

Office of the Superintendent of Schools
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

May 30, 2013

MEMORANDUM

To: Members of the Board of Education

From: Joshua P. Starr, Superintendent of Schools

Subject: Update on the Montgomery County Public Schools 2014–2016 Strategic
Technology Plan

Executive Summary

The Montgomery County Public Schools (MCPS) 2014–2016 Strategic Technology Plan outlines multiyear strategies and actions to transform learning environments through the innovative integration of technology across all aspects of the school system. This plan involves a single goal that provides an overarching, laser focus of all efforts and articulates five strategies that are aligned with the Board of Education’s updated core values to realize the plan’s goal. The plan was developed in collaboration with a broad cross section of staff, parents, students, and higher education and business representatives. The plan envisions MCPS as a school system in which technology-enriched learning communities inspire intellectual curiosity and prepare students with the knowledge and skills to excel in college and chosen careers.

Background

The interactive and mobile technologies our students use outside of school present tremendous opportunities to redesign our learning environments. At the same time, emerging research on how the brain functions and on how people learn supports the value of interactive, mobile technologies in promoting deeper learning for students. As a result, we have an opportunity to reshape teaching and learning to address the learning needs of students and staff more effectively.

The innovative use of technology remains a significant strategy in our ongoing improvement initiatives. A growing repository of digital resources and a dynamic computing infrastructure is enabling timely access to content through a variety of interactive and mobile technologies. The 2014–2016 Strategic Technology Plan is a blueprint for how MCPS will organize resources and

prioritize its efforts. This updated plan articulates how we will integrate technology to improve the learning outcomes for our students, support the professional learning and development of our staff, and increase the effectiveness of our services.

Plan Development Process

The process for developing the 2014–2016 Strategic Technology Plan included a broad range of perspectives from internal and external stakeholders. During the past year, a diverse coalition of stakeholders participated in the discussion, description, and elaboration of the themes that influenced the plan’s goal, strategies, and actions. These stakeholders included staff, students, parents, businesses, the employee associations, school systems, and higher education institutions.

The development of the plan started with each stakeholder group being asked to envision what teaching and learning should look like with the effective integration of technology. Feedback from this exercise across all groups was similar, and resulted in the emergence of five themes: a next generation learning infrastructure; reimagining our virtual learning communities; professional learning and development for staff; operational excellence; and digital citizenship. These themes became the essential components of the content of the technology plan.

Once we gathered and synthesized stakeholder feedback into these five themes, we sought to align the themes, goals, and strategies with the development of the new MCPS strategic plan. We analyzed the documents stemming from that work effort and realized the natural alignment of the technology plan with the five core values adopted by the Board of Education. This alignment helped to shape the five strategies that are outlined in the technology plan.

Alignment of Plan Strategies with Core Values

Core Values	Technology Strategies
Learning	Inspiring Innovative Learning
Relationships	Collaborative Communities and Connected Classrooms
Respect	Respectful, Ethical Engagement in Virtual Communities
Excellence	Operational Excellence and Productivity
Equity	Equitable Access

Each strategy reflects a core dimension of our work and carries with it a set of specific action steps to be taken. The following is a summary of each strategy:

Inspiring Innovative Learning: This strategy focuses on improving teaching and learning through the effective integration of technology and through building staff capacity in the effective use of technology to enhance and support learning.

Collaborative Communities and Connected Classrooms: Actions within this strategy aim to develop and expand virtual communities and online learning to connect classrooms, cultivate relationships, and encourage resource sharing between and among students, teachers, staff, parents, and community partners.

Respectful, Ethical Engagement in Virtual Communities: This strategy fosters a culture of respectful and ethical engagement in the use of digital technologies so that all staff and students engage in the norms of appropriate, responsible use of technology.

Operational Excellence and Productivity: This strategy focuses on expanding the integration of management and analytic systems to support continuous improvement in learning outcomes, strengthening customer service delivery and user experiences, and making efficient use of time.

Equitable Access: The fifth strategy centers on expanding partnerships and organizing internal resources to ensure equitable access and participation by all members in the expanding MCPS digital community.

These five strategies help to actualize the single goal of the technology plan, which states that all learners will participate in technology-enriched learning communities that inspire intellectual curiosity and prepare them with the knowledge and skills to excel in college and chosen careers in an evolving digital age. The underlying assumptions of this plan include the following:

- Technology is changing how we live, work, and learn; we must adapt and integrate these technologies to create inspiring and motivating learning experiences.
- Technology-enhanced assessments provide timely feedback to support differentiating student learning experiences and monitoring progress toward learning goals.
- Providing continual, high-quality professional development that models using technology for learning is critical in shaping the type of instruction we want in our classrooms.
- A robust and resilient cyber infrastructure ensuring anytime, anywhere access to learning resources and the virtual community is required for effective digital learning.
- The growth and dependence of the evolving MCPS virtual community requires effective partnerships to ensure that all members of the MCPS community may participate fully.

Next Steps

How we respond to and plan for carrying out the plan's strategies is critical to our long-term success in meeting the needs of a new generation of learners. Five key overarching outcomes are expected as a result of implementing the 2014–2016 Strategic Technology Plan. These include

the creation of complete wireless campuses across our schools; the completion of the full-featured *myMCPS* virtual learning community to include staff, students, parents, partners, and online courses; the integration of self-service portals and automated paper processes; the beginning transition to digital text; and the establishment of partnerships to ensure all families have access to the MCPS digital community. The actions outlined in the plan represent specific work that the Office of the Chief Technology Officer will facilitate in partnership with other offices, schools, and partners to create detailed action plans and funding requirements.

Adequate funding for the six-year Technology Modernization (Tech Mod) Program is the cornerstone for transforming our infrastructure, classroom spaces, and learning environments for teaching and learning in the digital age. Additional operating budget expenditures will be required to address the need for modernizing and expanding key instructional and administrative systems. Staff is preparing multiyear cost analyses and projections for this plan. Similarly, work is under way to reprioritize the Tech Mod Program budget to respond to the growing demand of mobile computing and extending learning opportunities beyond the school walls. To prepare students to succeed in college and career pursuits, MCPS schools must have the ability to use instructional resources and pedagogical strategies that incorporate the technology that is part of daily life outside the classroom. Sustaining appropriate funding for the Tech Mod Program is essential to transforming our learning environments for teaching and learning in the digital age.

Present at the table for tonight's discussion is Mr. Sherwin Collette, chief technology officer, Office of the Chief Technology Officer.

JPS:sjk

Attachment

2014-2016

Reimagining *my*Learning in a Connected Age

Montgomery County Public Schools
Strategic Technology Plan



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Executive Summary

The innovative use of technology remains a significant strategy in our ongoing improvement initiatives. A growing repository of digital resources and a dynamic computing infrastructure is enabling timely access to content through a variety of interactive and mobile technologies. As a result, Montgomery County Public Schools (MCPS) is transforming learning environments through the innovative integration of technology across all aspects of the school system. These changes also are facilitating increased effectiveness of our business services and creating new professional learning opportunities.

The MCPS 2014–2016 Strategic Technology Plan outlines the multiyear strategies and actions required to achieve the plan’s single focus of inspiring and reimagining learning in a digital age. This technology plan aligns with and supports the superintendent’s and Board of Education’s mission, vision, core values, and commitment to ensuring that all students achieve at the highest levels.

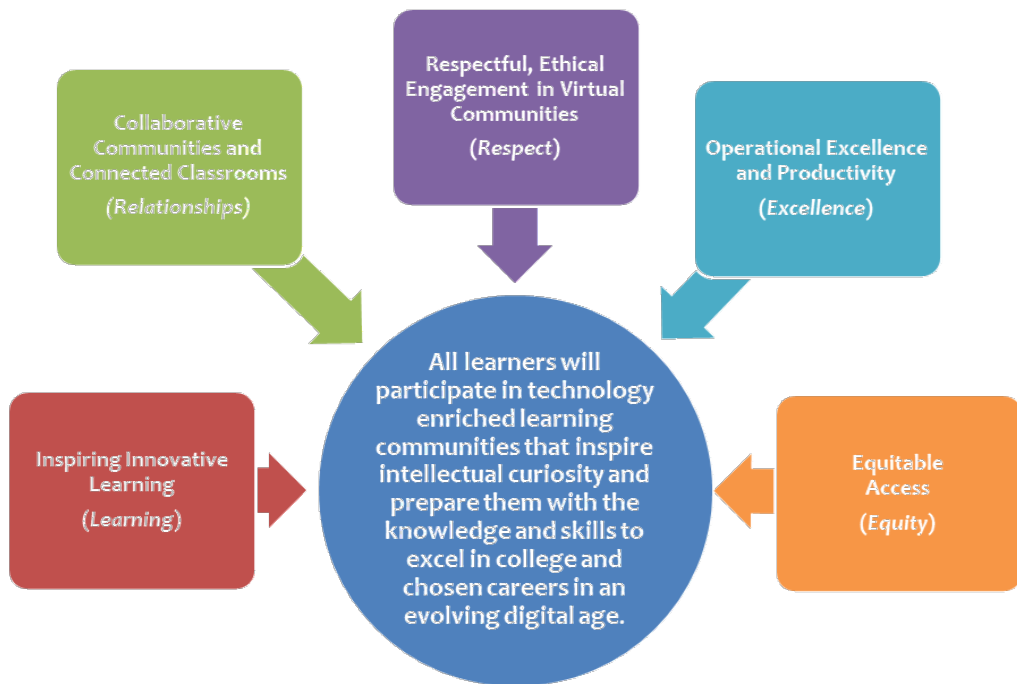
A diverse coalition of stakeholders participated in the discussion, description, and elaboration of the themes that informed the plan’s goal, strategies, and actions. The underlying assumptions of this plan include the following:

- Technology, specifically digital and mobile technology, is changing how we live, work, and learn. As a result, we must adapt and integrate these technologies to create inspiring and motivating learning experiences.

- Technology-enhanced assessments must provide timely feedback to support teachers in differentiating student learning experiences and monitoring progress toward learning goals.
- Providing ongoing, high-quality professional development for adults that model using technology for learning is critical in shaping the type of instruction we want in our classrooms.
- A robust and resilient cyber infrastructure that ensures anytime, anywhere access to learning resources and the virtual community is a fundamental requirement for effective digital learning.
- The growth and dependence on the evolving MCPS virtual community will require effective partnerships to ensure that all members within the MCPS community can participate fully.

As a result, this plan identifies a single goal that provides an overarching, laser focus of all efforts. Moreover, the plan articulates five strategies that are aligned with the district’s updated core values to realize the plan’s goal. This goal speaks to the plan’s focus on transforming learning. The plan envisions full stakeholder participation in technology-enriched learning communities that inspire intellectual curiosity and prepare them with the knowledge and skills to excel in college and chosen careers in a digital age.

Strategic Technology Plan Summary

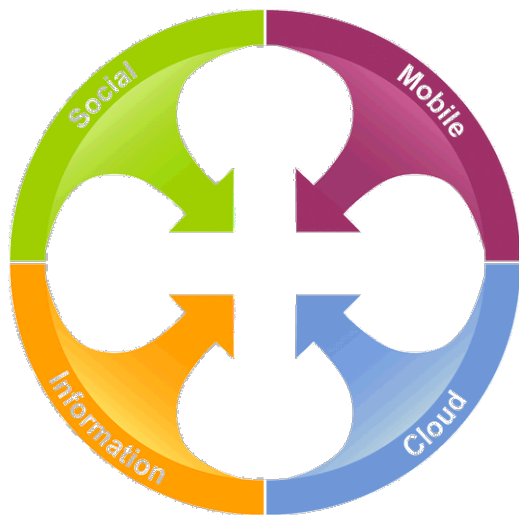


By 2016, we will have accomplished the following:

- Wireless networks across every school and central services office
- Regulations and guidelines for using non-MCPS-owned technology on district networks
- A multifaceted virtual community for parents, staff, and students
- Students and staff online courses and content through *myMCPS*
- Developed a sustainable funding plan for technology
- A robust cyber infrastructure that supports virtual learning
- A 70 percent reduction in print instructional texts
- Simplified analytic systems for interactive decision making
- High-quality professional development experiences that help teachers integrate technology into their instructional program
- Integrated staff self-service portal
- Partnerships to support equitable access to the MCPS digital community
- Digital citizenship awareness program for staff, students, and parents/guardians
- Comprehensive library of instructional resources for parents/guardians
- Anytime access to files and appropriate data

The Drivers

The interactive and mobile technologies with which our students are immersed outside of school present tremendous opportunities for supporting our design of more authentic learning environments. At the same time, emerging research on how the brain functions and on how people learn is supporting the value of creative, social, and real-life integration of these interactive, mobile technologies in promoting deeper learning for students.



The Nexus of Forces—Gartner, 2012

Advances in mobile, social, information, and cloud technologies are reshaping society and creating new opportunities for how we teach and learn. The convergence of these four forces is enabling access to more powerful personal mobile technologies to learn and work. The growing use of personal and consumer-grade technology products in the workplace also increases the expectation of our staff and students to use their own technology tools at school or in the office.

These ubiquitous technologies have the potential to enable a powerful and dynamic human learning network more easily than previously possible. However, if the potential benefits of integrating technology into our instructional and workplace practices are to be realized, then these emerging technologies must be used to facilitate how we transform a learner's interaction and engagement with the content and other learners. In this way, we have an opportunity to reshape current conceptions of teaching and learning to address the learning needs of all students more effectively.

These telecommunication and mobile technologies are upending existing conventions for how, what, and when we learn and work. The innovations for school and work that these technologies are fueling no longer are about what will be possible in the future. Thus, there is an urgent need to reimagine learning and the business of learning in the digital age.

The Plan's Vision

ALL students are empowered and prepared to participate as full citizens in a dynamic global society in which they *create, achieve, engage, contribute,* and *flourish* in meaningful communities through universal access to people, information, and ideas.

We envision classrooms as communities where—

- students are reflective, resourceful, and engaged problem solvers working together;
- digital curricular resources offer students multiple opportunities to integrate challenging content, represented through different mediums including text, video, audio, graphic, and multimedia formats;
- technology supports disciplined inquiry and making students' thinking visible as they make sense of complex and real-world phenomena;
- there are ambitious expectations for all students, and the flexibility for grouping and access to learning is in place to meet their needs;
- students confidently engage in complex authentic tasks;
- highly effective teachers and all staff members have the resources and support to expertly engage students in digital

learning and communicate with their parents/guardians about their progress;

- technology-enhanced formative and performance assessments are used effectively to make daily instructional decisions and to provide meaningful feedback to students that empowers them to own their learning; and
- technology is used to differentiate instruction and scaffold learning opportunities that meet the learning needs and diverse backgrounds of all students.

We envision workplaces as communities where—

- the focus of our work is on the success of all students and employees;
- colleagues from across offices work collaboratively in designing and developing applications and technology solutions;
- staff models the effective uses of technology in their work to solve problems, communicate effectively, and collaborate with others;
- adults demonstrate creativity, innovation, curiosity, and habits of continuous growth in exploring new applications of technology solutions;
- all members of the workplace community engage as full participants in virtual learning communities through universal access to people, information, and ideas; and
- customers' needs, perspectives, and experiences are valued and used to inform decisions, product development, and support.

We strive to help teachers:

- Use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in face-to-face and virtual environments.
- Design, develop, and evaluate authentic learning experiences and assessment incorporating contemporary tools and resources to maximize content learning in context.
- Exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.
- Continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.



So that students can:

- Demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.
- Use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
- Participate fully in learning communities that are universally designed with multiple modalities, entry points, and ways to represent their thinking and what they know.
- Apply digital tools to gather, evaluate, and apply knowledge and skills to synthesize information and solve to real world problems.
- Use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.



Goal, Strategies, and Actions

As the Web transforms the way we communicate, work, and live, it also is dramatically transforming how we learn. Remarkable changes in the variety and flexibility of digital content are facilitating important shifts in the ways teachers are teaching and students are learning. It presents new opportunities to extend and personalize learning beyond the classroom walls, to connect classrooms and learning communities, and to access learning resources anywhere and at any time.

To address these new opportunities, the 2014–2016 Strategic Technology Plan is centered on a single goal that provides an overarching, laser focus of all efforts. This goal speaks to the plan’s focus on transforming learning. Realization of the plan’s goal rests on five strategies and specific actions for each strategy.

The 2014–2016 Strategic Technology Plan is a blueprint for how MCPS will organize resources and prioritize our efforts. This updated blueprint articulates how we will integrate technology to improve the learning outcomes for our students, support the professional learning and development of our staff, and enhance the effectiveness of our services. The strategies of the 2014–2016 Strategic Technology Plan explicitly align with each attribute of the MCPS core values.

Goal

All learners will participate in technology-enriched learning communities that inspire intellectual curiosity and prepare them with the knowledge and skills to excel in college and chosen careers in an evolving digital age.

Strategies

- 1 Inspiring Innovative Learning
- 2 Collaborative Communities and Connected Classrooms
- 3 Respectful, Ethical Engagement in Virtual Communities
- 4 Operational Excellence and Productivity
- 5 Equitable Access

Strategies

1 Inspiring Innovative Learning

Strategy Improve teaching and learning through the effective integration of technology and through building staff capacity in the effective use of technology to enhance and support learning.

Actions

(Completed by end of Fiscal Year [FY] 2014)

- ❑ Revise the technology specifications for learning spaces to support flexibility in reconfiguring classrooms and learning beyond the classroom walls and the school day.
- ❑ Enhance learning opportunities for staff on how to effectively integrate technology with content and pedagogy across grade levels and within content.
- ❑ Create an online/blended learning strategy to ensure overall quality of online learning that is aligned with the district's vision for learning.



- ❑ Enhance learning infrastructure to facilitate anywhere, anytime access and use of digital content and resources.
- ❑ Implement robust infrastructure and management system to support the use of mobile technologies in teaching, learning, and assessment.
- ❑ Develop acceptable use guidelines to implement a process that supports staff, student, and community use of personal technology on MCPS networks.
- ❑ Increase the availability of best-in-class communications, publishing, and social media tools within the schools.
- ❑ Expand use of technology-enhanced student progress monitoring and performance—real time across all school levels.

(Completed by end of FY 2016)

- ❑ Implement program of professional learning opportunities that supports staff in using the technologies to make student thinking visible, make sense of real world phenomena, and engage in disciplined inquiry.
- ❑ Implement program to replace at least 70 percent of printed text with digital materials.

2 Collaborative Communities and Connected Classrooms

Strategy Develop and expand virtual communities and online learning to connect classrooms, cultivate relationships, and encourage resource sharing between and among students, teachers, staff, parents/guardians, and community partners.



Actions

(Completed by end of FY 2014)

- ❑ Expand the *myMCPS* virtual community to include parents/guardians and students.
- ❑ Facilitate collaborative professional learning communities by connecting members anytime, anywhere dynamically.
- ❑ Provide conferencing and collaboration technologies to overcome distance and time, facilitate adult and student virtual learning, and sustain communities of practice and collaborative sharing.

(Completed by end of FY 2015)

- ❑ Strengthen partnerships and awareness to facilitate increased communication, knowledge sharing, and community networking for staff, students, parents/guardians, and college and community partners within our virtual learning portal.
- ❑ Enhance our technology-enabled interactive learning communities to establish learning environments that showcase student work and progress reporting.

(Completed by end of FY 2016)

- ❑ Enhance the breadth of curricular and instructional resources in the *myMCPS* portal for all grade levels and content areas.

3 Respectful, Ethical Engagement in Virtual Communities

Strategy Foster a culture of respectful and ethical engagement in the use of digital technologies so that all staff and students engage in the norms of appropriate, responsible use of technology.

Actions

(Completed by end of FY 2014)

- ❑ Develop curricular materials that teach students and staff to advocate and practice safe, legal, and responsible use of information and technology.
- ❑ Design an outreach program that fosters a culture that reflects a positive attitude toward using technology that supports collaboration, learning, and productivity and demonstrates personal responsibility for lifelong learning.
- ❑ Develop a program to raise awareness of all users regarding appropriate behaviors and safeguards for participating in a digital community.
- ❑ Examine and refine policies and regulations as necessary regarding the use of technology and its use by the school community.
- ❑ Develop and communicate acceptable use criteria.



4 Operational Excellence and Productivity

Strategy Expand the integration of management and analytic systems to support continuous improvement in learning outcomes, strengthening customer service delivery and user experiences, and making efficient use of time.

Actions

(Completed by end of FY 2014)

- ❑ Identify and prioritize systems for replacement or large-scale enhancement.
- ❑ Implement effective reliable systemwide messaging, database management, and data center systems to support anywhere, anytime access and high-quality customer services.

(Completed by end of FY 2015)

- ❑ Enhance and ensure safe and secure access, use, and availability of technology systems.
- ❑ Streamline processes to maximize efficiency and transform current automated paper-based work flows and integrate staff self-service models.

(Completed by end of FY 2016)

- ❑ Update or replace priority instructional and administrative systems to support excellence and improvement in learning and operational outcomes and performance.



5 Equitable Access

Strategy Expand partnerships and organize internal resources to ensure equitable access and participation in the expanding MCPS digital community.

Actions

(Completed by the end of FY 2014)

- ❑ Implement full-building wireless technologies so that schools and offices can access digital content, curricular, and instructional resources with greater flexibility and efficiency.
- ❑ Expand access and functionality of the *myMCPS* virtual community to serve all staff, students, and parents/guardians.

(Completed by the end of FY 2015)

- ❑ Review and ensure that priority systems integrate accessibility design principles to support equitable access to digital curricular and participation in the virtual community.
- ❑ Explore expanded partnerships to accelerate expansion of the *myMCPS* resource library.

(Completed by the end of FY 2016)

- ❑ Assess and plan for the equitable distribution of technology resources for staff and students.



Process for Development of the Plan

The process for developing the 2014–2016 Strategic Technology Plan is grounded in the commitment to engage a broad range of perspectives from internal and external stakeholders. Over the course of one year, a diverse group of staff, students, parents/guardians, businesses, employee associations, school systems, and higher education institutions were interviewed or their existing strategic plans were studied.

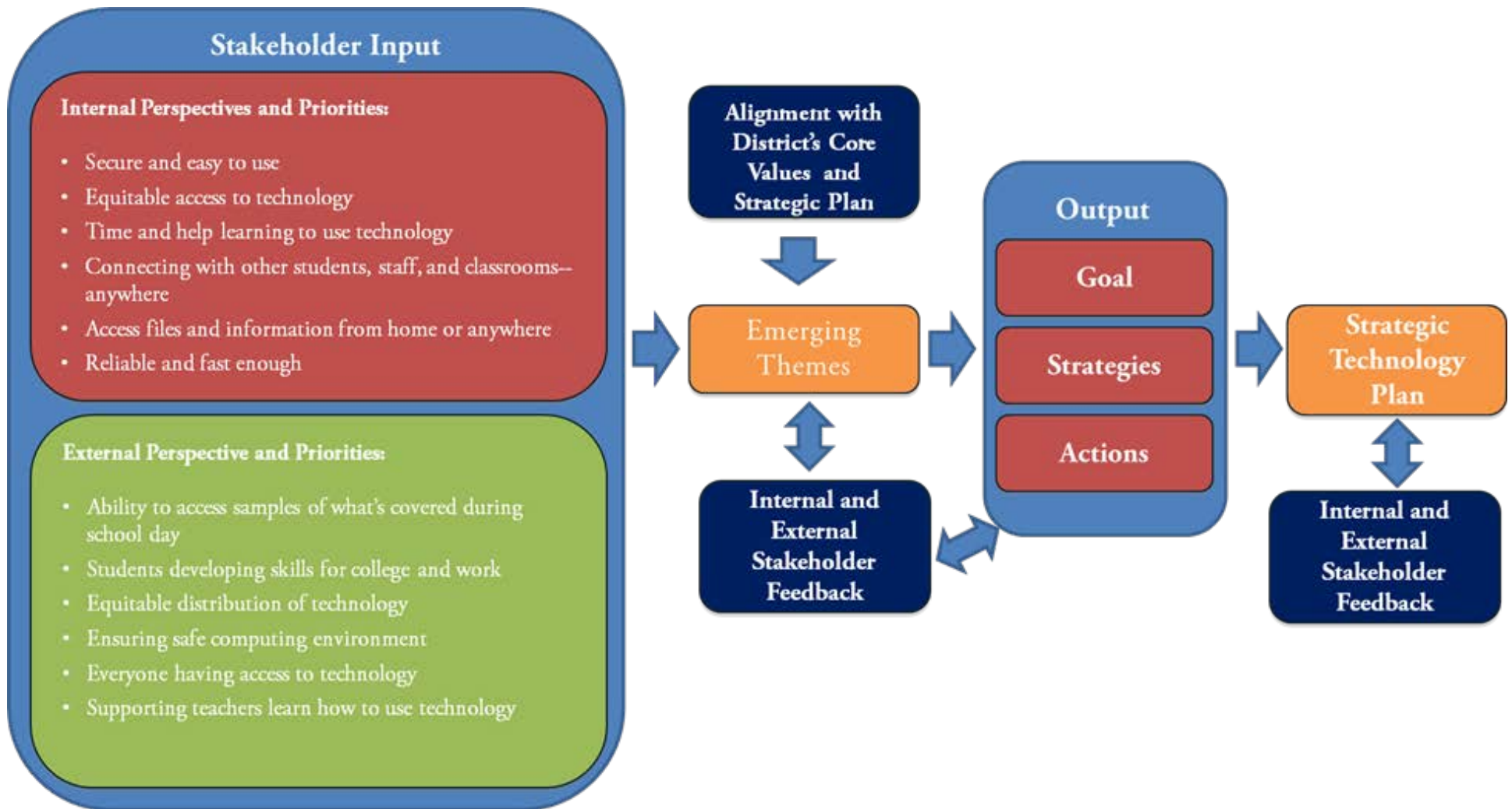
Many ideas were repeated across all groups. These ideas have been distilled into themes that then shaped the development of this plan's goal, strategies, and actions to frame the shared vision of teaching and learning that the plan articulates.

Most ideas are focused on having the ability to provide every student with engaging and inspiring opportunities to bring the world into the classroom, integrate greater access to mobile technologies and digital content, and supply more responsible and safe use and interaction with technology.

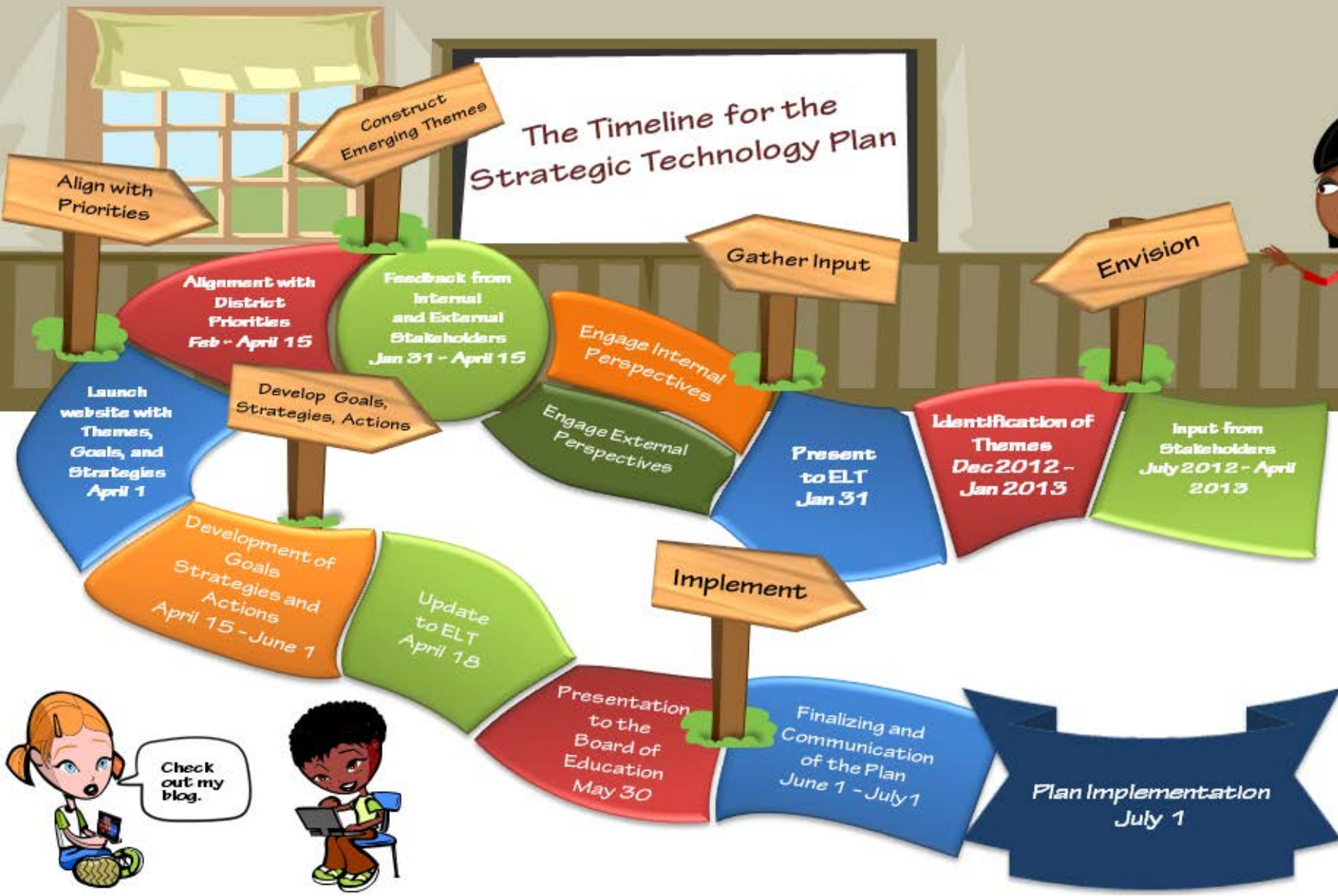
The high-level diagram below summarizes this process. Even as the plan is adopted, conversations, brainstorming options, and perspective supports for the plan's successful implementation and enhancement will continue to be solicited.



Plan Development Process Map



The Timeline for the Strategic Technology Plan



Appendix A: Stakeholder Participants

Thank you to the following stakeholder groups for your participation, honest input, and contribution toward the development of the 2014–2016 Strategic Technology Plan.

- ❖ Office of the Chief Operating Officer’s Leadership Team
- ❖ Office of School Support and Improvement Leadership Team
- ❖ Office of Teaching and Learning Programs Leadership Team
- ❖ Office of Curriculum and Instructional Programs Leadership Team
- ❖ Office of Special Education and Student Services Leadership Team
- ❖ Office of Shared Accountability Leadership Team
- ❖ Office of the Chief Technology Officer Montgomery County Association of Administrators and Principals Advisory Committee
- ❖ Office of the Chief Technology Officer Montgomery County Education Association Advisory Committee
- ❖ Elementary, middle, and high school teachers
- ❖ Elementary School Councils on Teaching and Learning
- ❖ Elementary School Principals Action Team (EPAT) PLC
- ❖ Middle School Councils on Teaching and Learning
- ❖ Middle School Principals PLC
- ❖ Montgomery County Education Association Board of Directors
- ❖ High School Councils on Teaching and Learning
- ❖ High School Principals PLC
- ❖ Instructional data assistants
- ❖ Local school Parent Teacher Associations
- ❖ Resource teachers
- ❖ School media staff
- ❖ Service Employees International Union Local 500 Board of Directors
- ❖ Staff development teachers
- ❖ Student Government Associations