

Williams Elementary School Community

Instructional Technology Plan, 2009-2012

Executive Summary

The Williams School PTO, parents, teachers, staff and Principal Dr. Midge Connolly (Williams Community) embrace Newton Public School's (NPS) collective vision of how technology serves as a foundation for educating students in the 21st century. The ***Instructional Technology Plan 2008-2011*** developed under the leadership of Information Technology Director, Shelly Chamberlin, sets forth four key areas that will be addressed by the system's central administration: teaching and learning, professional development, infrastructure; and administration and support services.

The Williams School Community faces two significant challenges in its efforts to realize this vision:

1. ***Substantial Technology Gap:*** The Williams School's technology inventory is in poor shape and is substantially shy of that needed to realize NPS' vision and state targets.
2. ***Lack of Adequate Funding:*** The traditional technology funding sources (e.g. Newton Public School budget, Newton Schools Foundation, grants, traditional PTO fundraising) will not be sufficient to close the technology gap. In fact, at the current pace of funding Williams will *never* meet technology targets.

Technology Gap:

As a system we are falling behind state standards for technology. According to the 2007-2008 Technology Report(1), Newton Public Schools is 283 out of 361 schools at an average of 4.9 students to "modern" computers and Williams Elementary Schools is 1013 out of 1762 schools and an average of 4.5 students to "modern" computers.

More specifically, we are behind the four school districts in the state ranked higher than Newton in Boston Magazine's 2009 survey. While this survey is based on high school performance it is worth noting that the elementary schools in each of those districts had a higher technology ranking according to the MCAS technology survey. The median number of students to "modern" computers in these districts' elementary schools was 2.85 versus Williams' 4.5.

Lack of Adequate Funding:

At the current level of Newton Public School's funding for technology, Williams' classrooms will never meet the minimum classroom configuration. The estimated budget to meet the basic NPS guidelines is \$134,000. The Williams PTO has formed a group to explore and implement additional fundraising initiatives to raise these funds and bring Williams' technology inventory up to date. The challenge is daunting but achievable. This level of funding represents an initial investment of approximately \$500 per student. Once achieved, every student and teacher at Williams will experience a marked difference in

the quality and quantity of technology available to support the education of our students. To raise these sums the fundraising efforts will need to reach out to all members of the Williams community – parents, local businesses, and residents without children at Williams.

Summary:

This plan for the Williams Community addresses how the PTO, parents, teachers, staff and Principal Connolly can advocate for sustainable, up-to-date classroom technology, equipment and staffing. The level of technology being targeted represents the basics needed to support our children in meeting their educational goals and provide them with the foundation necessary to succeed in a global economy. Following are the five key areas that will be addressed by the Williams School Community under this plan:

- Educate the Williams Community on the status of technology needs and initiatives within the Williams School as well as the system’s technology curriculum for each grade.
- Provide \$134,000 in funding through all available avenues (new PTO fundraising, current Williams PTO budget, more effective utilization of available grants and NPS budget) for classroom hardware that supports the central administration’s instructional technology plan and directly benefits our children. (see attached Capital Budget)
- Promote and fund the exploration of new technologies such as the IPod Touch, netbook, software as a service, and other advances that would provide the same or better teaching and learning resource but reduce the investment in laptop computers, client software and support.
- Advocate within the system and Newton Schools Foundation for technology staffing, hardware and software needs of the Williams School.

The Williams School community is committed to raising the \$134,000 to provide the foundation for educating our children in the 21st century.

Current Status

Over the past five years the Williams School PTO has invested 5 – 7K annually in classroom technology and the Williams School and has received one SILC grant (9K in 2004 for fourth grade teacher Teres) and two EXCITE grants (9K in 2004 for fourth and fifth grade & 9K in 2005 for kindergarten) from the Newton School’s Department of Information Technology. These investments and grants have helped improve the Williams School classroom computer inventory but they are not sufficient to bring the inventory to a level that supports the current demand for technology by classroom teachers and education specialists. Following are the statistics for classroom technology for Williams School according to the MCAS Technology Report.

(<http://profiles.doe.mass.edu/profiles/student.aspx?orgcode=02070125&orgtypecode=6&leftNavId=306&>)

MCAS Technology Report for Williams Elementary School	Williams	All Newton	All MA
Students per "Modern" (G4 or better running OSX) Computer	4.5	4.9	3.6
Classrooms on the Internet (%)	100.0	100.0	99.8

A recent inventory of classroom technologies including computers, LCD projectors and ELMO visual presenters shows that the Williams School uses both a shared school-wide and individual classroom model to spread the inventory. The equipment that is shared school-wide is available on a reservation basis and is used quite frequently.

The following shared school-wide technologies are available for student use.

Description	Primary Location	Classroom Technology					Mac Laptop	Mac Desktop
		Total Projectors	Total ELMOs	Total Macs	Modern Macs	Old Macs		
Mobil Cart (General)	Library			11	3	8	11	
Mobil Cart (FastMath)	5th Grade			6		6	6	
Total				17	3	14	17	0

The following classroom technologies are available for teacher and student use.

Grade	Teacher	Classroom Technology							Teacher Laptops	
		Total LCD Projectors	Total ELMOs	Total Macs	Modern Macs	Old Macs	Mac Laptops	Mac Desktops	Modern Macs	EOL Macs
K	Aronne *			6	4	2	4	2	1	
K	MacDonald / Incutto			3	1	2		3	1	
K	Dickerson			2		2		2	1	
1	Osiecki			3	1	2		3	1	
1	Jacobson	1		2		2		2	1	
2	Ortega	1		9	2	7	7	2	1	

Cont. Grade	Teacher	Classroom Technology							Teacher Laptops	
		Total LCD Projectors	Total ELMOs	Total Macs	Modern Macs	Old Macs	Mac Laptops	Mac Desktops	Modern Macs	EOL Macs
2	Joyce			2	1	1		2	1	
3	Jette			6	2	4	5	1		1
3	Matrisciano			1	1			1	1	
4	Lehman	1		2	2	0	1	1	1	
4	Kanode / Black	1		6	1	5	6	1	2	
5	Schilalie			1	1			1	1	
5	Wall	1		1	1			1	1	
	Unassigned				4		4			
LIB	Kosmo	1	1	16	9	7	2	14	1	
Total		6	1	60	30	34	29	36	14	1

*Aronne - 4 Mac laptops are shared among the Kindergarten classes.

The current level of technology at Williams School is unacceptable by 2009 standards. Teachers should not be scrounging for computers and projectors for their lessons. The technology should not be a hodge-podge of new and mostly out-of-date computers which are unreliable and can't run all of the programs needed for the curriculum. The frustration and loss of time due to the lack of access to acceptable technology will only reduce our children's exposure to an education with modern resources.

Vision

The vision of the Williams Community is to provide our teachers with the resources to leverage today's intensely rich information resources and prepare our children for a global digital economy. We are committed to ensure that our children, teachers, specialists and staff have access to up-to-date technology with adequate support and funds to use current technology and explore new technologies to improve teacher development and deepen the learning experience for students. This plan addresses how the Williams Community can support the vision of a 2:1 ratio of student to computer along with basic classroom technology which includes an LCD projector, SMART Board and ELMO visual presenter. Following is the standard configuration for the elementary classroom according to the NPS Instructional Technology Plan 2009-2011 (Appendix A, p. 43):

Classroom:

- Laptop for all classroom teachers, music, art, physical education, ELL, Learning Center teachers*
- 1 up-to-date desktop computer and 4 laptops per classroom
- 1 mobile cart of 18 wireless laptops per 4 classrooms w/minimum of OS 10.3
- 1 LCD projector w/speakers on a cart per classroom**
- Software consistency and online subscriptions for each grade level

Library:

- 13 student computers (laptop or desktop)
- 1 teacher laptop
- 1 projection unit
- 1 digital camera and 1 color laser printer
- 4 digital cameras and 2 digital video cameras per school

* Other faculty (such as literacy specialist, special education teachers, social workers, psychologist, and inclusion facilitators) would benefit from laptop use if budget permits.

** Mounting of LCD projectors should be considered if budget permits.

Bridging the Gap Between Current Classroom Technology and NPS Standard Configuration

Currently the gap between the Williams School inventory and the NPS standard configuration is \$134,000. Following is a detail of the gap.

Technology by Classroom

Grade	Teacher	LCD Projectors			ELMO Visual Presenters			Laptops (excluding teacher)			SmartBoards		
		Qty (Current)	Qty (Needed)	Cost	Qty (Current)	Qty (Needed)	Cost	Qty A/B (Current)	Qty (Needed)	Cost	Qty (Current)	Qty (Needed)	Cost
K	Aronne	-	1	478	-	1	580	4	5	950	-	1	1,750
(shared by Kindergar)													
K	MacD / Incu	-	1	478	-	1	580	1	5	3,800	-	1	1,750
K	Dickerson	-	1	478	-	1	580	-	5	4,750	-	1	1,750
1	Osiecki	-	1	478	-	1	580	1	5	3,800	-	1	1,750
1	Jacobson	1	1	-	-	1	580	-	5	4,750	-	1	1,750
2	Ortega	1	1	-	-	1	580	2	5	2,850	-	1	1,750
2	Joyce	-	1	478	-	1	580	1	5	3,800	-	1	1,750
3	Jette	-	1	478	-	1	580	2	5	2,850	-	1	1,750
3	Matricciano	-	1	478	-	1	580	1	5	3,800	-	1	1,750
4	Lehman	1	1	-	-	1	580	2	5	2,850	-	1	1,750
4	Kano / Black	1	1	-	-	1	580	1	5	3,800	-	1	1,750
5	Schilalie	-	1	478	-	1	580	1	5	3,800	-	1	1,750
5	Wall	1	1	-	-	1	580	1	5	3,800	-	1	1,750
	Unassigned	-	-	-	-	-	-	4	-	(3,800)	-	-	-
All	Library	1	1	-	1	1	-	9	13	3,800	-	1	1,750
Total		6	14	3,824	1	14	7,540	30	78	45,600	-	14	24,500

Mobil Technology for Classrooms

Description	LCD Projectors			ELMO Visual Presenters			Laptops (excluding teacher)			SmartBoards		
	Qty (Current)	Qty (Needed)	Cost	Qty (Current)	Qty (Needed)	Cost	Qty A/B (Current)	Qty (Needed)	Cost	Qty (Current)	Qty (Needed)	Cost
Mobil Cart	-	-	-	-	-	-	3	18	15,450	-	-	-
Mobil Cart (FastMth)	-	-	6	-	-	-	-	18	18,540	-	-	-
Mobil Cart	-	-	-	-	-	-	-	18	18,540	-	-	-
Total	-	-	6	-	-	-	3	54	52,530	-	-	-

Gap in Classroom Technology

Description	LCD Projectors			ELMO Visual Presenters			Laptops (excluding teacher)			SmartBoards		
	Qty (Current)	Qty (Needed)	Cost	Qty (Current)	Qty (Needed)	Cost	Qty A/B (Current)	Qty (Needed)	Cost	Qty (Current)	Qty (Needed)	Cost
	6	14	3,830	1	14	7,540	33	132	98,130	-	14	24,500

Total 4 Year Investment \$ 134,000
 Students per "Modern" Computer 2.11 (2:1)
 Ongoing Replacement Costs \$ 25,080

As noted in the preliminary summary of the NPS Instructional Technology Audit (March, 2007) by Sun Associates, elementary schools suffer from: old, increasingly fragile, equipment; lack of technical and instructional support; insufficient quantities of laptops and LCD projectors; and lack of equity between buildings. It is the consultant’s recommendation that we listen to the call from teachers and parents to improve upon the current rather than to build new systems and structures. The Williams Community must be committed to advocating for resources for the Williams School as well as internal and external fundraising to meet these goals.

2009 – 2010 Goals and Action Plan

Following are the stated goals set forth in this plan to support sustainable, up-to-date technology infrastructure, equipment and staffing at the Williams School.

Educate the Williams Community on the status of technology needs and initiatives within the Williams School as well as the system’s technology curriculum for each grade.

Action Plan	Responsible Party(ies)	Timeline
<ul style="list-style-type: none"> During the year, the PTO will spotlight how one teacher or specialist uses technology in the classroom. The PTO will include the NPS Technology Curriculum and MA Technology Literacy Standards for each grade in one edition of the Word From Williams. The PTO will devote one PTO meeting to this curriculum. 	Technology Committee	Fall
	Technology Committee	Winter
	Technology Committee PTO Co-Presidents	Winter

Provide 136K funding, over the next four years, through the Williams PTO budget, grants and NPS budget for addition classroom hardware that support the central administration’s instructional technology plan that directly benefit our children.

Action Plan	Responsible Party(ies)	Timeline
<ul style="list-style-type: none"> The Technology Committee will develop the following fundraising sub-committees: Individual, Corporate, Events, and Grants. The Technology Committee will provide administrative support for a team of teachers to write a SILC, EXCITE or Newton Schools Foundation grant proposal. The Technology Committee will work with Cheryl Kosmo and IT to advocate that funds are provided by the IT budget to fund replacement of existing classrooms computers. 	Fundraising Committee	September
	Grants Sub-Committee Cheryl Kosmo Dr. Midge Connolly	Fall
	Fundraising Committee Cheryl Kosmo Dr. Midge Connolly	Spring

Glossary of Terms

ELMO Visual Presenter also known as document cameras, digital visualizers, ("visualisers" in the United Kingdom) **digital overheads**, and **docucams**, are real-time image capture devices for displaying an object to a large audience. They are, in essence, high-resolution web cams, mounted on arms so as to facilitate their placement over a page. This allows a teacher, lecturer or presenter to write on a sheet of paper or to display a two or three-dimensional object while the audience watches.

Document cameras are typically used in classrooms or scientific presentations and connected to video LCD projectors. They replaced overhead projectors, which were formerly used for this purpose. Most document cameras can also send a video signal to a computer via USB cable. More commonly these days document cameras will also be connected to an interactive whiteboard (like a Smartboard, Activboard or other brands) instead of a standard screen. ELMO is a brand name of the company, ELMO USA www.elmosua.com.

LCD Projector is a type of video projector for displaying video, images or computer data on a screen or other flat surface.

Mobil Cart is a cart equipped to simultaneously store and recharge multiple laptop computers. Mobil carts allow schools to easily share a large pool of laptops.

Netbook (also called **mini notebooks** or **subnotebooks**) is a rapidly evolving^[1] category of small, light and inexpensive [laptop computer](#) suited for general computing and accessing [web-based applications](#); they are often marketed as "companion devices," that is, to augment a user's other computer access.^[1] [Walt Mossberg](#) called them a "relatively new category of small, light, minimalist and cheap laptops."^[2] By August 2009, [CNET](#) called netbooks "nothing more than smaller, cheaper notebooks."^[1]

SMART Board is a large whiteboard that uses touch technology for detecting user input (e.g. scrolling interaction) that are equivalent to normal PC input devices, such as mice or keyboards. A projector is used to display a computer's video output onto the whiteboard, which then acts as a huge touch screen. The SMART Board usually comes with 4 digital writing utensils that use digital ink replacing the traditional whiteboard markers. The digital ink work by using an active digitizer that controls the PC input information for writing capabilities such as drawing or handwriting.