

Robert M. Hughes Charter School

Educational Technology Plan 2007-2010

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EXECUTIVE SUMMARY

Robert M. Hughes Charter School prepares 180 kindergartners through 8th grade students at 91 School Street, Springfield, Massachusetts. The two story brick building has 10 classrooms, offices, a computer lab, and cafeteria. The school has 50 computers.

The Robert M. Hughes Academy Charter School has a student-centered and teacher-driven educational approach. The personal growth of each student is the number one priority of the entire RMH community. At RMH, each teacher has the personal goal of supporting all students to reach their highest possible level of educational achievement and their broadest possible personal growth. This goal extends to every other member of the RMH community from staff to administrators to parents.

VISION

Our vision is to create a learning community of technologically literate life-long learners able to interact successfully in a technological environment to achieve their personal, educational, and workplace goals. Our students, faculty, and parents will use technology to access, retrieve and use information, and communicate within the school and community. By using the Internet we can gain an understanding of the worldwide resources available for communications, research and problem solving.

MISSION STATEMENT

The mission of the Robert M. Hughes Academy Charter School is to provide urban students in Springfield, Massachusetts the opportunity to achieve academic and personal excellence when offered an intellectually challenging curriculum and a supportive environment. These two key elements combine to foster the development of the love of learning, moral character and social responsibility. We believe that all children will learn when those responsible for the education of our children communicate to them the clear expectation that they can learn. We believe, therefore, that the success of our students rests on the establishment of and adherence to high expectations and a commitment to

rigorous standards of achievement and accountability for students, parents, teachers, and administrators. Our students will graduate from the RMHACS armed with the tools they need to meet the world on its own terms and the ambition and capacity to become leaders in society

The success of this vision is dependent upon the ability of our teachers to take advantage of educational technology in the context of the Massachusetts Curriculum Frameworks and the Robert M. Hughes Charter School Curriculum. It is our intent to:

- Provide all students and staff with state of the art technology as an integral part of teaching and learning by:
 - Developing a school wide system of sustained technology professional development.
 - Incorporating technology competencies and their appropriate application in all curriculum areas.
 - Developing a system for equitable purchase of computer equipment and other technology devices
- Use technology to enhance communication among the community, families and the schools by.
 - Developing a system that provides electronic communication through the use of district-wide and school-based web pages, e-mail and voice mail.
 - We plan to finance this initiative through Federal, State, and private resources

BELIEFS

Students need to be able to use a wide variety of technological tools to enhance their future success as learners and workers.

- Our school must prepare students for today's workplace and the workplace of the future.
- Our school must prepare students to be lifelong learners who are responsible for their own learning, skilled in accessing and processing information, confident in using technological tools, able to solve complex problems alone or collaboratively, capable of being creative and innovative, and able to communicate locally, nationally, and world- wide.
- It is imperative for all students to have access to information via technology as a basis for lifelong learning.
- It is essential for all learners, including educators, to process and manage information through the skillful use of technology.
- Skillful use of technology supports the development of process skills such as flexibility, adaptability, HOTS (higher order thinking skills), critical thinking, problem solving and collaboration, which are essential to success in our rapidly changing information age.
- Networked technology systems permit efficient and effective communications within and outside the school and community.
- Technology allows us to better serve the diverse learning styles of our students.
- Technology maximizes productivity and efficiency, and enables schools to better prepare students for future learning.

INSTRUCTIONAL TECHNOLOGY STANDARDS FOR STUDENTS

Standard 1. Demonstrate proficiency in the use of computers and applications as well as understanding of concepts underlying hardware, software.

Kindergarten- 4th grade

Exploratory Concepts and Skills

1.1 Develop basic skills for using hardware and applications (e.g., open/close a file, navigate using scroll bars, arrow keys, and mouse).

1.2 Use correct terminology for basic components of a computer system (e.g., monitor, keyboard, disk, printer, mouse), and develop understanding of their basic functions.

- 1.3 At district and teacher's discretion explore and develop keyboarding skills. (The district determines whether students will learn touch typing or simply become familiar with keyboarding functions.)
- 1.4 Explore basic formatting features of a word processing program (at teacher's discretion).
- 1.5 Explore and understand the basic function and purpose of a database.
- 1.6 Explore and understand the basic function and purpose of a spreadsheet.
- 1.7 Collaborate with classmates to use teachers-selected websites.
- 1.8 Collaborate with classmates and teacher to send email message (at the discretion of district and teacher).
- 1.9 Collaborate with classmates and teacher to create slide presentation with exiting template.
- 1.10 Explore the use of drawing and painting applications for class projects (at teachers discretion).

Standard 2. Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media.

- 2.1 Follow classroom rules for responsible use of computers.
- 2.2 Develop understanding of the school's rules for safe and ethical Internet use. (Use of Internet in this gradespan is under close supervision and determined by district policy.)
- 2.3 Explore practices for evaluating Web sites (District policy determines Internet use.)
- 2.4 Develop an understanding of how the computer is a tool for learning.
- 2.5 Explore issues of ergonomics and safety in using computers.

Standard 3. Demonstrate ability to use technology to use technology for research, problem-solving, and communication. Students locate, evaluate, collect, and process information from a variety of electronic sources. Students use telecommunications and other media to interact or collaborate with peers, experts, and other audiences.

- 3.1 Explore and develop understanding of how to gather information from a variety of electronic sources, including teacher-selected Web sites, CD-ROM encyclopedias, and automated card catalog.

- 3.2 Explore the use of applications programs (e.g., word processing, database, spreadsheet) for organizing information into charts, tables, and programs.
- 3.3 Explore the use of content-specific tools to enhance understanding of curriculum content (e.g., environmental problems sensors, robotics, simulation software, and measuring devices).
- 3.4 Collaborate with classmates and teacher in creating a multimedia presentation to communicate learning with others.
- 3.5 Collaborate with classmates and teacher to exchange e-mail with another classroom (at discretion of district and teacher).
- 3.6

INSTRUCTIONAL TECHNOLOGY STANDARDS FOR STUDENTS

Standard 1. Demonstrate proficiency in the use of computers and applications as well as an understanding of concepts, underlying hardware, software, and connectivity

Grades 5-8 Performance Indicators

By the end of 8th grade students should:

- 1.11 Identify components of a computer system, understand their functions, and use appropriate terminology in speaking about the (e.g. operating system, hard drive, memory, and window).
- 1.12 Identify and use basic features of a computer operating system (e.g. format/initialize disks, access information on size and format of a file, create folders on local hard drive).
- 1.13 Save a file to the desktop, the hard drive, and external storage spaces (e.g. floppy disk, CD-ROM, virtual space).
- 1.14 Select a printer and print a document with appropriate page setup and orientation.
- 1.15 Operate peripheral equipment (e.g. scanner digital camera, camcorder).
- 1.16 Develop efficient keyboarding technique.
- 1.17 Identify and use editing and formatting features of a word processing program (e.g. centering ,line spacing, margins, cut and paste, fonts, styles, spelling, page numbers).
- 1.18 Insert images (e.g. graphics, clip art, tables) from other word files into

word-processed document.

- 1.19 Describe structure and function of database and identify components (e.g. record, field).
- 1.20 Create an original database, defining field formats and adding new records.
- 1.21 Perform simple operations in a database (e.g. browse, sort, search, delete, add data).
- 1.22 Describe structure and function of spreadsheet (e.g. cells, rows, columns, formulas) and apply formatting features.
- 1.23 Create an original spreadsheet, entering simple formulas.
- 1.24 Produce simple charts from spreadsheet.
- 1.25 Identify and use navigation features of a browser (e.g. “go”, “back”, “forward”).
- 1.26 Using a browser, “bookmark” a Web site for future reference.
- 1.27 Identify basic elements of a Web site (e.g. URL, hyperlinks, site map. ect.).
- 1.28 Copy an image from a Web site into a file on the desktop: write a correct citation caption in keeping with copyright law.
- 1.29 Using e-mail, create and send a message. (Student use of e-mail is determined by district policy and may be a class-wide activity if students do not have individual accounts.)
- 1.30 Open an e-mail attachment and save it to the desktop. (District discretion applies.)
- 1.31 Use correct terminology in speaking about electronic communications (e.g. browser, search, online.)
- 1.32 Create a slide presentation using appropriate applications.
- 1.33 Identify and use drawing and painting applications as appropriate for class projects.
- 1.34 Identify appropriate applications for a classroom projects.

Standard 2. Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media.

Grades 5-8 Performance Indicators

By the end of 8th grade students should:

- 2.6 Explain and demonstrate understanding of classroom rules regarding responsible use of computers (responsible behavior around equipment, respect for other people's work, and appropriate collaborative behavior).
- 2.7 Explain and demonstrate ethical and legal behavior in copying files, applications, and media.
- 2.8 Explain potential problems of computer viruses and exercise caution in opening e-mail attachments from unknown sources. (Use of e-mail is at the district discretion.)
- 2.9 Explain safe practices for sharing personal information via e-mail and the Internet. (Use of e-mail is at the district discretion.)
- 2.10 Explain proper e-mail etiquette. (Use of e-mail is at the district discretion.)
- 2.11 Describe and demonstrate knowledge of the school's Acceptable Use Policy, and know the consequences of violating that policy.
- 2.12 Validate a Web site for authenticity (e.g. find site sponsor, author, and date that the site was last updated).
- 2.13 Explain how media and technology can be misused to distort or exaggerate information.
- 2.14 Write correct citations for text and images gathered from electronic sources. Understand that the use of materials is limited by the fair use of rule of copyright law.
- 2.15 Develop an awareness of the issues of ergonomics (e.g. Repetitive Stress Injuries) and how to use equipment safely.

Standard 3. Demonstrate ability to use technology for research, problem-solving, and communications. Students locate, evaluate, collect, and process information from a variety of electronic sources. Students use telecommunications and other media to interact or collaborate with peers, experts, and other audiences.

Grades 5-8 Performance Indicators

By the end of 8th grade students should:

- 3.6 In keeping with the research processes outline in Standard 24 of the *English*

Language Arts Curriculum Frameworks, identify electronic sources of information (e.g. Internet, CD-ROM, online periodical databases, and online catalogs).

- 3.7 Use search engines effectively to find relevant, unbiased, and current information on a subject. (Standard 2 performance indicators apply- i.e., evaluate Web sites and write correct citations for sources.)
- 3.8 Organize information that is collected using a variety of tools spreadsheet, (e.g., database, saved files).
- 3.9 Communication results of research and learning with others using the most appropriate tools (e.g., desk-top publishing or word-processed report, multimedia presentation).
- 3.10 Manipulate data using charting tools and graphic organizers (e.g., concept mapping, flow charting, and outlining software) to connect ideas and organize information.
- 3.11 Under teacher's guidance, and at discretion of the district, use e-mail to communicate with others (e.g., students in other classrooms, experts in a subject, teachers).

TECHNOLOGY COMMITTEE

We have assembled a group of 5-8 school members and stakeholders to act as an advisory team to monitor the implementation of this plan as well as act as an advisory council for future technology improvements.

Duties and Responsibilities

1. Oversee the implementation of the School Technology Plan.
2. Catch potential problems early in the program so they can be corrected before more serious problems occur.
3. Analyze and recommend assessment measures to monitor staff development progress for staff and students.
4. Act as an advisory board for purchase of new software, outside staff development, and equipment.
5. Act as a liaison between staff and the administration.

6. Set policy and procedures for the use of the tech center, policy regarding use of facilities, and new proposed programs.
7. Develop and update our Acceptable Use Policy
8. establish a computer replacement cycle every five years

OUR STAFF NEEDS ASSESSMENT

- All staff members will complete a Massachusetts Technology Self-Assessment Tool annually.
- This information is used to create professional development strategies.

FORMALIZED STAFF DEVELOPMENT AND ASSESSMENT

- Offer content-specific training programs that emphasize a level of technology proficiency.
- Continue staff development programs to move from proficiency to the integration level.
- Establish lead learners for peer-to-peer mentoring of staff to assist transitioning knowledge and skills from the training lab to the classroom.
- Design and conduct training in use of technology for new teachers.
- Assess all staff development courses upon completion using participant surveys.
- Measure the number and percent of teachers requesting and receiving training by types of training.
- Observe teachers in the classroom for transfer of knowledge from staff development to practice.
- Collect and analyze lesson plans produced at professional development using rubrics.

TECHNOLOGY INTEGRATION

- Teacher will use technology to plan lessons, research topics, and share information

- Teachers will use technology with students to conduct research, produce multimedia presentations, use email to communicate with other classrooms
- The school will employ a full time technology teacher to help with technology integration.
- Teacher will use online resources and our website to submit lesson plans and assignments.

TECHNICAL SUPPORT

- The school will contract with an outside agency for server and infrastructure support.
- The technology teacher will trouble shoot desktop support
- In 2007 the school will hire a part time technician to handle desktop and printer issues

THREE YEAR PLAN

2007-2008

- Build a network using Cat 6 for 10/100 and gigabit connectivity to the desktop
- Install DNS, email, file and print, and web servers
- Establish at least a T-1 Internet connection
- Install Catalyst switches
- Install 6 data drops per classroom
- Install a firewall with content filtering
- Install wireless access points throughout the building
- Investigate interactive video learning and delivery
- Install 24 computers in a lab with projection device.
- Install a teacher computer in every classroom
- Investigate and purchase a web based student information system

2008-2009

- Install 5 computers and a network printer in the classrooms
- Conduct technology staff development for teachers
- Deploy a wireless laptop cart of 20 computers for school use in place of classroom computers
- Conduct staff development on the student information system

2009-2010

- Investigate the use of Smart Boards for the classrooms
- Investigate the use of I Pods to deliver educational content

BUDGET

Proposed 2007-2008

Project	Budget	E-rate
Stipends/Salaries	\$3,000	
Hardware	0	
Software	0	
Network Upgrade	\$162,175	\$16,217
Cabling/ Wireless access	\$68,240	\$ 6,824
Internet Access	\$ 11,494	\$1,149
Staff Development	\$ 1,000	
Maintenance and Support	\$19,985	\$1,998
Telecommunications Services	\$12,514	\$1,251
Supplies- Toner	\$600	
Voice over IP	\$ 21,686	\$ 2,168
TOTAL	\$300,694	\$29,607

Proposed 2008-2009

Project		E-rate
Stipends/Salaries	\$5,000	
Hardware		
Software		
Network Upgrade		
Cabling/ Wireless access		
Internet Access	\$ 11,494	\$1,149
Staff Development	\$1,000	
Maintenance and Support	\$19,985	\$1,998
Telecommunications Services	\$12,514	\$1,251
Supplies- Toner	\$750	
	\$50,743	\$4,398
TOTAL		

Proposed 2009-2010

Project		E-rate
Stipends/Salaries	\$5,000	
Hardware	10,000	
Software	5,000.00	
Network Upgrade		

Cabling/Wireless		
Internet Access	\$ 11,494	\$1,149
Staff Development	1,000.00	
Maintenance and		
Support	\$19,985	\$1,998
Telecommunications		
Services	\$12,514	\$1,251
Supplies- Toner	\$800	
TOTAL	\$65,793	\$ 4,398