

Middle School Reform Report

Technology

The HCPS Technology Vision states that

“All members of the Harford County Public Schools' community ... students, teachers, administrators, and staff ... will have access to technology seamlessly integrated into curriculum, instruction, and administration as well as the knowledge/skills to effectively use this technology to enhance personal productivity for success in the demanding information age.”

The Middle School Ad Hoc Committee did extensive research to meet the Comprehensive Secondary School Reform Plan's call for addressing technology at the middle school level, and for adopting a “consistent program of offerings.” Research is highly supportive of the use of technology integration in the classroom. When technology is infused into the curriculum, it becomes a tool to enhance the learning process.

At the present time HCPS middle schools offer a varied approach to teaching technology literacy skills and concepts. The majority of schools use a model where technology literacy, also known as computer education, is taught as a unified arts course. There exists a great deal of diversity within these schools as to how often students receive technology literacy as a course including the length of the course itself.

The proposed recommendation represents a vision to prepare all Harford County middle school students to become technologically proficient through authentic learning environments within each curricular area. It also correlates with the MSDE technology standards for teachers and students. The implementation plan is aligned with the HCPS Technology Literacy Plan for Schools 2008 – 2013, recognizing the ten essential conditions that must be in place for successful technology integration, as identified by ISTE (International Society for Technology in Education 2007) and the need for technology integration to be supported by the entire educational community.

Recommendation 8

All middle schools will embed technology literacy in all curricular area instruction, which includes providing students with opportunities to learn to use technology tools to access, manage, integrate, evaluate, create, and communicate information, and providing staff with instructional technology support.

Technology

Middle School Reform Report

Recommendation 8:

All middle schools will embed technology literacy in all curricular area instruction, which includes providing students with opportunities to learn to use technology tools to access, manage, integrate, evaluate, create, and communicate information, and providing staff with instructional technology support.

Rationale:

- Lessons that include technology applications provide teachers with ways to motivate students into becoming active, real-world learners. (Glencoe McGraw-Hill, 2005)
- Title II, Part D, Goal 2(a) of the NCLB Act states that by eighth grade each student must be technologically literate. (US Department of Education, 2007)
- #5 of the *Maryland Teacher Technology Standards*, calls for all teachers to be able to “Design, implement and assess learning experiences that incorporate use of technology in a curriculum-related instructional activity to support understanding, inquiry, problem solving, communication and/or collaboration.” (MSDE, 2007)
- Research indicates integrating technology into teaching and learning has a positive effect on student achievement. (CARET, 2005)
- In February 2008, 1,543 parents, students, community members, administrators, post secondary faculty, central office staff and middle school faculty were asked the degree to which they support the following statement: “All middle school students should have the opportunity to develop computer literacy skills through instruction and application in all classes, instead of attending a computer class for part of the year.” Seventy percent of the respondents answered “strongly agree or agree.” (Middle School Ad Hoc Committee Stakeholder Feedback, 2008)

Middle School Reform Report

Status of Technology Instruction in HCPS Middle Schools

School	2008-2009	By 2013
AMS	Students receive 9 weeks of computer instruction for 1, 2, or 3 years. (There are more unified arts classes offered than there are unified arts rotations.)	Technology literacy will be integrated into all curricular areas. Each middle school will have at least one Technology Infusion Specialist, who will assist teachers and students in classrooms and/or the computer lab as they use technology to teach and learn the curriculum. There will be no computer classes as part of the unified arts rotation.
BAMS	Students receive 9 weeks of computer instruction for 1, 2, or 3 years. (There are more unified arts classes offered than there are unified arts rotations.)	
EMS	Students receive 9 weeks of computer instruction for 1, 2, or 3 years. (There are more unified arts classes offered than there are unified arts rotations.)	
FMS	Technology is integrated throughout the curriculum with the assistance of a technology literacy teacher.	
HGMS	All students receive 7 weeks of computer instruction each year.	
MMS	All students receive 36 days of computer instruction each year.	
NHMS	Students receive 9 weeks of computer instruction for 1, 2, or 3 years. (There are more unified arts classes offered than there are unified arts rotations.)	
PMMS	All students receive 7 weeks of computer instruction each year.	
SMS	All students receive 7 weeks of computer instruction each year.	

Middle School Reform Report

Implementation Plan for Technology Recommendation (8)

Project Manager: Director of Technology						
Timeline	Step/Goal	Persons Responsible	Stakeholders	Strategies	Budget Implications	Indicators of Implementation
Year 1	Compare existing conditions at each middle school with the standards required for full implementation	Office of Technology Middle School Principals Executive Director of Secondary Education	Office of Technology ILT's	Conduct meetings and walkthroughs	NA	List of elements needed at each middle school
	Develop a 5-year transition plan for each middle school to meet standards based upon existing conditions	Office of Technology Middle School Principals	Middle School Community	Hold collaborative meetings	None as of 2009 Fiscal Year Operating Budget	Five-year plans approved by Director of Technology and Executive Director of Secondary Education
	Begin implementing transition plans	Office of Technology Middle School ILT and Staff Executive Director of Secondary Education Human Resources	Middle School Community	Prioritize each step in the school's 5-year plan as resources dictate	None as of 2009 Fiscal Year Operating Budget, unless school money is available	Prioritized plan

Middle School Reform Report

Project Manager: Director of Technology						
Timeline	Step/Goal	Persons Responsible	Stakeholders	Strategies	Budget Implications	Indicators of Implementation
Years 2-5	Transition one grade level each year from UA rotation to technology infusion	Middle School Principals	ILT Staff	Evaluate status of staffing to determine grade level	None	Grade level schedule
	Evaluate teachers' proficiency in the Maryland Teacher Technology Standards	Middle School ILT's	Teachers	Include Maryland Teacher Technology Standards in individual professional development plans	None	Teacher professional development plans MSDE Teacher Technology Literacy Assessment results
	Provide professional development for teachers to infuse technology into their curriculum	Middle School ILT's School Improvement Teams	Teachers	Conduct professional development on technology infusion for teachers during inservice days	None	Maryland Teacher Technology Standards met by 2013
	Update current infrastructure as necessary to meet full implementation	Office of Technology	Middle School Community	Hold meetings and walkthroughs	To be determined school by school	Infrastructure will meet implementation plan by year 2013
	Provide professional development for administrators	Office of Professional Development	ILT's	Conduct trainings for ILT's to meet Maryland Administrator Technology Standards	None	Maryland Administrator Technology Standards met by 2013

Technology

Middle School Reform Report

Project Manager: Director of Technology						
Timeline	Step/Goal	Persons Responsible	Stakeholders	Strategies	Budget Implications	Indicators of Implementation
Years 2-5 Continued	Provide professional development for Technology Infusion Specialists	Office of Technology	Technology Infusion Specialists	Conduct trainings for technology infusion specialists to allow them to train their school's staff	Substitutes for Technology Infusion Specialists	Training session agendas
	Update equipment necessary to meet full implementation	Office of Technology	Middle School Community	Hold meetings and walkthroughs	Costs to be determined school by school	Equipment installed and functional
	Include technology infusion in curriculum guides	Office of Curriculum and Instruction	Teachers	Include a technology infusion specialist on curriculum writing teams	None	Inclusion of technology strategies in GCC-approved curriculum guides
Year 5 and Beyond	Maintain a trained technology infusion specialist-to-staff ratio of 1:50	Human Resources Office of Technology	Middle School Community	Achieve goals in each 5-year plan	Costs to be determined school by school	Standards met with support in place

Middle School Reform Report

Evaluation Plan for Technology Recommendation (8)

Project Manager: Director of Technology	
Data Point	Indicators of Success
MSDE Student Technology Literacy Assessment	Upward trend in achievement from baseline data (2008-09); proficiency met by 2013
MSA	Increase in the percentage of all groups of students who meet the state academic standards and score at proficient and advanced levels in reading, writing, mathematics, and science. The goal is to reach 100%. Elimination of the achievement gaps of disaggregated groups
MSDE Teacher Technology Literacy Assessment	Upward trend in achievement from baseline data (2008-09); proficiency met by 2013
MSDE Administrator Technology Literacy Assessment	Upward trend in achievement from baseline data (2008-09); proficiency met by 2013
HCPS Operating Budget	Budget supports implementation plan
HCPS Staffing	Staffing needs are met
Curriculum Guides	Curriculum guides will include technology standards based on the established review/revision cycle

Middle School Reform Report

Bibliography for Technology Recommendation (8)

"Access Your Data." Net Day Speak Up Day. 2006. Project Tommorrow. 24 Apr. 2007
<http://www.netday.org/SPEAKUP/speakup_your_data.htm>.

"Assessment Tools." Texas Center for Educational Technology. 26 Sept. 2007. May 2008 <<http://www.tcet.unt.edu/START/assess/tools.htm>>.

"Building the Field of Digital Media and Learning." MacArthur Foundation. 24 Apr. 2007
<<http://digitallearning.macfound.org/site/c.enJLKQNIFiG/b.2029199/k.BFC9/Home.htm>>.

"CARET." CARET: Center for Applied Research in Educational Technology. ISTE: International Society for Technology in Education. 23 Apr. 2007
<<http://caret.iste.org/>>.

Cullinane, Mary J. Interview with Janey Mayo. 8 May 2007.

Fadel, Charles, and Cheryl Lemke. "Technology in Schools: What the Research Says." The Metiri Group. 2006. Metiri Group. 24 Apr. 2007
<<http://www.cisco.com/web/strategy/docs/education/TechnologyinSchoolsReport.pdf>>.

Goldstein, Adam. "Tech Learning." Tech Learning. NewBay Media. 29 May 2008 <<http://www.techlearning.com/>>.

Learning for the 21st Century. The Partnership for the 21st Century. Washington D.C.: Partnership for the 21st Century, 2002. May 2008
<www.21stcenturyskills.org/images/stories/otherdocs/p21up_Report.pdf>.

McKenzie, Jamie. "From Now on the Educational Technology Journal." From Now on the Educational Technology Journal. 29 May 2008
<<http://fno.org/index2.html>>.

McKenzie, Jamie. "Problem-Based Learning." Problem-Based Learning. 2004. May 2008 <<http://fnopress.com/pbl2/toc.html>>.

"National School Boards Association School Board Leadership for Student Achievement." NSBA. 2008 National School Boards Association. 29 May 2008 <<http://nsba.org/SecondaryMenu/TLN/TLNMembersArea/AmericanSchoolBoardJournalsTechnologyFocusArticles.aspx>>.

"NCREL." NCREL: North Central Regional Educational Laboratory. Learning Point Associates. 24 Apr. 2007 <<http://www.ncrel.org/tech/>>.

Technology

Middle School Reform Report

Philp, Raleigh. Engaging Tweens and Teens: a Brain-Compatible Approach to REaching Middle and High School Students. Thousand Oaks CA: Corwin P, 2007.

Prensky, Marc. "Digital Natives, Digital Immigrants." On the Horizon 9 (2001): 1-6.

"Using Technology to Motivate Middle School Students." Teaching Today. 2005. Glencoe/McGraw-Hill. 24 Apr. 2007
<http://www.glencoe.com/sec/teachingtoday/subject/using_tech.phtml>.

U.S. Department of Education. "No Child Left Behind Act." 2001.

"What Does the Research Say?" CoSN: Consortium for School Networking. CoSn: Consortium for School Networking. 24 Apr. 2007
<<http://www.cosn.org/resources/edc/index.cfm>>.

"Where Do We Stand in 2007?" On Target. 2007. Maryland State Department of Education. 24 Apr. 2007 <<http://md.ontargetus.com/>>.