

Lawrence Family Development Charter School
Technology Plan
School Years 2008-2009 | 2009-2010 | 2010-2011

Executive Summary

LFDCS was founded to create a school and learning community responsive to the community we serve. Our parent-led governance body directs and defines our philosophy, responds to challenges, and prioritizes the allocation of resources to meet the economic, educational, and environmental needs of our students. Our school accurately reflects the deep economic distress of our community and the academic challenge of limited-English proficiency and limited school readiness. Ninety-six percent of our students do not speak English as their first or home language; 85% live in families at or below the federal poverty level; less than 50% have participated in any preschool education. LFDCS is committed to the belief that all children can and will learn and challenges itself as an institution to uncover the strategies most effective to provide value-added education. This action is planned through deliberate interventions, data analysis, and training to increase the skills, competencies, and awareness of staff and families to achieve the goals we set for our students and our school.

LFDCS is an urban public charter school founded by a non-profit organization with deep community roots and a mission to strengthen families and the community through education and a group of Latino parent leaders. The school wrote its mission to build upon cultural and family strengths as a strategy to increase achievement locally and as a model for Latino achievement in communities across the nation. LFDCS opened in 1995, the first year of charter school operation in Massachusetts serving 180 students K-3. Currently in its eleventh year and 3rd charter the school has grown to approximately 540 students K-8 with approval to add a new level 1 (4 year old) Kindergarten program for the 2006-07 school year.

This plan was created to build upon the school's strong commitment to provide access to tools and resources necessary for students who are economically disadvantaged to reach parity with more economically advantaged students in the Commonwealth, and to guide the integration of technology in the school curriculum and daily reporting and recording functions of all school personnel.

This technology plan encompasses a three-year plan and incorporates the Massachusetts Department of Education benchmarks. The purpose of this plan is to:

- Assist the technology planning team in evaluating the current and proposed status of technology at LFDCS (through survey, needs assessment, and professional consultation.)
- Improve the integration of technology in planning and implementing curriculum (through intentional ongoing staff development)
- Utilize technology as a tool to move all students at LFDCS to proficiency benchmarks in all content areas (through data analysis and integrated progress report to guide placement and support tutoring)

Technology Planning Team

Ralph Carrero, Superintendent
Susan Burgett, Principal
Peter Kamberelis, Grant Writer
Chris Bartlett, Technology Manager

Vision

The technology mission of LFDCS is to achieve educational excellence, providing all students with access to current technological resources, knowledge and skills that will promote their understanding and ability to thrive in a technologically enhanced world.

Technology-supported classrooms and labs must be equipped with diverse options for teaching and learning, which only current technology can make possible. These classrooms must be managed by knowledgeable, skilled, and motivated educators who are both comfortable and creative with current technology. These educators must also be committed to the exploration of future technology advancements.

In envisioning the future, LFDCS is committed to the following goals:

1. Add upgraded computers and computer based programs to classrooms and computer labs K-8 that complement and enhance instruction.
2. Add and/or upgrade computers for teachers at grades K-8.
3. Investigate and upgrade in-classroom learning tools other than computers (projectors, smartboards, interactive whiteboards, etc...)
4. Provide educators with high quality, on-going professional development to advance technology integration.
5. Maintain and improve the existing infrastructure and support services at LFDCS.
6. Upgrade internet access speed.
7. Rebuild and redeploy organization website.
8. Continually update this document as progress along these areas is made. This will be a “living” document.

Needs Assessment

Current Status

1. Computer types used for instruction and/or planning. (July 2008)

A			B			C			Location
07/08	07/09	07/10	07/08	07/09	07/10	07/08	07/09	07/10	
0	0		53	53		0	0		Lower School
16	46		62	62		0	0		Upper School
0	0		11	11		0	0		K1
0	0		12	12		0	0		K2

* A - 46

* B - 138

* C - 0

2. Internet access and service connectivity. Currently, service is a 768kbps T1 provided by BroadView Networks.

3. Curriculum Integration

Currently the Upper School computer lab is used to provide educational software programs that support skill development in various content areas. The software programs in use are specifically identified to propel students forward to proficiency levels in reading, science, and general technology.

Currently the programming being offered at the Upper school lab targets:

- Curriculum integration through internet research and report writing for the content areas of science and social studies
- Word processing final drafts in the content area of ELA (writing)
- Word processing for portfolio development across content areas to meet eighth grade graduation requirements
- Educational software to support skill development across content areas, specifically reading and science.

Software includes:

- ReadAbout v1.2 for grades 3-6 and upper lab.
- SRI as an evaluative reading tool
- Microsoft Office 2003
- MITAR (MIT Partnership)
- StarLogo (MIT partnership)

All support the standards of the MCF

4. Professional Development

To design appropriate professional development, staff is routinely questioned on their technology knowledge level and is provided an assistance required by the full time Technology Manager. This is informative, but informal. It is within reason to believe that:

- 100% of the teachers at LFDCS use technology for professional activities weekly.
- 100% of the staff has been trained in the LFDCS acceptable use policy.
- At present, an unknown percentage of the teachers at LFDCS report proficiency in computer basics and use of Internet.
- 25% of staff reports proficiency in the use of productivity, presentation and multimedia tools.
- All teachers currently have E-mail accounts for internal communications.

However, to further assess our technological professional development, the entire LFDCS staff will be required to complete a TSAT questionnaire (through MassONE) by June 2010. This will allow the technology planning team to appropriately plan professional development activities/budgets for the following school year and beyond.

Projected Needs - Overview

1. All computers school wide need to be upgraded to Type A to meet DOE benchmark and guidelines. Accessibility to technology needs to be increased by installing classroom computers.
2. The school network needs to be upgraded to improve connectivity and meet the usability demands of more sophisticated technology.
3. Administration should begin the process of identifying hardware/software that will specifically target reading and math instruction that aligns with the proficiency benchmarks of the MCF. All software selected should be research based with results that are specific to the LFDCS population of learners.
4. Infrastructure requires rebuilding from the ground up. Process started in Summer 2008, continuing perpetually.

Benchmark Overview

1. **Commitment to Clear Vision and Mission Statement** (See Benchmark 1 below)

LFDCS has a newly revised technology committee, formed to create, implement, and oversee the three-year technology plan. The plan is aligned to the school's vision of preparing all students with the skills necessary to achieve the DOE benchmarks and become competitive in a global society where technological proficiency is critical to success.

In guiding this vision, leadership will play a critical role. The school principal and the Technology Manager will lead the planning team by developing and implementing what is outlined in this Technology Plan.

Currently LFDCS has two parallel systems, one focused on administrative use and the second on instructional support. The administrative system allows for key data entry of student information (SIMS), attendance, payroll, internal communication, and external communication with the DOE and other supporting agencies and institutions.

The instructional system allows for curriculum development (unit design and lesson plans), educational software to support skill development in math and ELA, and student access to approved internet sites to conduct content based research.

System shortcomings, such as shortages in the availability of computers, aging computers, deficient infrastructure, and lack of research based educational software aligned to the MCF benchmark reduce the efficiency of technology integration. These shortcomings are all in the process of being addresses.

LFDCS will establish performance benchmarks in order to evaluate its use of technology. These will be included in the School Improvement Plan.

2. Technology Integration (See Benchmark 2 below)

Teachers need assistance in integration of technology into the curriculum. Research based software that supports standards based instruction will be previewed and selected by the plan team. Training and on-going consultant support from software companies will be critical in technology integration.

All students should be technology proficient in order to prepare for the 21st century. Steps will be planned and implemented that are based in developing proficiency using the Massachusetts Recommended K-8 Technology Standards.

An effective use policy is critical to establishing boundaries for the students and staff. Simply having the policy is not enough; it must be effective. The usage policy can be made more effective by taking the time to review, discuss and revise as needed. LFDCS disseminates its acceptable use policy by providing training to students and staff annually to increase the understanding of what is and is not an acceptable use of its technology.

3. Technology Professional Development (See Benchmark 3 below)

LFDCS recognizes the need to provide more site-based professional development in technology use and integration. Every effort will be made to make professional development on-going and relevant to teacher needs, including emphasis on:

- Use of productivity, presentation and multimedia tools
- Training in the use of supporting software will also remain a priority
- Training in the online grading and report card system

4. Accessibility of Technology (See Benchmark 4 below)

LFDCS is committed to achieving and keeping a student to computer ratio at both the upper and lower school to 5:1 or lower.

5. Infrastructure for Connectivity (See Benchmark 5 below)

The major investment in upgrading technology in classrooms and the computer lab will produce minimal increases in usage unless the school's core infrastructure issues are addressed. Upgrading the infrastructure will lay the foundation for dramatic gains in functionality, use and learning impact. Presently the school provides connectivity to all classrooms and labs. Wireless connectivity is currently available on a limited basis.

Current and Proposed Initiatives

DOE Benchmark 1: Commitment to clear Vision and Mission Statement		
	Current	Proposed
The school’s technology plan contains realistic and clearly stated goals and strategies to upgrading technology and technology education for staff and students. It is committed to achieving its vision by the end of the 2010-2011 academic year.	The previous vision and goals are on file with DOE (2004).	The proposed vision and goals are outlined in this document (2008-2009 – 2010-2011).
LFDCS has a technology team with representatives from a variety of backgrounds.	LFDCS has a Technology Plan Team that includes leadership team members.	The team will meet periodically to review plans and assess needs.
Budget The School has a budget for its technology plan, utilizing recaptured resources including, but not limited to federal, state and private resources (vouchers, grants, program surplus). There is also a line item for technology in its operational budget.	Budget varies annually, historically \$30,000 - \$50,000 per year.	In addition to annual budgeting, LFDCS will actively identify & use recaptured surplus, vouchers & grants to fund proposed upgrades in technology. When available, stimulus money will be used.
Evaluation The school will evaluate the effectiveness of technology resources toward the attainment of educational goals on an annual basis.	The school provides training in acceptable usage to insure that teachers, parents and students understand the proper usage of technology at school. LFDCS will assess effectiveness of educational programs by evaluating reports from those apps as well as testing.	In addition to the plan currently in place, the school will administer the TSAT annually to evaluate the effectiveness of the improved upgrades and professional development included in the technology plan.

DOE Benchmark 2: Technology Integration

	Current	Proposed
Teachers within the classrooms will use computers with students daily to support reaching proficiency benchmarks.	K2 & Lower school (grades 1-4) computers are classroom based. Upper school computers are classroom-based grades 5-6. A library media center and computer Lab are located at the upper school for grades 7 and 8.	Complete. All PCs will meet Type A requirements by Summer 2010. Computers will be put on a 3-year product life cycle starting in 2010. This will ensure Type A computers in all classrooms going forward.
All teaches will use technology everyday, including some of the following areas: Lesson planning, internal communications, and grading.	100% of teachers use computers daily for the following tasks: lesson planning, grade books and internal communications. 100% of teachers have e-mail accounts with protected passwords and use those accounts.	Complete
At least 70 % of students will achieve proficiency benchmarks using the Massachusetts Recommended K-8 Instructional Technology Standards for grades 5-8.	Students in grades 7 & 8 currently work on word processing and internet use skills through technology integration.	The school will develop a curriculum based in the Massachusetts Recommended K-8 Instructional Technology Standards and create an evaluative measure to assess student proficiency. (In Process to complete by 2010)

DOE Benchmark 3: Technology Professional Development

	Current	Proposed
<p>By the end of the academic year 2010 100% of the staff will have participated in an additional 24 hours of technology training in 1 or more of the following areas:</p> <ul style="list-style-type: none"> • computer basics • productivity • presentation • use of multimedia tools • educational software supports • administrative software supports 	<p>LFDCS mandates on site professional development in computer literacy. LFDCS also offers reimbursement for college coursework and conferences.</p>	<p>In-service and professional development focus includes a technology component to insure meeting benchmarks.</p>
<p>100 % of staff will participate in on-site technology development will be designed based on the TSAT to include:</p> <ul style="list-style-type: none"> • computer basics • efficient use of Word tools • Excel • Power Point 	<p>Consultants and highly qualified staff are providing workshops for staff in the benchmark areas.</p>	<p>On-going</p>
<p>At least 80% of teachers will demonstrate proficiency as defined by the Massachusetts Self Assessment Tool.</p>	<p>No current measure of proficiency is being utilized.</p>	<p>Technology committee will review and evaluate the results of the TSAT in summer 2010 and each year annually.</p>

DOE Benchmark 4: Accessibility of Technology

	Current	Proposed
The school will hold the student to computer ratios to 5:1 or lower as recommended by the DOE.	The school has a ratio of 5:1 student to computer ratio at the lower school. The school has a 5:1 student to computer ratio at the upper school. There is a 1:1 ratio for 7 th & 8 th grade students in the Upper School lab.	LFDCS will construct a new computer lab in the lower school to accommodate grades 1-4.
The school will develop a computer replacement cycle.	The school currently shuffles computers annually based on needs and availability of resources. The replacement cycle is met based on computer failure.	The planning team will implement a replacement cycle for computers based on age. This will most likely become a 3-year cycle.
The school will seek a full time technician to support the increased technology demands.	The school recently hired its first full time in-house Technology Manager (July 2008). The intent is to foster technological advancement and bring in a level of expertise necessary to build for the future.	The school recognizes the need for a technician who can handle day-to-day repairs, upgrades, and user requests. Due in 2011. Summer IT internships will be made available as well, beginning in 2009.

DOE Benchmark 5: Infrastructure for Connectivity

	Current	Proposed
The school will increase the speed of its internet connection.	768kbps Fractional T1	1.5Mbps Fractional T1 or faster.
The school will upgrade the server infrastructure to support the increased use of technology.	<p>Two servers are in place.</p> <p>One is for support purposes (finance, student data, etc).</p> <p>One is an application server (ReadAbout).</p> <p>An e-mail/web/spam filter appliance is in place to handle e-mail communications, web restrictions, and prevent malware.</p>	<p>Build fully-functioning infrastructure including full & proper licensing:</p> <ul style="list-style-type: none"> • Domain Controller • Exchange E-Mail Server to replace eSoft ThreatWall • AntiVirus/AntiMalware Server • Print Server • File Server • Support Server (Tape Backup) • Application Server(s) • BES or BPS Server • Thermal protection in server room (Air conditioning/dehumidifying) • Power protection in server room (UPS batteries)
The school will upgrade and expand the local area network to meet the technology demands of the school.	100Mbps LAN with a 10Mbps wireless connection between buildings.	<p>IP addressing scheme change required to facilitate future growth and VPN connection</p> <p>1000Mbps LAN upgrade.</p> <p>45Mbps wireless connection between buildings.</p>
The school will upgrade and expand the imaging infrastructure (printers/scanners/MFCs) to meet the technology demands of the school.	Scattered desktop printers, expensive and outdated copiers.	Strategically placed MFCs throughout the school bound by a single print server. Training will be provided and regular support will be enhanced.