

Wireless Learning Implementation Plan French Broad River Academy

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T-561 Emerging Educational Technology
January 9, 2009

Introduction

As a school developer in the School Leadership program, I plan to launch a middle school in Asheville, North Carolina called the French Broad River Academy (FBRA). North Carolina was the first state to adopt the 21st Century Skills framework into its curriculum as described by the Partnership for 21st Century Skills (www.21stcenturyskills.org). Since one of the key objectives of the planned school and the state of North Carolina is preparing students with 21st century skills, it is imperative to equip students and staff with the tools that will be used to enhance and improve daily instruction, communication, planning, collaboration, and production of work.

More importantly, “a handful of pilots (pilot schools) in the US and abroad are proving that anywhere/anytime access to information-age devices for all learners can transform teaching and learning and equip students with 21st century skills,” (Wireless Learning Master Plan-Lila G. Frederick Pilot Middle School). In addition, “these projects are illustrating that in one-to-one learning environments (one computer per child and teacher), students are demonstrating a deep and enduring mastery of essential knowledge and skills at all grade levels,” (Wireless Learning Master Plan-Lila G. Frederick Pilot Middle School).

While the wireless learning implementation plan is designed to improve educational outcomes for all students, it is important to remember that the laptops and accompanying technology are not an end in itself, but rather a means to an educational achievement end. Therefore, North Carolina and 21st Century Standards will be used to guide the use of wireless learning inside the classroom.

PART I: Project Background, Purpose and Planning Framework

About the French Broad River Academy (FBRA)

Although the school does not exist yet, the mission of the school is to build character and integrity in young men for a lifetime of learning and service. The academy believes in educating the whole child-mind, body, and spirit-as well as families and the surrounding community. The French Broad watershed will be used as a source of inquiry, exploration, experience, connections, and hands-on learning to complement the core academic curricula and support the school’s vision while producing the next generation of river stewards to improve the condition of the French Broad, and, ultimately, save this precious resource. FBRA is scheduled to launch in

the fall of 2010 enrolling its first class of 60 sixth graders (5 teams of 12 students per grade level).

The following Master Plan is largely modeled after the Lila G. Frederick Pilot Middle School plan (www.lgfnet.org/), which was facilitated by the Massachusetts Technology Collaborative (www.masstech.org).

Phase One: Plan Foundations

Project planning work during the period of September 2008 through January of 2009 will provide the foundation for the FBRA Wireless Learning Plan. These activities will include:

- ❑ *School/Community Awareness Session:* Two formal awareness sessions will be held between July 2009 and January 2010 during the project period. Feedback from the sessions will be used to determine receptiveness in the community and will help fulfill the awareness outcomes described later in the project.
- ❑ *Governance Committee:* Working in concert with the school director and Board Chair, a Wireless Steering Committee will be formed and will include representatives from the school, the community, and the business sector.
- ❑ *Environmental Scan:* The Wireless Steering Committee will work with a range of internal and external stakeholders in order to capture a current “environmental scan” of the school’s strengths and challenges across a diverse set of measures. This data will be used by the governance committee to articulate core project outcomes in areas including student achievement, teacher performance and the fulfillment of school/organizational goals.
- ❑ *Project Workgroup:* The final step in the project planning period will be the recruitment of FBRA staff to serve on the Project Workgroup. The Project Workgroup will be responsible for developing many of the implementation structures and recommendations for the Wireless Learning Initiative. This workgroup will address all aspects of the wireless learning project including curriculum integration, staffing, professional development, facilities, technology, laptop policies, etc.

Phase Two: Plan Implementation Strategies

The second phase of the planning process will be completed during the period of February and March 2009. This work will include:

- ❑ Finalizing the project outcomes, including the use of wireless learning devices to support advances in student achievement, teacher/administrator performance and the attainment of school improvement goals
- ❑ Developing a DRAFT Request for Quotes to be used by the school as it seeks to secure a qualified technology vendor/partner
- ❑ Framing recommendations in areas including, but not limited to, hardware, software, connectivity, curriculum integration, professional development, staffing, facilities management, laptop policies, home access/outreach and project evaluation
- ❑ Establishing cost centers, budget requirements and fundraising plans

Finally, the FBRA Wireless Learning Master Plan will outline a series of action items focused on the 2010–2011 academic year. The time lines to be set forth are designed to provide a roadmap for project staff and internal stakeholders as well as external project partners.

Part II: Vision, Goals and Outcomes

A New Vision for Learning: The Essential Question

The development of the FBRA Wireless Learning Master Plan will focus on creating a purposeful response to the following question:

How will universal access to digital learning tools/environments for students, teachers and school leaders propel student achievement forward and transform what traditional teaching and learning look like, in and out of the classroom, over the next three to five years?

The Wireless Steering Committee will approve a comprehensive set of project goals by May 1, 2010. They will focus on the following areas:

Student Impact

- Academic Achievement
- Personal/Academic Productivity-Increase personal and academic productivity and demonstrate a connection between organizational skills and academic quality in areas including:
 - Management of class assignments, homework, projects and tasks
 - Planning and learning how to plan
 - Digital learning contracts linking home, school and after-school activities
 - Media Literacy
- Engagement-Improve student engagement as evidenced by time on task
- Mastery of NC 21st Century Standards and Future Ready Curriculum

Teacher Impact

- Teachers use wireless learning technologies to:
 - Diversify classroom practices in areas including instruction, assessment and classroom management in order to meet the student impact outcomes
 - Create and manage digital curriculum assets including lessons, assessments and anchor sets of student work aligned with the school *Target Documents*
 - Increase communication with students, parents and guardians
 - Share data with colleagues about student achievement and goals
 - Share data with colleagues about lessons and lesson planning
 - Engage in collaborative lesson design, planning and development
 - Advance professional growth and engage in online/distance learning opportunities to expand content knowledge and refine instructional practices

Administrator Impact

- ❑ Teacher leaders and administrators use wireless learning technologies to:
 - Increase the Administration Team’s organization collaboration and leadership skills
 - Improve the capacity of School Leaders to support teacher growth (conferencing, observation, data collection) and to improve formal and informal evaluations
 - Ensure the mastery of the National Education Technology Standards for administrators for all central administration team members within three years

Institutional Impact

- ❑ The institution uses Wireless Learning Technologies to:
 - Extend the learning environment beyond the traditional school day to include home access and expanded school hours for students and their families
 - Expand internal and external stakeholder communication including web, print and e-mail outreach by FBRA
 - Improve data driven and research-based decision making through the use of data warehousing and related tools and processes in all appropriate areas
 - Increase long-term teacher retention rates

PART III: Required Conditions for Success

Setting up for Success: Roles for Building and Teacher Leadership

The implementation of the FBRA Wireless Learning Plan will require collaboration and communication among all staff, students, parents/guardians, and the governing board of FBRA for success. Either the School Director or a designated IT teacher will need to be responsible for securing a network infrastructure and the supporting service to ensure consistent access to the network. The IT point person will also support the procurement process associated with the project and capture lessons learned that can inform the replication of one-to-one wireless learning for other schools in Asheville.

Within the school, the School Director and other administrators will need to adjust teacher observation and coaching regimens and use new tools/resources in order to enhance administrator collaboration and productivity. The Administration Team will be responsible for supporting an increased emphasis on 21st century skills and tools in the classroom.

Finally, at the teacher level, FBRA staff will develop a wide range of new skills in order to shape curriculum and instructional practices designed to achieve the wireless learning outcomes set forth by the Wireless Steering Committee. In addition, a new staff position will be required to support the project. This specialist will work in concert with the designated IT teacher or School Director to as an integration specialist/technology assistant to ensure the success of the wireless implementation plan during the 2010-11 school year.

The Professional Development Sequence

While the potential to create a modern information-age “workplace” is remarkable, the need for

carefully designed and executed professional development cannot be understated. Instructor-led sessions and institutes will serve as the foundation on which more sophisticated job-embedded professional development will rest. An overview of the professional development plan can be found in “Part IV: Implementation Objectives and Action Items.”

Initial project staff development will take place prior to the arrival of student laptops during the summer of 2009 in order to prepare FBRA staff. The Wireless Learning Coordinator and School Director will work together to ensure the seamless delivery of professional development and follow-up activities during teacher planning sessions, early release days, school/district professional development days and other non-instructional time frames.

The One-to-One Curriculum, Instruction and Assessment “Spectrum”

A review of both literature and practice in the growing one-to-one movement highlights the absence of commonly agreed upon strategies that can be seen as “best practices” in instruction or assessment. A key goal of the FBRA Wireless Learning Initiative is to define a “spectrum” of one-to-one instruction and assessment strategies that can be used to address specific areas of student performance. If successful, the “spectrum” will map the connection between specific project outcomes and those one-to-one strategies that are most likely to help students, teachers and administrators master the knowledge and skills identified. This “spectrum” could be a valuable tool for other schools attempting to replicate one-to-one and wireless learning plans.

A Partnership Approach

Set to open in 2010, the FBRA will establish a range of vital partnerships including neighborhood, regional and national organizations. The role of existing partners, such as RiverLink, as well as the formation of new partnerships will be key to the successful implementation of the FBRA Wireless Learning Plan.

Evaluation: How will we know?

FBRA will attempt to recruit an external project evaluator for the overall building technology plan. FBRA will engage a Project Evaluation Team from the University of Western Carolina’s School of Education to provide measured feedback. This feedback will hopefully indicate whether the Wireless Learning Plan has significantly impacted the student, staff, administration and institutional goals set forth in the project Master Plan.

Funding the FBRA Wireless Learning Master Plan

The capacity to raise and manage dollars for the project is a major challenge facing the School Director and the Wireless Steering Committee. One option for securing funding is eliminating traditional textbooks in certain subject areas and using those funds to secure hardware and fund the new technology position. Another option is eliminating license fees by using web-based applications such as “Google Docs” and other free applications. Considering the current economic conditions and the forecasted budget cuts for educational spending, securing sustainable funds to implement and support the program will be a significant challenge.

PART IV 2010–2011 Implementation Objectives and Action Items

The following section of the FBRA Wireless Learning Master Plan provides specific *Implementation Objectives* and *Action Items* that will be required to realize the vision, mission, goals and institutional framework identified in PARTS I–III of the plan by the end of the 2011 academic year. These benchmarks will be reviewed and revised monthly based on internal and external wireless program evaluation.

1. Project Coordination, Administration, Leadership and Staffing Objectives

Purpose: To align staffing, roles, responsibilities and tasks required to achieve the FBRA Wireless Learning Project Outcomes

Leadership:

1.1 Continue the model set forth during the planning phase in which the School Leader and Academy Leaders provide guidance and direction for all aspects of the initiative.

1.2 Empower the Wireless Steering Committee to make all programmatic, fiscal and related decisions regarding the Wireless Learning Initiative upon approval of the FBRA Wireless Learning Master Plan by the governing board.

Staffing:

1.3 Continue the model proposed during the planning phase in which existing staff serve as active participants on both the Wireless Steering Committee and Project Work Group.

1.4 Fill the new technology position designed specifically to support the project.

Coordination:

1.5 Continue the model proposed during the planning phase allowing for a steering and governance committee (Wireless Steering Committee) and staff working committee (Project Work Group).

1.6 Establish quarterly meetings with the FBRA School Board in order to provide programmatic and fiscal updates on the Wireless Learning Initiative.

2. IT: Hardware, Applications, Wireless Network and Related Infrastructure Asset Objectives

Purpose: To deploy a robust series of hardware components and related assets including laptops, servers, network devices, wireless apparatus and asset management tools required to achieve the FBRA Wireless Learning Project outcomes.

Laptops:

2.1 Identify a technology vendor/partner and secure 60 laptops* (with support contracts) over a three-year period in order to supply every student and teacher with a laptop and to have a cache of spares to be used as back-up machines when dedicated laptops are being repaired.

2.2 Assure that the selected vendor can account for substantive changes in operating system migrations and/or chip architecture as part of their proposed bid solution (e.g. providing Vista Premium Ready Machines on the Windows platform).

2.3 Require the selected vendor to provide guaranteed battery replacements for the life of the project contract.

*See the FBRA Wireless Learning Request for Quotes (RFQ) for a detailed list of Laptop Bid Specifications

Servers:

2.4 Secure server assets required to successfully implement 60 laptops in a ubiquitous wireless environment. These may include, but are not limited to, file servers, directory/domain servers and application servers including LMS (Learning Management System), SIMS (Student Information Management System), ePortfolio, remote desktop management, assessment tools and other networked applications that will advance the stated project goals.

Network and Wireless:

2.5 Encourage bidders to assess the status of the wireless infrastructure during the designated RFQ site visit in order to identify any interoperability issues with the proposed solution. Bidders should be encouraged to include recommendations regarding necessary adjustments to the current system in order to maximize the proposed deployment solution. Furthermore, bidders may choose to outline service level agreements to support the wireless infrastructure during the project cycle.

Ongoing Network Enhancements:

2.6 Collaborate with IT specialist in order to expedite a range of critical network enhancements including:

- Increased inbound and outbound bandwidth (including a dedicated allocation for disaster recovery)
- Increased wireless coverage to support the entire physical plant under “full load”

Asset Management:

2.7 Provide the tools and applications required to remotely manage key hardware assets including laptops, servers, wireless access points and related infrastructure components.

3. School Facilities (Electrical, Security and Facilities Management) Objectives

Purpose: To make necessary enhancements to the school's physical plant, infrastructure and/or human processes required to assure the safety and proper functioning of all technology assets related to the Wireless Learning Initiative.

Electrical:

3.1 Provide adequate and regulated power supply for three charging stations (one per grade level) required to charge up to 60 laptops over a 10-hour period.

3.2 Create a limited number of charging assets in each classroom to allow for up to 5 students to charge laptops during class without making significant adjustments to the classroom set-up.

Facilities Management:

3.3 Allow for the realignment of classroom space, computer labs and storage facilities in order to create a system in which students "checkout" their laptops each morning and return laptops at the end of the school day with minimum impact on traffic flow, passing times and staff monitoring requirements.

Security:

3.4 Institute a range of updated security procedures and install security assets (cameras, monitoring equipment, keypad access devices) required to safeguard all technology assets related to the Wireless Learning Initiative.

4. Curriculum Integration and Digital Content Objectives

Purpose: Create a robust digital curriculum index aligned to the school's academic target documents and designed to support the academic achievement goals set forth in the FBRA Wireless Learning Master Plan.

4.1 Establish a Wireless Learning Curriculum Work Group comprised of existing Curriculum Facilitators, Technology Support Teachers, the Wireless Learning Project Coordinator and Integration Specialist.

4.2 Develop a web-based index of digital curriculum resources including websites (free and subscription-based), software and related applications aligned to the content area target documents.

4.3 Develop a web-based index of digital curriculum resources including websites (free and subscription-based), software and related applications in other academic areas including electives, English Language Learner and special education classes.

5. Professional Development Objectives

Purpose: Create a comprehensive and ongoing professional development system that will provide teachers, administrators, technicians and other staff with the skills and behaviors required to successfully implement all phases of the initiative.

Professional Development Approach:

5.1 Develop a mix of professional development approaches in order to meet the needs of all learners in an anywhere/anytime model including:

- Traditional “instructor-led” courses
- Job-embedded coaching provided by the dedicated full time IT Specialist
- Peer-to-peer lesson design, implementation and observation
- Synchronous and asynchronous online courses
- Asynchronous tutorials

Professional Development Strands:

5.2 Develop professional learning opportunities in content strands including, but not limited to:

- Basic laptop operating system and applications
- Managing the one-to-one classroom
- One-to-one lesson design and courseware (LMS) management
- Internet safety
- Administrator/leadership series
- Vendor-based technician certification series

Professional Development Providers:

5.3 Develop partnerships with a range of professional development providers based on the learning needs of adults in the school community. Providers may include:

- Higher-ed partner
- Vendor and/or re-seller
- Asheville City Schools and other regional providers

6. Wireless Learning Policies and Procedures

Purpose: Establish and implement policies and procedures ensuring that all students, teachers, administrators and families understand (and adhere to) proper uses of laptops and all related Wireless Learning Initiative resources.

6.1 Develop the following policy documents and provide related awareness sessions/training for appropriate audiences:

- School Use Laptop Guidelines: Outlines student and teacher acceptable use policy, general information about the laptop, how to care for the computer, Internet/e-mail and network guidelines

- Laptop Property Release for Teachers: Outlines teacher use policies and procedures for lost or damaged teacher machines
- Student Laptop Infraction Guidelines: Provides guidelines for teachers, students, parents and school leaders regarding a range of consequences for inappropriate laptop use as outlined in the “School Use Laptop Guidelines”

7. Home/School Connection Objectives (LGFPMs Wireless@Home)

Purpose: Create a system which will allow for students and parents (or their guardians) to access student information, assignments, tasks, communications and all other resources related to school laptop uses while at home.

7.1 Continue collaboration with the Mayor’s Office on the development of a full home access plan, which includes the following three key components:

- Technology Goes Home for all interested families
- Desktop hardware that meets the minimum specifications needed to leverage the school learning Management System and functionally extend the school day
- Broadband Internet access via wired carriers and/or a potential emerging municipal wireless system

7.2 Conduct a FBRA Wireless@Home grade level pilot aligned with the first laptop deployment.

7.3 Fully implement FBRA Wireless@Home in concert with the third laptop deployment at school.

8. Funding, Total Cost of Ownership (TCO) and Sustainability Objectives

Purpose: Secure the required local funding commitments for the FBRA Wireless Learning Initiative and maintain an accurate accounting of TCO in order sustain the effort.

8.1 Produce adjusted TCO budget documents following the selection of a technology partner and provide good faith estimates regarding the replacement/refresh costs beginning in FY 2013.

8.2 Establish a fundraising and sustainability work-group including the Wireless Steering Committee and FBRA School Board.

8.3 Enumerate fundraising benchmarks based on local “match requirements” outlined in the final legislative authorization.

8.4 Develop a project refresh plan no later than FY 2012.

9. Marketing/Outreach Objectives

Purpose: Create a broad base of support for the FBRA Wireless Learning Initiative among all key stakeholders in the surrounding community and greater metropolitan Asheville area.

9.1 Recruit a marketing and outreach work group including individuals with unique skills and access within the communications community.

9.2 Establish a dynamic marketing plan (with supporting assets in a range of media formats) that will allow school staff and partners to illustrate the unique benefits, rate of investment and impacts associated with the FBRA Wireless Learning Initiative.

9.3 Produce marketing plan assets including press kits and outreach presentation materials.

9.4 Develop a comprehensive “prospects list” in conjunction with the fundraising work group and coordinate outreach/presentation efforts.

10. Student Leadership Objectives

Purpose: Design student leadership opportunities that take advantage of the technology-rich environment at FBRA in areas including laptop support/repair, multimedia design, basic networking and individualized student/teacher mentoring.

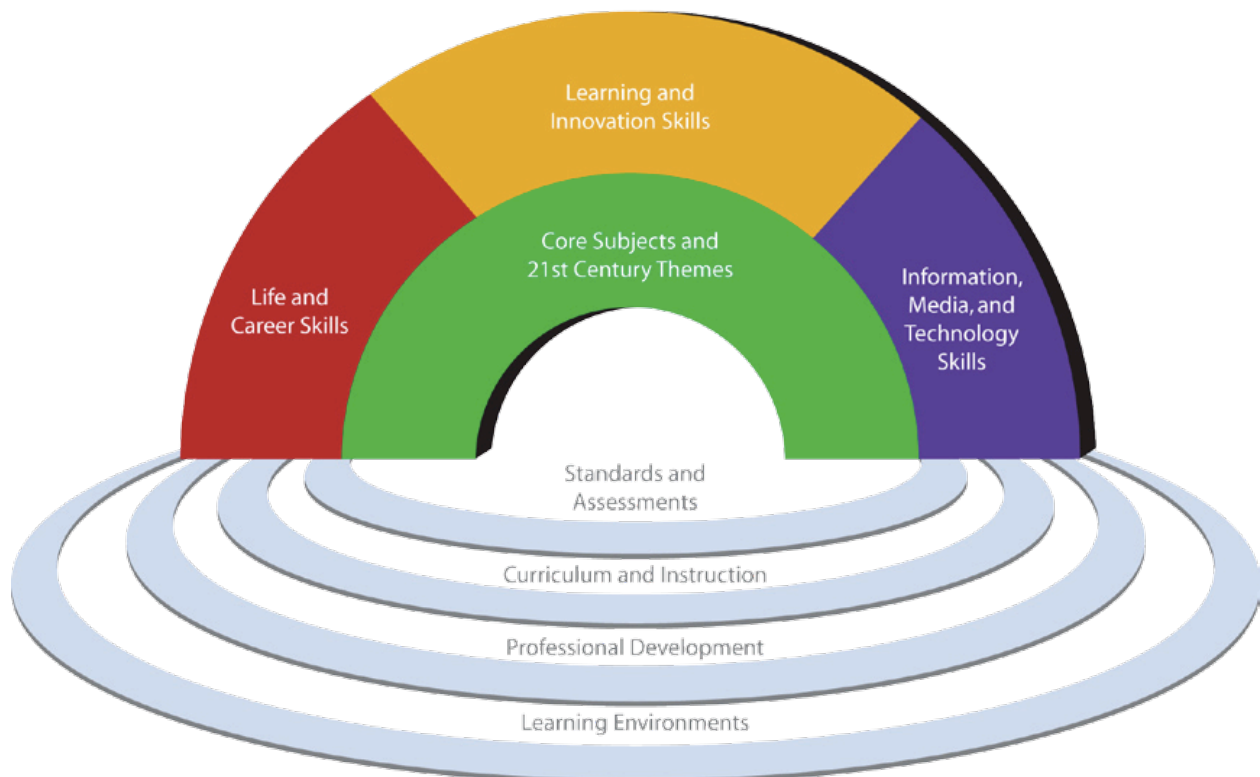
10.1 Benchmark student leadership or “I-Teams” and identify best practice models to be used at FBRA.

10.2 Create a phased implementation plan for student leadership or “I-Teams” in areas including, but not limited to:

- Laptop support and repair
- Basic network and wireless support
- Multimedia production
- Instructional design and teaching support

Appendix 1-Framework for 21st Century Learning

The Partnership for 21st Century Skills has developed a unified, collective vision for 21st century learning that can be used to strengthen American education. The key elements of 21st century learning are represented in the graphic and descriptions below. The graphic represents both 21st century skills student outcomes (as represented by the arches of the rainbow) and 21st century skills support systems (as represented by the pools at the bottom):



21ST CENTURY STUDENT OUTCOMES:

The elements described in this section as "21st century student outcomes" (represented by the rainbow) are the skills, knowledge and expertise students should master to succeed in work and life in the 21st century.

1. Core Subjects and 21st Century Themes
2. Learning and Innovation Skills
 - * Creativity and Innovation Skills
 - * Critical Thinking and Problem Solving Skills
 - * Communication and Collaboration Skills
3. Information, Media and Technology Skills

- * Information Literacy
- * Media Literacy
- * ICT Literacy

4. Life and Career Skills

- * Flexibility & Adaptability
- * Initiative & Self-Direction
- * Social & Cross-Cultural Skills
- * Productivity & Accountability
- * Leadership & Responsibility

21ST CENTURY SUPPORT SYSTEMS:

The elements described below are the critical systems necessary to ensure student mastery of 21st century skills. 21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce a support system that produces 21st century outcomes for today's students.

1. 21st Century Standards
2. Assessment of 21st Century Skills
3. 21st Century Curriculum and Instruction
4. 21st Century Professional Development
5. 21st Century Learning Environments