

2010-2014

# NPPSD District Level Technology Plan

## Four Year Technology Deployment Cycle

Technology will not transform the organization of learning in schools until it fundamentally serves the individual learner in the conduct of their everyday learning experience. Technology has yet to make a meaningful, transformative difference in school-based learning environments, but the promise is within our grasp! (Revised 3/2/2010)



## **District Level Technology Plan Members**

NPPSD District Staff

NPPSD Building Principals

NPPSD Technology Department

NPPSD Central Office Administration

NPPSD School Board

## A Learning Vision

### Essential Principles:

- 1) The individual learner is at the center of the learning environment.
- 2) Consequential, connected learning plans and tasks define the appropriate uses of technology for all learners.
- 3) Learners have immediate access to robust, secure, and relevant digital resources, devices and support as required by the learning task.
- 4) Learning plans are supported by relevant personal and aggregate data.
- 5) Inquiry, simulation, modeling and experimentation are supported in the learning environment by those technologies best suited to those tasks.
- 6) Learners are supported in their development as critical thinkers, especially regarding the development of **information and media literacy**.
- 7) Organizational structures, resources and support systems are designed to align with and support the first six principles.

### Success Criteria:

- 1) Each learner's engagement in challenging and relevant learning projects is universally evident and supported by appropriate technologies.
- 2) A full spectrum of learning and/or pedagogical strategies and practices are visible and determinant of technology use.
- 3) Learning is multi-level (learner to learner, across all communities) and global in reach demonstrated by the nature of the learning projects in process.
- 4) Learners will have dedicated mobile computing devices and the supporting resources in order to be engaged in always-on, real-time access to learning wherever they are.
- 5) Creative and powerful learner uses of digital technologies will be evidenced through successful academic outcomes, expressive and useful project artifacts and sustained community development activities.

Technology will not transform the organization of learning in schools until it fundamentally serves the individual learner in the conduct of their everyday learning experience. Technology has yet to make a meaningful, transformative difference in school-based learning environments, but the promise is within our grasp!

## Considerations

This district level technology plan is a living document in that it remains subject to change but allows for a plan that can be adjusted with the changing times and ultimately changing technology that is part of our society today. The plan develops a deployment cycle that includes devices that are to be considered for replacement and offers recommendations for what devices should be deployed in place of retired equipment. The cycle presented here does not include office level devices, SPED, special programs (AYP infusion), nor does it include infrastructure items such as servers, network equipment, or specialized curricular equipment (business labs, etc.) as they are deployed via other budgetary means; however, these items are part of the physical deployment cycle distributed and maintained by the NPPSD technology department. It does encompass student and teacher computing devices that are available for use on a consistent, daily basis with the goal being 1:1 computing at the secondary level.

In 2009, the main device being considered is the Netbook based on a \$700.00 price point with a sustained budget of \$400,000.00 per year. In the process of fulfilling this deployment cycle it is noted that under current budget projections, 1:1 computing at the secondary level would require an additional infusion of funding above \$400,000.00 per year. Also, considering the current budget allotment there is no funding for other tools such as iPods, clickers, projection devices (SMART Boards, projectors, SMART Airliner Wireless Slates, ELMOs, etc.), and in order to include such items would require additional funding.

Ultimately, the current budget of \$400,000.00 per year would yield roughly 2:1 computing throughout the district and would plateau at roughly \*3600 devices in the deployment cycle after the 2012-2013 school year. Less expensive devices, declining enrollment, increased funding would all impact the deployment cycle to varying degrees, but this plan utilizes current figures and available devices to begin a consistent and sustainable deployment cycle. With that information in mind, the following NPPSD deployment cycle is proposed.

Other devices to consider but not included in the instructional device replacement cycle: media center search stations, administrative devices, administrative assistant devices, support staff devices, other labs, etc.

Replacement of the teacher workstations creates a challenge in the replacement cycle. With the addition of netbooks at Title I schools during the 2009-2010 school year the cycle has absorbed an additional \$400,000 cost that would normally have covered the teacher devices. It is proposed to split teacher workstation deployment over two years between secondary and elementary.

The inclusion of 150 devices at Madison in the summer of 2009 via AYP \$ and an additional 60 devices in the summer of 2010 adds \$126,000 to be absorbed in the replacement cycle.

It is proposed that "netbooks" from NPHS and desktops from various areas be redeployed throughout the district to defray costs as the cycle works to absorb additional costs added between 2009-2010.

\*(2009) AYP funding for Madison and Title I Stimulus funding for Buffalo, Cody, Jefferson, Lincoln, and Washington allowed for an influx of computing devices for the 2009-2010 school year (See "Resources-Infrastructure" for details).

## Creativity and Innovation

Analysis - Content (Student ISTE NETS)	Strategy - Practice (ISTE Performance Indicators)	Evaluation (District Learning Vision)	Timeline/Products	Resources - Infrastructure (+ Professional Development)
<p><b>Creativity and Innovation</b> Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.</p> <p>Initiative and Entrepreneurialism <b>(Wagner, 2008)</b></p> <p>Curiosity and Imagination <b>(Wagner, 2008)</b></p>	<p>Students:</p> <p>a. apply existing knowledge to generate new ideas, products, or processes.</p> <p>b. create original works as a means of personal or group expression.</p> <p>c. use models and simulations to explore complex systems and issues.</p> <p>d. identify trends and forecast possibilities.</p>	<p>1) Each learner's engagement in challenging and relevant learning projects is universally evident and supported by appropriate technologies.</p> <p>2) A full spectrum of learning and/or pedagogical strategies and practices are visible and determinant of technology use.</p> <p>3) Learning is multi-level (learner to learner, across all communities) and global in reach demonstrated by the nature of the learning projects in process.</p> <p>4) Learners will have dedicated mobile computing devices and the supporting resources in order to be engaged in always-on, real-time access to learning wherever they are.</p> <p>5) Creative and powerful learner uses of digital technologies will be evidenced through successful academic outcomes, expressive and useful project artifacts and sustained community development activities.</p>	<p>2010-2011</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks Adams 150 Netbooks Madison 60 Netbooks (AYP \$) Eisenhower 30 Netbooks Hall 30 Netbooks Lake 30 Netbooks McDonald 30 Netbooks Projections Devices: K-3 IWB, Projector &amp; ELMO K-12 (SPED Stimulus \$)</p>
			<p>2011-2012</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Secondary Teacher Workstations 175 NPHS 300 Netbooks</p>
			<p>2012-2013</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Elementary Teacher Workstations 175 NPHS 300 Netbooks (1:1 initiative begins at the high school) NPHS Business Labs 30 Desktops? Buffalo 30 Netbooks Jefferson 30 Netbooks</p>
			<p>2013-2014</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks (Replace 2009-2010 Netbooks) NPHS AutoCAD Lab 30 Desktops? TLC 30 Desktops? Adams 30 Desktops (Business Lab) Eisenhower 30 Netbooks Jefferson 30 Netbooks McDonald 60 Netbooks Osgood 30 Netbooks</p>

## Communication and Collaboration

Analysis - Content (Student ISTE NETS)	Strategy - Practice (ISTE Performance Indicators)	Evaluation (District Learning Vision)	Timeline/Products	Resources - Infrastructure (+ Professional Development)
<p><b>Communication and Collaboration</b> Students 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.</p> <p>Collaboration across Networks and Leading by Influence <b>(Wagner, 2008)</b></p> <p>Effective Oral and Written Communication <b>(Wagner, 2008)</b></p>	<p>Students:</p> <p>a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.</p> <p>b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.</p> <p>c. develop cultural understanding and global awareness by engaging with learners of other cultures.</p> <p>d. contribute to project teams to produce original works or solve problems.</p>	<p>1) Each learner's engagement in challenging and relevant learning projects is universally evident and supported by appropriate technologies.</p> <p>2) A full spectrum of learning and/or pedagogical strategies and practices are visible and determinant of technology use.</p> <p>3) Learning is multi-level (learner to learner, across all communities) and global in reach demonstrated by the nature of the learning projects in process.</p> <p>4) Learners will have dedicated mobile computing devices and the supporting resources in order to be engaged in always-on, real-time access to learning wherever they are.</p> <p>5) Creative and powerful learner uses of digital technologies will be evidenced through successful academic outcomes, expressive and useful project artifacts and sustained community development activities.</p>	<p>2010-2011</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks Adams 150 Netbooks Madison 60 Netbooks (AYP \$) Eisenhower 30 Netbooks Hall 30 Netbooks Lake 30 Netbooks McDonald 30 Netbooks Projections Devices: K-3 IWB, Projector &amp; ELMO K-12 (SPED Stimulus \$)</p>
			<p>2011-2012</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Secondary Teacher Workstations 175 NPHS 300 Netbooks</p>
			<p>2012-2013</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Elementary Teacher Workstations 175 NPHS 300 Netbooks (1:1 initiative begins at the high school) NPHS Business Labs 30 Desktops? Buffalo 30 Netbooks Jefferson 30 Netbooks</p>
			<p>2013-2014</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks (Replace 2009-2010 Netbooks) NPHS AutoCAD Lab 30 Desktops? TLC 30 Desktops? Adams 30 Desktops (Business Lab) Eisenhower 30 Netbooks Jefferson 30 Netbooks McDonald 60 Netbooks Osgood 30 Netbooks</p>

## Research and Information Fluency

Analysis - Content (Student ISTE NETS)	Strategy - Practice (ISTE Performance Indicators)	Evaluation (District Learning Vision)	Timeline/Products	Resources - Infrastructure (+ Professional Development)
<p><b>Research and Information Fluency</b> Students apply digital tools to gather, evaluate, and use information.</p> <p>Accessing and Analyzing Information <b>(Wagner, 2008)</b></p>	<p>Students:</p> <p>a. plan strategies to guide inquiry.</p> <p>b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.</p> <p>c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.</p> <p>d. process data and report results.</p>	<p>1) Each learner's engagement in challenging and relevant learning projects is universally evident and supported by appropriate technologies.</p> <p>2) A full spectrum of learning and/or pedagogical strategies and practices are visible and determinant of technology use.</p> <p>3) Learning is multi-level (learner to learner, across all communities) and global in reach demonstrated by the nature of the learning projects in process.</p> <p>4) Learners will have dedicated mobile computing devices and the supporting resources in order to be engaged in always-on, real-time access to learning wherever they are.</p> <p>5) Creative and powerful learner uses of digital technologies will be evidenced through successful academic outcomes, expressive and useful project artifacts and sustained community development activities.</p>	<p>2010-2011</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks Adams 150 Netbooks Madison 60 Netbooks (AYP \$) Eisenhower 30 Netbooks Hall 30 Netbooks Lake 30 Netbooks McDonald 30 Netbooks Projections Devices: K-3 IWB, Projector &amp; ELMO K-12 (SPED Stimulus \$)</p>
			<p>2011-2012</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Secondary Teacher Workstations 175 NPHS 300 Netbooks</p>
			<p>2012-2013</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Elementary Teacher Workstations 175 NPHS 300 Netbooks (1:1 initiative begins at the high school) NPHS Business Labs 30 Desktops? Buffalo 30 Netbooks Jefferson 30 Netbooks</p>
			<p>2013-2014</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks (Replace 2009-2010 Netbooks) NPHS AutoCAD Lab 30 Desktops? TLC 30 Desktops? Adams 30 Desktops (Business Lab) Eisenhower 30 Netbooks Jefferson 30 Netbooks McDonald 60 Netbooks Osgood 30 Netbooks</p>

### Critical Thinking, Problem Solving, and Decision Making

Analysis - Content (Student ISTE NETS)	Strategy - Practice (ISTE Performance Indicators)	Evaluation (District Learning Vision)	Timeline/Products	Resources - Infrastructure (+ Professional Development)
<p><b>Critical Thinking, Problem Solving, and Decision Making</b> Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.</p> <p>Critical Thinking and Problem-Solving <b>(Wagner, 2008)</b></p> <p>Agility and Adaptability <b>(Wagner, 2008)</b></p>	<p>Students:</p> <p>a. identify and define authentic problems and significant questions for investigation.</p> <p>b. plan and manage activities to develop a solution or complete a project.</p> <p>c. collect and analyze data to identify solutions and/or make informed decisions.</p> <p>d. use multiple processes and diverse perspectives to explore alternative solutions.</p>	<p>1) Each learner's engagement in challenging and relevant learning projects is universally evident and supported by appropriate technologies.</p> <p>2) A full spectrum of learning and/or pedagogical strategies and practices are visible and determinant of technology use.</p> <p>3) Learning is multi-level (learner to learner, across all communities) and global in reach demonstrated by the nature of the learning projects in process.</p> <p>4) Learners will have dedicated mobile computing devices and the supporting resources in order to be engaged in always-on, real-time access to learning wherever they are.</p> <p>5) Creative and powerful learner uses of digital technologies will be evidenced through successful academic outcomes, expressive and useful project artifacts and sustained community development activities.</p>	<p>2010-2011</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks Adams 150 Netbooks Madison 60 Netbooks (AYP \$) Eisenhower 30 Netbooks Hall 30 Netbooks Lake 30 Netbooks McDonald 30 Netbooks Projections Devices: K-3 IWB, Projector &amp; ELMO K-12 (SPED Stimulus \$)</p>
			<p>2011-2012</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Secondary Teacher Workstations 175 NPHS 300 Netbooks</p>
			<p>2012-2013</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Elementary Teacher Workstations 175 NPHS 300 Netbooks (1:1 initiative begins at the high school) NPHS Business Labs 30 Desktops? Buffalo 30 Netbooks Jefferson 30 Netbooks</p>
			<p>2013-2014</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks (Replace 2009-2010 Netbooks) NPHS AutoCAD Lab 30 Desktops? TLC 30 Desktops? Adams 30 Desktops (Business Lab) Eisenhower 30 Netbooks Jefferson 30 Netbooks McDonald 60 Netbooks Osgood 30 Netbooks</p>



## Digital Citizenship

Analysis - Content (Student ISTE NETS)	Strategy - Practice (ISTE Performance Indicators)	Evaluation (District Learning Vision)	Timeline/Products	Resources - Infrastructure (+ Professional Development)
<p><b>Digital Citizenship</b> Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.</p> <p>Collaboration across Networks and Leading by Influence <b>(Wagner, 2008)</b></p> <p>Agility and Adaptability <b>(Wagner, 2008)</b></p>	<p>Students:</p> <p>a. advocate and practice safe, legal, and responsible use of information and technology.</p> <p>b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.</p> <p>c. demonstrate personal responsibility for lifelong learning.</p> <p>d. exhibit leadership for digital citizenship.</p>	<p>1) Each learner’s engagement in challenging and relevant learning projects is universally evident and supported by appropriate technologies.</p> <p>2) A full spectrum of learning and/or pedagogical strategies and practices are visible and determinant of technology use.</p> <p>3) Learning is multi-level (learner to learner, across all communities) and global in reach demonstrated by the nature of the learning projects in process.</p> <p>4) Learners will have dedicated mobile computing devices and the supporting resources in order to be engaged in always-on, real-time access to learning wherever they are.</p> <p>5) Creative and powerful learner uses of digital technologies will be evidenced through successful academic outcomes, expressive and useful project artifacts and sustained community development activities.</p>	<p>2010-2011</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>iSafe (Elementary Level) District Resources (Secondary Level) <a href="#">NPPSD Cyber Smart Corner</a></p>
			<p>2011-2012</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>iSafe (Elementary Level) District Resources (Secondary Level) <a href="#">NPPSD Cyber Smart Corner</a></p>
			<p>2012-2013</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>iSafe (Elementary Level) District Resources (Secondary Level) <a href="#">NPPSD Cyber Smart Corner</a></p>
			<p>2013-2014</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>iSafe (Elementary Level) District Resources (Secondary Level) <a href="#">NPPSD Cyber Smart Corner</a></p>

## Technology Operations and Concepts

Analysis - Content (Student ISTE NETS)	Strategy - Practice (ISTE Performance Indicators)	Evaluation (District Learning Vision)	Timeline/Products	Resources - Infrastructure (+ Professional Development)
<p><b>Technology Operations and Concepts</b> Students demonstrate a sound understanding of technology concepts, systems, and operations.</p> <p>Accessing and Analyzing Information <b>(Wagner, 2008)</b></p>	<p>Students:</p> <p>a. understand and use technology systems.</p> <p>b. select and use applications effectively and productively.</p> <p>c. troubleshoot systems and applications.</p> <p>d. transfer current knowledge to learning of new technologies.</p>	<p>1) Each learner's engagement in challenging and relevant learning projects is universally evident and supported by appropriate technologies.</p> <p>2) A full spectrum of learning and/or pedagogical strategies and practices are visible and determinant of technology use.</p> <p>3) Learning is multi-level (learner to learner, across all communities) and global in reach demonstrated by the nature of the learning projects in process.</p> <p>4) Learners will have dedicated mobile computing devices and the supporting resources in order to be engaged in always-on, real-time access to learning wherever they are.</p> <p>5) Creative and powerful learner uses of digital technologies will be evidenced through successful academic outcomes, expressive and useful project artifacts and sustained community development activities.</p>	<p>2010-2011</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks Adams 150 Netbooks Madison 60 Netbooks (AYP \$) Eisenhower 30 Netbooks Hall 30 Netbooks Lake 30 Netbooks McDonald 30 Netbooks Projections Devices: K-3 IWB, Projector &amp; ELMO K-12 (SPED Stimulus \$)</p>
			<p>2011-2012</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Secondary Teacher Workstations 175 NPHS 300 Netbooks</p>
			<p>2012-2013</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>Elementary Teacher Workstations 175 NPHS 300 Netbooks (1:1 initiative begins at the high school) NPHS Business Labs 30 Desktops? Buffalo 30 Netbooks Jefferson 30 Netbooks</p>
			<p>2013-2014</p> <p>Project Based Learning, Videos/Movies, Podcasts, Digital Stories, Presentations, Reports, Documents, Artwork, Photo Stories, Web Pages, Blogs, Wikis, Charts, Graphs, Music</p>	<p>NPHS 300 Netbooks (Replace 2009-2010 Netbooks) NPHS AutoCAD Lab 30 Desktops? TLC 30 Desktops? Adams 30 Desktops (Business Lab) Eisenhower 30 Netbooks Jefferson 30 Netbooks McDonald 60 Netbooks Osgood 30 Netbooks</p>