objective 3.1 - Administrators, department chairs, and technology integrators will support innovative and content-specific professional development that promotes continued growth in teachers' instructional skills and practices, as well as intra and interdisciplinary collaboration.

Strategy 3.1.1 - Re-introduce teachers and administrators to the National Educational Technology Standards (NET*S) or a similar set of existing standards through professional development workshops, department meetings, conferences, journal articles, etc. Ask Rubicon to add NETs standards to our standards. **Evaluate**: Links to standards added to online faculty handbook. Web portal with resources and best practices. Participation in relevant workshops, meetings, and conferences. **Budget**: No direct cost, except for cost associated with relevant professional development. **DRI**: Director of Curriculum and Instruction, Coordinator of Instructional Technology

Strategy 3.1.2 – Provide professional development opportunities based on data (1.3.3), as well as evaluate the relevance and application of existing standards.
Evaluate: Summative analysis of needs assessment for purpose of determining workshop offerings and reviewing existing standards. **Budget**: No direct impact **DRI**: Coordinator of Instructional Technology, Director of Curriculum and Instruction

Strategy 3.1.3 – A building-wide annual professional development plan will be created in relation to integrating technology in classroom teaching or leadership practices. Carefully consider content-specific training as components of plan, and address both practical issues and bigger picture thematic goals. **Evaluate**: Publication of plan through the school's learning management system and on the school website. **Budget**: No direct impact **DRI**: Coordinator of Instructional Technology, Technology Integrators

Strategy 3.1.4 – Information will be disseminated about emerging technology that assists teachers in selecting the technological tools that are most appropriate for their classrooms. (SEE OBJECTIVE 1.4) **Evaluate**: Instructional technology presentations at faculty meetings. Tech Spotlight newsletter. Tech Tips folder on LMS. **Budget**: No direct impact. **DRI**: Coordinator of Instructional Technology, Technology Integrators

Strategy 3.1.5 - Explore and provide opportunities for professional development for administrators on evaluating 21st century teaching and learning. **Evaluate**:
Training is approved, and documentation of completion is provided. Develop 'look - fors" for observation. Explore county partners professional development, MOOC's, and in-house training. **Budget**: TBD. **DRI**: Director of Curriculum and Instruction, Coordinator of Instructional Technology, Tech Integrators

Strategy 3.1.6 – Ongoing professional development opportunities will be provided to increase teachers' capacity to design and facilitate meaningful learning experiences in which students apply technology to create, problem solve, communicate, collaborate, and use real-world skills. **Evaluation**: Offerings reflect results of needs assessment survey (see 1.3.3). Participation in related sessions (as verified by sign-in sheet and documented by certificate of completion) Participation in one-on-one sessions with technology integrators (as documented by logs kept by technology integrators). **Budget**: TBD (contingent on course tuition, presentation fees, etc.) **DRI**: Director of Curriculum and Instruction, Coordinator of Instructional Technology, Department Chairs, Technology Integrators

Strategy 3.1.7 - Explore methods for providing Technology Integrators and teachers with the opportunities and (contractual) time to explore, innovate, and collaborate with technology, in addition to existing professional development options. **Evaluate**: Document of research completed. (see schedule innovation / see sections about interdisciplinary and exploratory time in Resource Guide: Reducing Student Stress) Development of proposal for structured opportunities for innovation with instructional technology. **Budget**: TBD **DRI**: Coordinator of Instructional Technology,Technology Integrators

Strategy 3.1.8 - Investigate on-demand technology and soft-skill professional development resources (such as Lynda.com) as an alternative to structured professional development. **Evaluate**: Report compiled and presented to Technology Integrators and administrative team **Budget**: none **DRI**: Coordinator of Instructional Technology, Technology Integrators

Strategy 3.1.9 - Develop system to measure teacher technological proficiency as a part of five-year teacher recertification. **Evaluate**: Research state and national standards and present proposed system to administration for review. **Budget**; no direct impact. **DRI**: Coordinator of Instructional Technology.

Strategy 3.1.10 - Provide technology professional development to members of the Technology Integration team by utilizing local consortia and organizations to add value to our technology practices. Evaluation: Establish membership by technology personnel in the Virginia Society for Technology in Education and related organizations (ISTE, etc.). Establish membership in Greater Richmond Area Educational Technology Consortium (GRAETC, EdTech). **Evaluate**: ongoing technology department participation, report findings to team. **Budget**: travel ($1000 annually) **DRI**: Director of Curriculum and Coordinator of Instructional Technology

Strategy 3.1.11 - Incentive best practices around technology by establishing a lesson framework that is appropriate for MW (but based on G21 and Henrico21) and encourage teachers to document these lessons with possibility of awards/recognition. This can be a showcase for successful learning activities and student artifacts. **Evaluation**: Establishment of original framework for best practices. Creation of website portal and launch of competition. **Budget**: explore foundation support for teacher prizes. **DRI**: Coordinator of Instructional technology, SAC tech-sub committee.

Strategy 3.1.12 - Explore and provide opportunities for professional development for teachers on Rubicon Atlas. **Evaluate**: Training is approved, and documentation of completion is provided **Budget**: No direct impact **DRI**: Director of Curriculum and Instruction, Coordinator of instructional technology

Objective 3.2 – Teachers will develop and deliver appropriate and challenging curricula and related formative and summative assessments through face-to-face, blended, and virtual learning environments.

Strategy 3.2.1 - Teachers enable anytime learning among stakeholders utilizing online resources and technology to encourage the incorporation of relevant global learning opportunities into classroom instruction.
Evaluate:
- Creation of lesson plans and delivery of instruction that utilizes relevant instructional technology
- Student uses observed during formal and informal teacher observations
- Student uses as evidenced by projects on display in the library
- Student uses as documented in teacher's professional growth plans
- Student uses shared in faculty meetings and department meetings

Budget: No direct impact
DRI:
- Teachers
- Integrators
- Director of Curriculum and Instruction
- Cluster Administrators

Strategy 3.2.2 - Evaluate the existing learning management system and explore alternative platforms. Establish a regular interval of evaluation. (see. 5.3.1)
Evaluate: Generate and administer an LMS needs assessment. Report compiled and presented to Technology Integrators and administrative team. **Budget**: No direct impact **DRI**: Coordinator of Instructional Technology

Strategy 3.2.3 - Explore platforms for effective formative and summative assessment in a variety of content areas. (ie. clickers, Kahoot!, Quia, Google forms, etc.) **Evaluate**: Report compiled and

presented to Technology Integrators and administrative team. **Budget**: No direct impact **DRI**: Coordinator of Instructional Technology

Strategy 3.2.4 - Provide and encourage use of a digital collaborative space for teachers to share best practices and learning successes. (see 3.1.1) **Evaluate**: Monitored use of Rubicon Atlas **Budget**: Subscription cost of Rubicon Atlas. **DRI**: Director of Curriculum and Instruction

Strategy 3.2.5 - Establish the expectation for frequency of meaningful and relevant PBL experiences students will experience each year. **Evaluate**: Technology Integrators will engage with individual teachers and in their department teams to co-design instruction using available hardware and software. These technology consultations will be documented. Teachers will include lessons and student artifacts as a component of three-year teacher evaluation cycle. **Budget**: No direct impact. **DRI**: Director of Curriculum and Instruction, Coordinator of Instructional Technology, Technology integrators, Teachers.

Objective 3.3: Leverage all available media for engaging in effective communication between all education stakeholders.

Strategy 3.3.1 - Utilize School Messenger system to communicate alerts by phone. **Evaluate**: assistant superintendent, principals deliver messages; usage report tallies success of calls and emails. **Budget**: no additional impact **DRI**: Director of MLWGS or designee.

Strategy 3.3.2 - Establish and communicate consistency guidelines in faculty and administrative use of electronic media (email, social media, blogging, online messaging, PowerSchool) to communicate with parents about student progress. **Evaluate**: Inclusion of best practices on professional development day and in new teacher training, (see strategy 6.1.4). **Budget**: no direct cost. **DRI**: Coordinator of Administration in collaboration with Coordinator of Instructional Technology.

Goal 4 [student proficiency]: Students will apply technology effectively to demonstrate their understandings of the curriculum and pursue profound and connected learning related to their personal interests.

ISTE Standards for Students

Creativity and Innovation

Communication and collaboration

Research and Information fluency

Critical Thinking, Problem Solving, and decision making

Digital Citizenship

Technology Operations and Concepts

Objective 4.1 – Students will use technology to research, interpret, and use information for curricular and personal learning.

Strategy 4.1.1 - Students will leverage technology to research, interpret, and use information in all content areas in ways authentic to each discipline. **Evaluate**: Observation of purposeful integration of research and data in lesson walk-throughs by administration. Public display of student artifacts resulting from the integration of technology to inform research, interpretation, and use of information. Documentation of learning opportunities that leverage technology for research and data analysis in the learning management system and curricular mapping software. **Budget**; No impact. **DRI**: Teachers, Technology Integrators

Strategy 4.1.2 - Provide access to professional level data analysis tools (ie. Alteryx) for students through "Alteryx for Good" donation program. **Evaluation**: Software installed on two math mobile labs. Software used in Math Modeling courses. **Budget**: No direct impact due to donation program. **DRI**: Coordinator of Instructional Technology and Technology Assistant.

Strategy 4.1.3 - Explore possibilities of expanding curriculum of current data driven classes (FIRC, VCU Stats, VCU Math Modeling, etc.) to include more real-world big-data applications. **Evaluate**: Needs assessment to determine student interest in new curricular offerings related to data-driven coursework (e.g. new AP courses). Enrollment in existing courses that focus on data analysis (e.g. Math Modeling, VCU Probability and Stats) **Budget**: No direct cost. **DRI**: Director of Curriculum and Instruction, Department Chairs

Objective 4.2 – Students will apply technology purposefully in alignment with NET*S standards to problem-solve, innovate, and communicate for curricular and personal learning. Link to ISTE standards for students.

Strategy 4.2.1 - Students will leverage technology to problem-solve, innovate, and communicate in all content areas in ways authentic to each discipline. Evaluate: Observation of purposeful technology integration in lesson walk-throughs by administration. Public display of student artifacts resulting from the integration of technology to inform problem-solving, innovation, and communication. Documentation of learning opportunities that leverage technology in the learning management system and curricular mapping software. Budget: No direct impact DRI: Director of Curriculum and Instruction, Coordinator of Instructional Technology, Technology integrators

Strategy 4.2.2 - Research best-practices of utilizing M.O.O.C.s in instruction and develop a plan for implementing these opportunities for students in line with Strategic Plan. **Evaluate**: Report and plan for implementation presented to admin. Research CodeRVA and other opportunities to partner. **Budget**: No direct impact. **DRI**: Coordinator of Instructional Technology

Strategy 4.2.3 - Explore possibilities of expanding student course offerings in technology focused areas like coding, 3D printing, digital humanities, etc.
Evaluate:
- Research course offerings in surrounding school divisions
- Research course offerings in schools similar to Maggie Walker
- Research course offerings in Higher Ed.
- Consider what unique courses would be beneficial to Maggie Walker students and in line with the mission of the school.

Budget: No direct impact. **DRI**: Director of Curriculum, Coordinator of Instructional Technology, SAC technology sub-committee

Strategy 4.2.4 - Explore the possibility of altering the existing student schedule to include interdisciplinary and inter-grade level curricular options (i.e. "genius hour," "outside learning," inquiry-based projects, project-based learning), to facilitate the application of technology for student critical thinking, problem solving, and decision making.
Evaluate: Compilation and presentation of relevant research (see schedule innovation / see sections about interdisciplinary and exploratory time in Resource Guide: Reducing Student Stress) **Budget**: No direct cost **DRI**: Director of Curriculum and Instruction,Coordinator of Instructional Technology, Technology Integrators

Strategy 4.2.5 - Explore and encourage student use of authentic technology for problem solving as a component of course final assessments (exams). This elevates the authentic, problem solving to demonstration of comprehensive course mastery.
Evaluate:
- Observation of purposeful technology integration in lesson walk-throughs by administration.
- Public display of student artifacts resulting from the integration of technology to inform problem-solving, innovation, and communication.
- Documentation of learning opportunities that leverage technology in the learning management system and curricular mapping software.

Budget: No direct impact   **DRI**: Director of Curriculum and Instruction, Coordinator of Instructional Technology, Technology integrators

Strategy 4.2.6 - Raise student awareness of resources (physical and human) to assist with specific areas of technology expertise or need with the goal of elevating student mentorship research outcomes and other course project work.
Evaluate: Create an online portal on our LMS for listing resources. Create signage in student areas to communicate resources. **Budget**: No direct impact. **DRI**: Director of Curriculum and Instruction, Coordinator of Instructional Technology, Technology integrators

Goal 5 [infrastructure and resources]: The community of MLWGS will maintain a technical infrastructure and curricular framework that provides multiple modes for delivering instruction, and human and technological resources to support teaching and learning at school and within the wider global community.

Objective 5.1 - Provide and properly maintain a robust and flexible network infrastructure necessary to support teaching and learning in face-to-face, blended, one-to-one, and virtual learning environments.

Strategies. 5.1.1: Conduct regular network performance evaluation in order to determine potential additional investment in or maintenance for network infrastructure.
Evaluate: Report by the Network Technician on survey results and system performance analysis quarterly. **Budget**: No direct cost. **DRI**: Head Network Technician

Strategy 5.1.2: Develop plan to replace aging internal network infrastructure at school and explore potential purchases based on findings from Network Technician infrastructure report (see 5.1.1), and work towards benchmark levels found in research document(see 1.1.1).
Evaluate: Financially feasible needs are met within a reasonable time-frame. **Budget**: TBD (Varies from year to year based on needs) **DRI**: Budget Committee, Head Network Technician

Strategy 5.1.3: Develop an issue documentation system for infrastructure issues for the purposes of organizing help requests and maintaining accurate data on recurring issues. ("ticketing system"?) **Evaluate**: Create a working document that consolidates technology help requests schoolwide. **Budget**: TBD **DRI**: Coordinator of Instructional Technology, Technology Assistant, Head Network Technician

Strategy 5.1.4 : Explore means to increase bandwidth to users over wireless within the school and additionally explore the use of ERate funds to support improvements. **Evaluation**: Report on current bandwidth over wifi and options for improving. Quarterly survey of staff and students. **Budget**: no direct impact **DRI**: Network tech.

Strategy 5.4.5: Continue support of BYOD program by utilizing dual wireless network topology in school building to secure internal networked assets from guest wireless network. **Evaluate**: ongoing monitoring of network by Network Technician. **Budget**: none **DRI**: Network tech.

Objective 5.2 – Provide the human resources necessary to support teachers' integration of technology in the classroom and maintain teachers' awareness of and proficiency with existing and emerging technology.

Strategy 5.2.1 Ensure continued support for adequate technology staffing based on survey data, problem statistics (see 5.1.3), and necessity of providing redundancy of technology support services. **Evaluation**: Annual assessment by Technology team of the extent to which current staff and allocation of technology responsibilities meets the needs of the school. **Budget**: TBD **DRI**: Administration, Technology Integration Team, Coordinator of Instructional Technology, Technology Assistant, Head Network Technician

Strategy 5.2.2 Ensure that compensation and allocation of responsibilities for all members of the technology team are in line with comparable schools and school districts
Evaluate: Benchmark salaries of all members of the technology team, including part-time positions and salary-supplemented teachers, against comparable positions in other schools and school districts **Budget**: TBD (Potential compensation increases) **DRI**: Administrative team, Budget Committee

Strategy 5.2.3 – Continue to provide a Coordinator for Instructional Technology to support teachers' integration of technology in the classroom and their professional growth in this area. Explore the possibility of expanding the position to full time. Modes of support may include:
- Lead development and monitor progress of technology plan
- Group workshops
- One-on-one instruction
- Development of professional development opportunities

Evaluation:
- Participation in related sessions (as verified by sign-in sheet and documented by certificate of completion)
- Participation in one-on-one sessions (as documented by logs kept)
- Communication of best-practices with teachers through email newsletter, LMS, etc.

Budget: TBD   **DRI**: Administration

Strategy 5.2.4 – Continue to provide a Technology Assistant to support teachers' integration of technology in the classroom by maintaining hardware and software installed on teacher devices as well as in labs.

Evaluation:
- Maintenance of computer labs, mobile labs, teacher laptops and possible student laptops in coordination with maintenance schedule.
- Maintenance of school-wide software (updates) in coordination with maintenance schedule.
- Maintenance of technological infrastructure (projectors, Promethean boards, etc) in coordination with maintenance schedule.

Budget: no additional impact as position is already in place   **DRI**: Administration

Strategy 5.2.5 – Continue to provide a team of technology integrators to support teachers' integration of technology in the classroom and their professional growth in this area. Benchmark the compensation with our regional partners with a goal of bringing it into alignment. Alternatively, explore the option of providing a "support period" planning time in lieu of financial compensation. Modes of support may include: Group workshops, One-on-one instruction, Collaborative teaching to model technology integration.

Evaluation: Participation in related sessions (as verified by sign-in sheet and documented by certificate of completion). Participation in one-on-one sessions with technology integrators (as documented by logs kept by technology integrators). **Budget**: no additional impact **DRI**: Administration

Strategy 5.2.6 – Provide a librarian to curate resources on the library web site, teach students and teachers how to use online resources and tools effectively, and collaborate with teachers on the design and delivery of instruction related to research projects.

Modes of support may include: Subject or project-specific guides to online resources on the library web site. Group workshops .One-on-one-instruction. Collaborative teaching to model use of technology resources for research.

Evaluation:

- Activities documented on librarian's annual professional growth plan
- Usage statistics for resources when available from database vendors Google Analytics, itslearning®, and similar sources

Budget; No additional impact as position is in place. **DRI**: Administration

Objective 5.3 - Provide equitable student access to software, hardware peripherals, and online research resources to enhance learning in a variety of disciplines at school and home.

Strategy 5.3.1- Continue to maintain/review an effective LMS to ensure that students have access to school materials whether on or off campus. (see 3.2.2)
Evaluate: Every two years review current LMS against potential replacements, and determine best option for the school as a whole. **Budget**: TBD **DRI**: Director of Curriculum

Strategy 5.3.2- Conduct annual needs assessment on a department by department basis to determine what additional software, hardware, or peripherals are needed or which current software, hardware, or peripherals need to be updated to ensure maximum learning possibilities.
Evaluate: Department reports of needed/desired materials each June. **Budget**: TBD **DRI**: Department Chairs, Administrative team, Integrator

Strategy 5.3.3 0 Explore the feasibility of establishing a student technology ambassador program in order to assist with minor day to day technology issues and management of student maker-space, and provide students with hands-on IT experience.
Evaluate: Administrative team will determine whether this program can be created and modeled after the current student ambassador program. This would include a definition of the selection,

expectations, and oversight of the students in the program. **Budget**: No additional cost **DRI**: Director of Curriculum, Coordinator of Instructional Technology, Technology Assistant, Head Network Technician

Strategy 5.3.4 - Explore possibilities of expanding student access to technology-rich learning environments within school for creative innovation (such as 'maker-spaces").
Evaluate:
- Designate specific space for maker space.
- Develop protocols for student use.
- Encourage use by establishing maker "challenges" or hackathons
Budget: No direct impact **DRI**: Coordinator of Instructional Technology

Strategy 5.3.5 - Develop learning opportunities for students to use technology to practice and demonstrate critical thinking, problem solving and decision making by exploring the establishment of a student "digital humanities challenge" or "digital problem solving challenge". This initiative would challenge students with a "real world problem" from the community (or the world). Students would then generate proposals for funding of student-led projects to address the problem. These projects would then be implemented and presented to the school community. **Evaluation**; Research and proposal of such an initiative to be completed by Coordinator of Instructional Tech and SAC technology sub-committee. **Budget**: no direct impact until implemented. **DRI**: Coordinator of Instructional Tech and SAC technology sub-committee.

Strategy 5.3.6: Investigate hard and soft-skill learning resources (Lynda.com) as tool for student learning (coding, app dev., etc) for "on-demand" and 'just-in-time" learning to support independent projects and research. **Evaluate**: Submission of various quotes from vendors to be included in budget planning. **Budget**: TBD **DRI**: Coordinator of instructional technology

Strategy 5.3.7- Provide student access to computers during and after regular school hours.
Evaluation: Computer lab(s) kept open until 5pm on at least 80% of school days. **Budget**: no direct impact **DRI**: Technology Assistant, Security

Strategy 5.3.8- Explore the possibility of providing equitable access to hardware across the entire student body.
Evaluation:
- Research best practices of 1:1 programs in our regional partner districts and present findings. (see Addendum #1)
- Develop several proposals for consideration
- Engage faculty in conversation about goals of a 1:1 at Maggie Walker.
- Pilot devices for instructional effectiveness, management, and durability.
Budget:$50,000 beginning FY1617 **DRI**: Coordinator of instructional technology, Technology assistant, Network Technician.

Strategy 5.3.9- Explore ways to provide all students at Maggie Walker with adequate Internet access at home through partnership with local service providers. **Evaluation**: Research report

on various options through various service providers including availability, speed, and budgetary impact. Additionally, explore grant opportunities through various organizations including the Governor's School Foundation. **Budget**: no immediate impact **DRI**: Coordinator of instructional technology

Strategy 5.3.10
Explore the use of distance learning and MOOC's and the use of video and chat capabilities to learn from non-traditional classroom based environments. **Evaluation**: Consider a distance learning day / attend from home / or potentially from various libraries across the region.
Budget: no immediate impact **DRI**: Coordinator of Instructional technology, SAC tech sub-committee.

Objective 5.4 - Provide teacher, staff, and administrator access to software, hardware peripherals, and online research resources to enhance teaching in a variety of disciplines.

Strategy 5.4.1-Dept. Chairs conduct regular needs assessment and research on a department by department basis to determine what additional software, hardware, or peripherals are needed or which current software, hardware, or peripherals need to be updated to ensure best teaching practices.
Evaluate: Department reports of needed/desired materials to Budget director. **Budget**: TBD
DRI: Department Chairs, Administrative team

Strategy 5.4.2- Make new purchases annually based on needs assessments and budget allowances
Evaluate: Ensure that technology purchases are in line with needs assessments.
Budget: Varies annually according to needs and budget allowances **DRI**: Budget Committee, Coordinator of Instructional Technology, Technology Assistant, Technology Integration Team

Strategy 5.4.3-Maintain and continue to expand Resource Management System (RMS) in order to provide an up to date record of technology inventory. **Evaluate**: Confirm that RMS is up to date and accurate **Budget**: No additional cost **DRI**: Technology Assistant and Director of Operations

Strategy 5.4.4 - Establish a maintenance schedule for hardware (such as printers, copiers, projectors, ActivBoards, etc.) AND software (operating system updates, Java, content specific software, etc.) to ensure a functioning and effective instructional environment.
Evaluation:
- ensure that software is up-to-date and that updates are effectively pushed out to all machines on a regular basis.
- Establish a maintenance schedule for hardware such as desktop labs, mobile labs, printers, copiers, projectors, ActivBoards, etc.
- Software licenses up-to-date and migrated to July 1 subscription start date.
- Annual inventory of audiovisual peripherals and digital input devices

- Database and software subscriptions up-to-date, subject to change based on usage statistics and changing curricular needs
- Maintenance schedules <u>posted</u> to ensure communication.

Budget: No direct impact   **DRI**: Network Tech. and Technology Assistant

<u>**Strategy 5.4.5**</u> - Explore additional opportunities to partner with the participating local school divisions for specialized tech support and best practices before launching new technology initiatives (projectors, touch screens, LMS systems).Evaluate: Meeting with representatives of surrounding districts and report on opportunities to partner with districts **Budget**: No direct impact   **DRI**: Coordinator if Instructional Technology, Network Tech. and Technology Assistant

<u>Goal 6</u> MLWGS will provide a safe and secure educational technology environment for students, staff, and parents.

Objective 6.1 – Implement policies and practices that maintain a safe and effective educational technology environment at school and on school-issued devices at home.

<u>**Strategy 6.1.1**</u>: Review and edit AUP to reflect changing technology. **Evaluate**: Annual review and updated document on school handbook. **Budget**: No cost. **DRI**: Administration and technology integration team.

<u>**Strategy 6.1.2**</u>: Explore possible methods to deliver lessons to students on topics of internet safety,including: cyberbullying, copyright, password selection, identity theft, and electronic communications. **Evaluate**: Development of instructional tool and procedure. Curate and/or create student lessons in the LMS to address topics of internet safety, including: password selection, online identity, privacy, identity theft, cyber bullying, ethical use of information, and guidelines for effective and ethical engagement in electronic communications. **Budget**: no direct budget implication. **DRI**; Technology integration team and librarian will assist with curation/ creation of lessons; Director of Curriculum and Instruction will monitor for student performance on quizzes.

<u>**Strategy 6.1.3**</u>: Provide professional development for teacher sessions related to Internet safety and professional best practices for teacher and student interaction online. **Evaluate**: Inclusion in year long prof. Dev. plan. **Budget**; TBD **DRI**: Director of Curricululm.

<u>**Strategy 6.1.4**</u>: Within 3 years of new employment, and following, as a part of the five-year re-licensure process with VDOE, teachers will demonstrate technology proficiency, including ethics of cyberspace and Internet safety and every 5th year. **Evaluation**: Metric to be developed. **Budget**: no direct cost. **DRI**: Coordinator of instructional technology and Director of Curriculum.

Objective 6.2 – Provide students and faculty with instruction on the principles of "digital citizenship" and online identity.

Strategy 6.2.1 - Curate resources for good Digital Citizenship for both staff and student use through the LMS. **Evaluate**: promote online resources and track usage of course elements in LMS and newsletter. Explore like AUP, including in handbook quiz. **Budget**: no direct cost. **DRI**: librarian and technology integration team will assist with identification and curation of resources; Director of Curriculum and Instruction will track usage annually.

Strategy 6.2.2 - Teachers will reference Digital Citizenship resources in course syllabi and course websites, and review them with students as appropriate for specific related assignments (e.g. reviewing privacy settings when assignment involves publishing online). **Evaluate**: Inclusion of links on course syllabi and/or course web sites, newsletter, highlight in presentations. **Budget**: No direct budget implication. **DRI**: Director of Curriculum and Instruction.
http://www.digitalcitizenship.net/Nine_Elements.html
https://www.iste.org/docs/excerpts/DIGCI2-excerpt.pdf

Objective 6.3: Maintain and increase network security in the building to protect school community and data.

Strategy 6.3.1: Review and maintain a CIPA compliant Internet filtering appliance for network traffic that is presented to students that allows for staff overrides of blocked content. **Evaluate**: evaluated annually for budget and feature compliance by technical coordinator and problem date (see 5.1.3) **Budget**: TBD. **DRI**: Network Technician

Strategy 6.3.2: Maintain secure network infrastructure (firewalls, virus protection, spam filters, etc.) to limit amount of unsafe content within the school environment.. **Evaluation**: regular monitoring of network. Quarterly report: count (bar graphs over time…) of malware identified and removed, junk mail blocked, student / teacher complaints on overly restrictive controls, or other similar metrics to be developed. **Budget**: TBD based on monitoring and new threats **DRI**: Network Technician

Strategy 6.3.3: Add a "safety minute" to technology newsletter or faculty meeting to raise awareness of best practices (good examples that prevented bad stuff) or lessons learned (bad stuff that could have been avoided). **Evaluation**: Inclusion into newsletter. **Budget**: none. **DRI**: Network Technician in coordination with Coordinator of Instructional Technology.