

# TECHNOLOGY PLAN UPDATE

## Mountain Brook City Schools

### SYSTEM INFORMATION:

**Superintendent:** Richard Barlow

**Email:** [barlowd@mtnbrook.k12.al.us](mailto:barlowd@mtnbrook.k12.al.us)

**Technology Coordinator:** Donna D. Williamson

**Email:** [wild@mtnbrook.k12.al.us](mailto:wild@mtnbrook.k12.al.us)

**Chief Financial Officer:** Karen Lusk-Smith

**Email:** [luskk@mtnbrook.k12.al.us](mailto:luskk@mtnbrook.k12.al.us)

**Address:** 32 Vine Street; Mountain Brook, AL 35213

**Phone:** 205-871-4608      **Fax:** 205-877-8303

### COVERAGE PERIOD:

Technology Plan E-Rate Funding Year 2010-2011 (July 1, 2010 -June 30, 2011)

Enhancing Education Through Technology (EETT)

FY2009-2010 State of Alabama School Year 2009-2010 (October 1, 2009 - September 30, 2010)

### TECHNOLOGY COMMITTEE:

Richard Barlow

Ken Key

Lisa Beckham

Karen Lusk-Smith

Betsy Bell

Laurie King

Lanie Kent

Sonia Montana

Susan Brandt

Sharon Mumm

Kenneth Camp

Jackie Simons

Lynne Colley

Paula Stanbridge

Patsy Combs

Pam Stembridge

Jason Falconer

Belinda Treadwell

Yvette Faught

Vic Wilson

Millie Gardner

Jan Winstead

Jeff Green

Dale Wisely

Sylvia Harper

Chris Yeager

Joani Kay

Donna Williamson

Ben Hudson

BWF Technology Committee

Ken Hyatt

CB Technology Committee

MBHS Technology Committee

CES Technology Committee

MBJH Technology Committee

MBE Technology Committee

### PURPOSE STATEMENT:

It is the purpose of the technology department to assist Mountain Brook educators and leaders in leveraging the unique powers of technology when providing an effective, challenging, and engaging education for every one of our students. We believe that seamless integration, a relevant and authentic technology experience, adequate support, and equitable access to the most up-to-date information and tools will benefit students by equipping them with the knowledge, skills, and dispositions essential to success in 21st century life and work.

## **CURRENT STATUS AND FUTURE PLANS:**

### **Infrastructure**

Mountain Brook students and staff have a sufficient number of Internet-enabled computers and the infrastructure necessary to support learning, communication, and administrative goals.

#### Wide Area Network

100% of Mountain Brook schools (6) are connected with 1 GB fiber.

#### Local Area Network

100% of the local area networks have a 1GB backbone with 100 MB to the desktop. 100% campuses are both hardwired and wireless.

We will maintain the rotation plan for file servers purchasing two (2) for 2010-2011 for the STI to INow conversion, purchase and replace 563 computers and laptops of the minimum required 1800, and we will continue to evaluate, plan and implement changes in our infrastructure to support administrative and instructional uses of technology.

### **Connectivity**

Instructional spaces, library media centers, and administrative offices have sufficient network bandwidth to support the learning, communication, and administrative goals of the district.

100% of all instructional spaces, library media centers, and administrative offices utilize 100 MB copper uplink or share 56 MB wireless access connected to a GB backbone infrastructure.

100% of the computers and laptops in the Mountain Brook School system share a 50 MB fiber connection to the Internet. (Since 2008 bandwidth has been upgraded from 10 MB to 30 MB to 50MB)

### **Internet Access**

A 50 MB fiber connection to the Internet, funded by AREN Consortium, connected to the Central Office is shared by all 6 schools and the central office. The schools get their access through the 1 GB WAN connectivity (WAN increased from 100 MB to 1 GB September 2010). The Mountain Brook School district has implemented the required Internet security tools, virus protection, security, and disaster recovery plans to enable teachers, administrators, and students convenient, useful, secure, and safe access to information.

### **Internet Safety**

Internet Content is filtered at the district technology offices using an 8e6 Technologies (now 8e6 Security.com) appliance. Internet traffic is recorded using the 8e6 Enterprise Reporter. Internet access is filtered on categories. A list of categories is available upon request. The list is reviewed by the committee at a minimum—two (2) times per school year. In October 2010, plans to implement different filtering policies for students and staff will allow staff access to online learning communities through blogs, YouTube, and various other sites.

*Note:* No Internet filter is 100 %. All elementary students should be supervised when searching the Internet. Web Publishing Guidelines are published for all staff to maximize student safety. The Technology Usage Policy is posted on the web and excerpts are included in Student Code of Conduct. All users sign a form stating that they understand the Technology Usage Policy. Guardians sign a form allowing their child to use the Internet, for permission for the school system to post student work, pictures, recognitions, and quotes on the Mountain Brook website, on Channel 10, and/or in publications as authorized by school officials. Only first name last initials are used to identify students unless photos are taken at an activity that occurs in the public arena.

## **Information Security**

### ***Backups/Disaster Recovery***

100% of Mountain Brook servers have a snapshot made of files everyday at 3:00 a.m. and 6:00 p.m. Snapshots are stored on the EquaLogic SANS for a period of 30 days.

100% of file servers including the Microsoft MSDE-free 2000 SQL server database that comes with software (Fitness Gram on DS-serv, Destination Success server); Non-Microsoft MYSQL-that comes as a part of software package (Destination Success on DS-serv); Microsoft SQL 2000 databases (STI, Time and Attendance), 2005 SQL Server Express-update version of MSDE, free Microsoft SQL database (Destiny); and Exchange 2010 Enterprise Edition, are backed up using Symantec Backup Exec software and a Dell PowerVault 124T Autoloader tape drive. Backups are rotated based on the size of the backup but are set for 16 days. . \*DS-serv (Destination Success) is running both MSDE and MYSQL. MBS Utility uses SQL 2008 for Sophos and WSUS.

100% of primary local databases such as STI Office and PCS FastTrack (child nutrition) are also backed up daily at the local school level

### ***Virus Protection***

100% of Mountain Brook desktops, laptops, and file servers run Sophos Security Suite software. Virus definitions are updated every 4 hours and an on access scan is performed on all "read" files continuously. Full scheduled scan run every day at 5:00 p.m. or at the next time the computer is turned on. Updates are installed on file servers on the weekend or as needed, a full scan is run after which the file server is automatically re-booted.. File servers check for virus definitions daily as a part of the normal update process. A full scheduled scan is performed on all file servers scanned daily at 7:00 p.m. To date the only files excluded are specific files on the Exchange server.

100% of Mountain Brook Exchange emails are scanned for viruses by a McAfee WebShield SCM 3300 appliance. During 2007-2008, this device replaced the McAfee 3100 SGA appliance which wasn't sufficient for our traffic.

### ***Data Security***

100% of mtbrook domain users are assigned to one of four primary security groups: tech, office, staff, and student. Central Office users are assigned to a staff group and subdivided to department security groups such as Tech Office, Student Services, etc.

100% of network rights for primary security groups are reviewed yearly. A Cisco ASA 5510 appliance is installed. The ASA 5510 is used as the primary firewall, is used to open and block ports based on applications, and used to create a VPN tunnel to the network.

100% of Mountain Brook School servers, computers and laptops are managed with Windows Group Policies. A majority of these policies are management related however there are limited security policies. Management policies are used to redirect desktops, manage computer settings such as but not limited to folder redirection, point to WSUS server for Windows updates, and disable off-line caching. The primary security policy is for the purpose of pushing out security keys to allow Mountain Brook Schools' clients to access the servers. A guest login is provided to allow access to the Internet by employee owned, student, or visiting laptops.

There are currently two SSID wireless networks. Laptops must authenticate to the MBS Wireless Network, WPA2 with PEAP authentication, to have full access to the wireless network.

Non-Mountain Brook Schools owned laptops cannot authenticate to the mtbrook network and therefore must access the MB Guest network. Access to the MB Guest network requires a login and password.

Windows security patches and other Windows patches are scheduled to "auto-download" and "schedule install." The schedule install time is every Wednesday morning at 2:00 a.m. or whenever the computer is turned back on. File servers scheduled to "auto-download" but are manually updated on Saturdays. Laptops must be manually updated.

### **Student Technology Available**

- 100% of Mountain Brook schools maintain a ratio of 1 Internet-enabled computer equal to or less than 4 years of age for every 3 students.

*\*Mountain Brook Schools have moved to a 4 year rotation plan for desktops and are maintaining the current 3 year rotation plan for laptops until funding increases at which time we will revert back to the 3 year rotation plan for all minimally required computers. (1:3 student ratio, 1:1 teacher ratio)*

### **Network Printing**

- 100% of Mountain Brook's 4997 plus user accounts have access to network printing. (1:25 ratio)

### **Mounted Data Projectors, Digital Document Cameras, and DVD/VCR Combos**

- 100% of Mountain Brook classrooms (1:1 ratio) have mounted digital data projectors connected to a classroom multimedia computer, a DVD/VCR combo, and digital document cameras with software for digitizing recording short video.

### **Wireless InterWrite School Pads**

- 100% of Mountain Brook elementary classrooms (1:1 ratio--Brookwood Forest, Cherokee Bend, Crestline Elementary, and Mountain Brook Elementary) have the optional InterWrite School Pad.
- 81% of Mountain Brook Junior High School classrooms have the optional InterWrite School Pad.
- 99% of Mountain Brook High School classrooms have the optional InterWrite School Pad.

### **Sound Amplification Systems**

- 100% of Mountain Brook elementary classrooms (1:1 ratio) have a sound enhancement system.
- 89% of Mountain Brook Junior High classrooms have a sound enhancement system installed. (56/63 or 7 do not have—11% )
- 100% of Mountain Brook High School classrooms (1:1 ratio) have a sound enhancement system.

### **Software**

- 100% of laptops and desktop computers are loaded with the Microsoft Office Suite 2007.
- Most instructional software is loaded on the file servers or is accessible via the web.

### **Technology and Curriculum Integration**

- During the 2009-2010 school year students in K-6 completed projects related to classroom curriculums that integrated appropriate technology curriculum skills. Students in grades 7-12 learn/review the technology skills specifically in English, Math, Social Studies, and Science.
- Classroom teachers use 21st Century Tools to engage students. Students create podcasts, wikis, blogs, Glogs, VoiceThreads, and post to forums. Moodle is used to provide a blended online learning experience for students in grades 6-12; foreign language teachers continued to integrate the digital language labs into their curriculums. Language Arts, social studies, science and math teachers use the document camera, data projectors, and InterWrite Pads to make instruction engaging. The elementary music teachers, secondary choir teachers, band teachers and art teachers use Mac computers as a part of instruction in the fine arts curriculums. Special education students use itouch and nano technologies as well as laptops to produce work, do research, and communicate.

### **AYP AND EDUCATIONAL TECHNOLOGY**

All Mountain Brook Schools have met AYP-- Brookwood Forest Elementary Cherokee Bend Elementary Crestline Elementary Mountain Brook Elementary Mountain Brook High School Mountain Brook Junior High School.

## **GOAL 1: TECHNOLOGY INTEGRATION AND MASTERY OF STANDARDS**

All Alabama students, teachers, and administrators will effectively use technology as an integrated tool for teaching, leading, and learning to master local, state, and national standards.

### **Our Interpretation**

All Mountain Brook Schools' students, teachers and administrators will effectively use technology as an integrated tool for teaching, leading, and learning to master local, state, and national standards.

### **Goal 1 Objectives**

1. Students meet the Technology Fluency Content Standards found in Alabama's Technology Course of Study.
2. Student's regularly make use of current and emerging technology in the learning process.
3. Teachers meet local, state, and national technology standards.
4. Teachers effectively and equitably map instructional technologies to specific content standards and levels of student learning.
5. Teachers appropriately and regularly assign learning activities that integrate the use of technology tools.
6. Teachers model the appropriate use of technology tools and resources.
7. Teachers use technology to gather and analyze data for improving student achievement.
8. Educators use technology to communicate with stakeholders at the local, district, and state level.
9. Administrators meet local, state, and national standards.
10. Administrators use technology to gather and analyze data to assess instructional effectiveness and monitor student achievement.

### **Goal 1 Ideal Performance**

**When we have achieved Goal 1 we will see the following in our district:**

1. 100% of Mountain Brook K-12 students meet the appropriate grade level Technology Literacy Content Standards found in the Mountain Brook Schools Technology Education Framework.
2. 100% of Mountain Brook K-12 students regularly use current and emerging technology in the learning process.
3. 100% of Mountain Brook teachers meet local state, and national technology standards.
4. 100% of Mountain Brook K-12 teachers effectively and equitably map instructional technologies to specific content standards and levels of student learning.
5. 100% of Mountain Brook K-12 teachers appropriately and regularly assign learning activities that integrate the use of technology tools.
6. 100% of Mountain Brook K-12 teachers model the appropriate use of technology tools and resources.
7. 100% of Mountain Brook Schools' teachers use technology to gather and analyze data for improving student achievement.
8. 100% of Mountain Brook Schools' educators use technology to communicate with stakeholders at the local, district, and state level.
9. 100% of Mountain Brook Schools' administrators meet Alabama State Technology Standards.
10. 100% of Mountain Brook Schools' administrators use technology to gather and analyze data to assess instructional effectiveness and monitor student achievement.

### **Goal 1 Data Sources**

**We will use the following data source(s) to monitor performance:**

1. Learning.com 21<sup>st</sup> Century Skills Assessment
2. Mountain Brook High School transcripts
3. Technology Fluency Report
4. District Technology Survey (Impact Survey administered spring 2010)

## **Goal 1 Data Sources Continued...**

5. Student Survey, spring 2010
6. Observations, call logs, emails, email monitoring, Channel 10 monitoring, and web page monitoring, professional development sign-in sheets, technology committee sign-in sheets, and local school budgets.
7. Technology Curriculum documentation sheets
8. Local School Improvement Plans

## **Where We Stand**

**We have made progress toward achieving Goal 1 in the following ways:**

### **Objective 1.1**

100% of BWF students completed curriculum based projects that integrated technology skills as outlined in the Technology Education Curriculum.

100% of CB students completed curriculum based projects that integrated technology skills as outlined in the Technology Education Curriculum.

100% of CES students completed curriculum based projects that integrated technology skills as outlined in the Technology Education Curriculum.

100% of MBE students completed curriculum based projects that integrated technology skills as outlined in the Technology Education Curriculum.

89% of the MB Junior High students taking the Learning.com 21<sup>st</sup> Century Skills Assessment scored Proficient or High Proficient.

100% of MB High School seniors either passed the Learning.com 21<sup>st</sup> Century Skills Assessment or passed the Computer Applications course to fulfill the Alabama High School Graduation Requirements

### **Objective 1.2**

**Mountain Brook Teachers report technology student use of computers/laptops during class as follows:**

91% of students use computers/laptops for research.

92% of students use computers/laptops for inquiry.

92% of students use computers/laptops for exploration.

81% of students use computers/laptops for communication.

85% of students use computers/laptops for collaboration.

75% of students use computers/laptops use educational games.

57% of students use computers/laptops use educational CD ROMS.

84% of students use computers/laptops use Instructional/Tutorial programs.

84% of students use computers/laptops for complete writing assignments.

76% of students use computers/laptops for class presentations.

93% of Mountain Brook teachers agree or strongly agree with the degree of technology integration in our schools.

82% of Mountain Brook teachers believe to a high degree or completely that their students are acquiring the necessary skills to participate in the global community.

**Mountain Brook students report technology use of computers/laptops as follows:**

85% of Mountain Brook students in grades 3-6 use computers/laptops to do homework, class work or do research.

96% of Mountain Brook students in grades 7-9 use computers/laptops to do homework, class work or do research.

98% of Mountain Brook students in grades 10-12 use computers/laptops to do homework, class work or do research.

### **Objective 1.3**

97% of Mountain Brook teachers attended technology related professional development during the past 12 months.

85% of Mountain Brook teachers attended technology related professional development during the summer.

**Objective 1.4:**

93% of Mountain Brook teachers believe there is equitable access to technology among students in the classroom.

87% of Mountain Brook teachers have a classroom plan to provide equitable access to computers.

92% of Mountain Brook teachers review or select specific technology resources to support lessons.

**Objective 1.5**

95% of Mountain Brook teachers plan and implement activities that use technology to enhance student academic achievement.

85% of Mountain Brook teachers assign activities that use technology for inquiry-based learning.

87% of Mountain Brook teachers assign activities that encourage active involvement and decision-making by students using technology

85% of Mountain Brook teachers assign activities that utilize technology to locate, evaluate, and collect information from a variety of sources.

**Objective 1.6**

100% of Mountain Brook teachers use mounted data projectors and digital document cameras connected to a multi-media computers connected to the Internet to present/display curriculum content for classroom discussion.

89% of Mountain Brook teachers use presentation programs to teach.

96% of Mountain Brook teachers use Internet sources to teach.

72% of Mountain Brook teachers use spreadsheets and databases to teach. *Note: Spreadsheets only applicable to 75% of our students.*

91% of Mountain Brook teachers use word processing programs to teach.

89% of Mountain Brook teachers use data projectors to teach.

76% of Mountain Brook teachers use graphic programs to teach.

**Objective 1.7**

95% of Mountain Brook teachers use technology to collect data and monitor students' progress.

80% of Mountain Brook teachers use testing and assessment software.

85% of Mountain Brook teachers use technology to collect and analyze data to make adjustments to their instruction.

95% of Mountain Brook teachers use technology to report students' progress.

**Objective 1.8**

100% of school system administrators use email, rapid calling system, city-wide television channel and web pages for communication.

100% of teachers use email, web pages, classroom telephones, and voice mail for communication.

**Objective 1.9**

100% of school system administrators participate in technology professional development.

100% of school system administrators serve on local and district technology planning committees.

100% of school system administrators budget for technology resources for their department or school.

**Objective 1.10**

100% of school system administrators use technology to gather and analyze data for local school improvement plans and state plans.

## Objective 1 Plan

1. To increase students' use of technology to communicate and collaborate, a Mountain Brook private "cloud" is maintained. The cloud also serves as a portal to access network files anytime from anywhere Internet access is available. In the cloud, students have access to Google Apps for Education including a Gmail account.
2. To improve collaboration and to gain global exposure, 3000 Voice Thread accounts are available for students to collaborate both with other Mountain Brook students and with students and experts from around the world.
3. To provide students with an exposure to the online experience in grades 5-12, teachers are encouraged to use Moodle, a Learning Management System (LMS) to blend online and face to face instruction and assessments throughout the school year.
4. Teachers continue to use Exam View and introduce Moodle as online assessment tools.
5. Students continue to use CPS "clickers" to demonstrate knowledge of curriculum content.
6. Teachers continue to use the InterWrite School Pad. During 2010-2011, sixteen (16) teachers will pilot alternative devices.
7. Students and a teacher in grade K or 1 at each elementary school will pilot the Promethean Board during the 2010-2011 school year.
8. Students in K-12 learn the skills listed in the Technology Education curriculum through curriculum based projects.
9. Students in grades K-6 (emphasized in grades 2 and 3) learn keyboarding skills as outlined in the technology curriculum.
10. The superintendent, select district and local school staff, and the technology director use School Messenger as an emergency notification system. It includes email and voice notifications. Plans for 2010-2011 include adding SMS messaging.
11. We continue to use the In10sity resource to communicate with all stakeholders through the use of WebPages.
12. We continue to maintain Channel 10, the Mountain Brook TV channel, to communicate school news and sports to all stakeholders.

## **GOAL 2: EXPANDING OPPORTUNITIES THROUGH TECHNOLOGY**

All Alabama students, teachers, and administrators will benefit from a broad range of educational opportunities and resources through the use of technology.

### **Our Interpretation**

All Mountain Brook students, teachers, and administrators will benefit from a broad range of educational opportunities and resources through the use of technology.

### **Goal 2 Objectives**

1. Educators will foster and nurture an environment that supports innovative uses of technology.
2. Technology resources are provided to support the learning and technology needs of the school and community.
3. Staff and students will be provided new collaborative and communication tools.

### **Goal 2 Ideal Performance**

**When we have achieved Goal 2 we will see the following in our district:**

1. 100% of educators will foster and nurture an environment that supports innovative uses of technology.
2. 100% of technology resources will be provided to support the learning and technology needs of the school and community.
3. 100% of new instructional technologies such as the Mountain Brook portal and cloud, Google Applications for Education, VoiceThread accounts, IVC labs, and the Dell mini laptops will be implemented and evaluated.

### **Goal 2 Data Sources**

**We will use the following data source(s) to monitor performance:**

1. Action Plans
2. Network Logins
3. Email Logins
4. Technology Inventory
5. Technology Curriculum Documentation Sheets

### **Where We Stand**

**We have made progress toward achieving Goal 2 in the following ways:**

#### **Objective 2.1**

100% of school system principals implement innovative technologies in their buildings each year including but not limited to wireless laptops for 2-12, CPS systems, digital document cameras, mounted data projectors, InterWrite School Pads, sound enhancement systems, IVC labs, tablet PCs, mini Dells, and other new technologies selected as part of each year's curriculum adoption process.

100% of central office administrators implement innovative technologies to improve programs including but not limited to laptops for students with specific disabilities, iPod for online books, iTouch for autistic students, on-line work orders for maintenance, on-line payments for child nutrition and registration, and electronic deposit slips.

**Object 2.2**

100% of applicable Mountain staff use network logins, network storage, printing, and email accounts.

100% of applicable Mountain Brook staff use email to communicate and have access to email from home.

100% of applicable Mountain Brook staff use productivity software.

100% of applicable Mountain Brook grades 4-12 teachers use STI Gradebook and parents of students in grades 7-12 have access to STI grades from home through the use of STI Home PLUS.

100% of Mountain Brook special education staff use STI SETS Web and have access to STI SETS Web from home.

100% of Mountain Brook staff use the telephone in their classrooms to communicate with parents and peers.

100% of Mountain Brook teachers use voicemail.

100% of Mountain Brook teachers and departments use class and/or department web pages.

100% of central office administrators use web pages to communicate with the community.

100% of Mountain Brook schools utilize Channel 10 to communicate with stakeholders.

**Objective 2.3**

100% of Mountain Brook seniors will have at least one blended/hybrid on line learning experience prior to graduation.

100% of Mountain Brook users have access to us the Mountain Brook portal and cloud applications.

100% of Mountain Brook students and staff in grades 3-9 and all instructional staff have access to VoiceThread accounts.

100% of Mountain Brook students have Gmail accounts with parent permission.

100% of Mountain Brook students have access to online instruction and assessments through Moodle.

100% of Mountain Brook special education teachers at Mountain Brook High School will have an opportunity to pilot LiveScribe, Flip cameras, and iPods to deliver instruction to special needs students.

**Plan**

1. Develop a committee to plan for STI migration to web-based version, WAVE 3.
2. Develop a committee to review processes required to conduct on-line registration.
3. Assist teachers in using new tools to communicate, collaborate, learn and work in the global community.
4. Provide blended online learning experiences using IVC equipment and Moodle in Grade 7-12 courses. Develop a rubric to determine which courses qualify as blended on lines learning experiences.
5. Continue to pilot technologies such as LiveScribe, iPods, iTouch, and Flip cameras to enhance opportunities for students with special needs.
6. Use technologies to assist with RTI.
7. Use technologies to assist with credit recovery and credit advancement.

## **GOAL 3: TECHNOLOGY PROFESSIONAL DEVELOPMENT**

All Alabama teachers and administrators benefit from high quality, research-based professional development and supports necessary to achieve local, state, and national standards and courses of study.

### **Our Interpretation**

All Mountain Brook students, teachers, and administrators will benefit from a high quality, research-based professional development and supports necessary to achieve local, state, and national standards and courses of study.

### **Goal 3 Objectives**

1. Teachers, administrators and school staff are provided high quality, research-based, job-embedded, technology professional development that is aligned with local, state, and national standards and course of study content standards.
2. Teachers and administrators are provided with adequate resources (such as release time, compensation, reimbursement, materials, etc.) to enable their participation in professional development opportunities within the district and off-site.
3. Administrators use a variety of evaluation data to make decisions related to technology professional development.

### **Goal 3 Ideal Performance**

#### **When we have achieved Goal 3 we will see the following in our district:**

1. 100 % of teachers, administrators, and school staff will be provided high-quality, research-based, job-embedded, technology professional development that is aligned with local, state, and national standards and course of student content standards.
2. 100 % of teachers and administrators will be provided with adequate resources (such as release time, compensation, reimbursement, materials, etc.) to enable their participation in professional development opportunities within the district and off-site.
3. 100 % of administrations use a variety of evaluation % data to make decisions related to technology professional development.

### **Goal 3 Data Sources**

#### **We will use the following data source(s) to monitor performance:**

1. Evaluation of Summer 2010 Technology Professional Development (172 participants/2481 Contact Hours)
2. Observations

### **Where We Stand**

#### **We have made progress toward achieving Goal 3 in the following ways:**

##### **Objective 3.1**

Summer 2010 Technology Professional Development (172 participants/2481 Contact Hours)

1. On average, 97% of teachers stated that participation in the session will help his/her improve his/her performance next year.
2. On average, 97% of teachers stated that he/she will have the opportunity to apply what he/she learned.
3. On average, 96% of teachers stated that his/her time spent in the session was worthwhile.

**Objective 3.2:**

1. 91% of Mountain Brook teachers report that they are given time for professional development including substitutes.
2. 86% of Mountain Brook teachers report that they are given the financial support for professional development.
3. 94% of Mountain Brook teachers report that they are given materials and equipment for professional development.
4. 97% of Mountain Brook teachers report that technology-related professional development needs have been met.

**Objective 3.3:**

1. 100% of Mountain Brook administrators use evaluation data teachers provide to determine the quantity and types of professional development to be offered.

**Plan**

1. Plan local school professional development throughout the year as follow-up to summer technology professional development on the use of new tools, the Technology Education Curriculum, Special Education tools, IVC equipment, the Mountain Brook portal and cloud applications, Glogster, Prezi, Wikispaces, Google Apps, and Moodle.
2. Provide training to technology team locally and by attending conferences.

## **GOAL 4: TECHNOLOGY INFRASTRUCTURE**

All Alabama students, teachers, and administrators will have access to the appropriate technology resources and infrastructure necessary to support teaching, leading, and learning.

### **Our Interpretation**

All Mountain Brook students, teachers, and administrators will have access to the appropriate technology resources and infrastructure necessary to support teaching, leading, and learning.

### **Goal 4 Objectives**

1. Instructional spaces, library media centers, and administrative offices have sufficient network bandwidth to support the learning, communication and administrative goals of the district.
2. District has implemented the required Internet security tools to enable teachers, administrators, and students convenient, useful, and safe access to the Internet.
3. Schools will have a sufficient number of Internet-enabled computers and the infrastructure necessary to support learning, communication, and administrative goals of the district.
4. Schools will have a sufficient ratio of technology tools available to support the learning, communication, and administrative goals of the district.
5. District technology budgets represent at least 5% of each district's total budget.
6. The district provides a sufficient ratio of technical staff to support student, teacher, and administrator technology use.
7. The district provides a sufficient ratio of persons to support teachers and administrators in their efforts to achieve technology competency and to integrate technology into the curriculum.
8. Districts and schools will create and maintain websites as vehicles for communicating to parents, the community, and extending school resources to students outside of the school day.

### **Goal 4 Ideal Performance**

**When we have achieved Goal 4 we will see the following in our district:**

1. 100% of instructional spaces, library media centers, and administrative offices will have sufficient network bandwidth to support the learning, communication, and administrative goals of the district.
2. 100% of the Mountain Brook School district will have implemented the required Internet security tools, virus protection, security, and disaster recovery plans to enable teachers, administrators, and students convenient, useful, secure, and safe access to information.
3. 100% of Mountain Brook students and staff will have a sufficient number of Internet-enabled computers (equal to or less than 3 years of age) and the infrastructure necessary to support learning, communication, and administrative goals.
4. 100% of Mountain Brook students will have a sufficient ratio of technology tools available to support our learning, communication, and administrative goals.
5. Funds designated for technology resources, services, and personnel will represent at least 5% of the total budget.
6. The Mountain Brook School System will fund 4 full-time technical people to support student, teacher, and administrator technology services and equipment.
7. The Mountain Brook School System will provide a sufficient ratio of persons to support teachers and administrators in their efforts to achieve technology competency and to integrate technology into the curriculum.
8. 100% of Mountain Brook Schools will create and maintain Web sites as vehicles for communicating to stakeholders.

## Goal 4 Data Sources

### We will use the following data source(s) to monitor performance:

1. Alabama Super Computer Traffic Reports
2. Webshield Logs
3. Backup Plan
4. Technology Inventory
5. LAN Diagnostics
6. 21<sup>st</sup> Century Tools Replacement Plan
7. Mountain Brook School Budget Book
8. IT Direct Scheduled Service Requests Analysis
9. Google Analytics Reports

### Where We Stand:

We have made progress toward achieving Goal 4 in the following ways.

#### Objective 4.1:

100% of all instructional spaces, library media centers, and administrative offices utilize 100 MB copper uplink or share 56 MB wireless access connected to a GB backbone infrastructure.

100% of the computers in the Mountain Brook School system are connected via 1 GB fiber to the router at the district technology office then share a 50 MB fiber connection to the Internet funded by the AREN Consortium. (Upgraded from 10 MB to 30 MB June 2008 then to 50 MB Spring 2010) \*Current 50 MB Bandwidth for Internet access adequate for current use. Issues appear within LANs.

#### Objective 4.2:

##### *Internet Safety*

Internet Content is filtered at the district technology offices using a Marshall8e6 appliance. Note: No Internet filter is 100 %. All elementary students should be supervised when searching the Internet.

Web Publishing Guidelines are published for all staff to maximize student safety.

The Technology Usage Policy is posted on the web and is included in Student Code of Conduct.

Parents/guardians and students sign a Technology usage form each time a child enters a different school in the school system for the first time and when there are major changes in the policy. The form gives permission for students to use the Internet and for student to have a school email account. Parents may select to allow the school system to post student work, pictures, recognitions, and quotes on the Mountain Brook website, on Channel 10, and/or in publications as authorized by school officials. Only first name last initials are used to identify students unless photos are taken at an activity that occurs in the public arena.

##### *Backups/Disaster Recovery*

100% of Mountain Brook servers have a snapshot made of files everyday at 3:00 a.m. and 6:00 p.m. Snapshots are stored on the EqualLogic SANS for a period of 30 days.

100% of file servers are backed up backed up using Symantec Backup Exec software and a Dell PowerVault 124T Autoloader tape drive. Backups are rotated based on the size of the backup but are set for 16 days.

Microsoft MSDE-free 2000 SQL server database that comes with software (Fitness Gram on DS-serv, Destination Success server); Non-Microsoft MYSQL that comes as a part of software package (Destination Success on DS-serv--\*DS-serv is running both MSDE and MYSQL); Microsoft SQL 2000 databases (STI, Time and Attendance), 2005 SQL Server Express-update version of MSDE, free Microsoft SQL database (Destiny) ; DPM 2010 SQL 2010; MBS Utility SQL 2008 for Sophos and WSUS; and Exchange 2010 Enterprise Edition

100% of primary local databases such as STI Office and PCS FastTrack (child nutrition) are also backed up daily at the local school level.

## ***Virus Protection***

100% of Mountain Brook desktops, laptops, and file servers run Sophos Security Suite software. Virus definitions are updated every 4 hours and an on access scan is performed on all “read” files continuously. Full scheduled scan run every day at 5:00 p.m. or at the next time the computer/laptop is turned on. A full scheduled scan is performed on all file servers scanned daily at 7:00 p.m. To date the only files excluded are specific files on the Exchange server.

100% of Mountain Brook 2010 Exchange emails are scanned for viruses, inappropriate content, SPAM, and PHISH by a McAfee WebShield SCM 3300 appliance. During 2007-2008, this device replaced the McAfee 3100 SGA appliance which was not sufficient for our traffic. *Approximately 200,000 emails may be processed in any given 24 hour period. Up to 95% of those emails are blocked due to phishing, viruses, or content. However, the system still delivers approximately 800-900 emails each hour during the school day.*

100% of Mtnbrook domain users are assigned to one of five primary security groups: tech, office, staff, users, and student. Central Office users are assigned to a staff group and subdivided to department security groups such as tech office, student services, maintenance, etc.

100% of network rights for primary security groups are reviewed yearly.

A Cisco ASA 5510 appliance is installed. The ASA 5510 is used as the primary firewall, is used to open and block ports based on applications, and used to create a VPN tunnel to the network.

100% of Mountain Brook School file servers, computers and laptops are managed with Windows Group Policies. A majority of these policies are management related however there are limited security policies. Management policies are used to redirect desktops, manage computer settings such as but not limited to folder redirection, point to WSUS server for Windows updates, and disable off-line caching. The primary security policy is for the purpose of pushing out security keys to allow Mountain Brook Schools’ clients to access the servers. A guest login is provided to allow access to the Internet by employee owned, student, or visiting laptops.

There are currently two SSID wireless networks. Laptops must authenticate to the MBS Wireless Network, WPA2 with PEAP authentication, to have full access to the wireless network.

Non-Mountain Brook Schools owned laptops cannot authenticate and therefore access the MB Guest network. Access to the MB Guest network requires login and password.

Windows security patches and other Windows patches are scheduled to “auto-download” and “schedule install on hard wired computers.” The schedule install time is every Wednesday morning at 2:00 a.m. or whenever the computer is turned back on. File servers are scheduled to “auto-download” but are manually updated on Saturdays after which the server is automatically re-booted. File servers are re-booted in a sequence every Sunday from 1:00 a.m to 5:00 a.m.

## **Objective 4.3:**

### *Computer Ratios*

100 % of Mountain Brook schools maintain a ratio of 1 Internet-enabled computer equal to or less than 4 years of age for approximately every 3 students or 1 Internet-enabled computer equal to or less than 5 years of age for every 2 students.

### *Wide Area Network*

100% of Mountain Brook schools (6) and central office (1) are connected with 1 GB fiber.

### *Local Area Network*

100% of the local area networks have a 1GB backbone with 100 or 1000 MB to the desktop.

100% of secondary campuses (2) are both hardwired and wireless.

100% of elementary classrooms are both hardwired and wireless.

#### **Objective 4.4**

##### *Network Printing*

100% of Mountain Brook students and staff have access to network printing. (1:23 ratio)

##### *Mounted Data Projectors, Digital Document Cameras, and DVD/VCR Combos*

100% of Mountain Brook classrooms (1:1 ratio) have mounted digital data projectors connected to a classroom computer, a DVD/VCR combo, and digital document cameras with software for digitizing.

##### *Wireless InterWrite School Pads*

100% of Mountain Brook elementary classrooms (1:1 ratio--Brookwood Forest, Cherokee Bend, Crestline Elementary, and Mountain Brook Elementary) have an InterWrite School Pad.

81% of Mountain Brook Junior High School classrooms have an InterWrite School Pad.

99% of Mountain Brook High School classrooms have an InterWrite School Pad

*\*All instructional staff is provided an InterWrite Pad upon request.*

##### *Sound Enhancement Systems*

100% of Mountain Brook elementary classrooms (1:1 ratio) have a sound enhancement system.

89% of Mountain Brook Junior High classrooms have a sound enhancement system installed. (56/63 or 7 do not have—11% )

100% of Mountain Brook High School classrooms have a sound enhancement system installed.

#### **Objective 4.5:**

Technology resources, services, summer technology conference stipends (in PD budget), and personnel (at the district and local school level) represent 4.7% (\$2,253,220.00) of the Mountain Brook Schools \$46,410,398 budget.

#### **Objective 4.6:**

Four (4) technicians and six (6) local school coordinators--ratio: 1 technician: 660 computers/laptops; or ratio of 1 technology team member:220 computers/laptops

One (1) of the three (3) district wide full-time technicians supports seven (7) Nortel BCMs, 1 PBX, and 600 telephones plus voice mail accounts.

Three (3) of three (3) technicians service 224 network printers.

Two (2) of three (3) technicians support all software and hardware issues related to 32 file servers.

Two (2) of three (3) technicians support 170 switches.

One (1) of three (3) technicians supports over 693 email accounts, an Internet filter, and an email filter. We are currently cross training for these services.

One (1) technician is housed at Mountain Brook High School during the school year and works system-wide during the summer. She handles computer/laptop maintenance, peripheral maintenance, and audio/visual.

***The technology team supports an inventory of 2641 computers and laptops; 224 network printers; 1784 twenty-first (21<sup>st</sup>) century tools including but not limited to InterWrite pads(at teacher request), document cameras, sound enhancement systems (less 7),and data projectors in 100% of Mountain Brook classrooms in addition to 4551 student accounts and 591 staff accounts.***

*The above numbers do not include software packages such as STI products, NetGen, PCS, Destination Success, and the library media collections software, curriculum software, websites, wikis, voicethreads, or special equipment such as ipads, itouches, or assistive hardware.*

#### **Service Requests**

- Requests for technical assistance are made via email, telephone calls, and through written requests using IT Direct, an on-line service form provided by Schooldude.com.
- Local technology coordinators and technology assistants handle first level technical support at the local school level. For 2009-2010 top technical issues addressed by technology team included as always computer issues followed by laptops and wireless connectivity, replacement of projector bulbs, and printing.

- The average number of days from the time a request is entered and the time it is marked complete is 7 days. This includes weekends and holidays.

<b>Problem Type</b>	<b># of Incidents</b>	<b>Days Aged</b>
<b>Accounts</b>	<b>149</b>	<b>5</b>
<b>Audio / Visual</b>	<b>97</b>	<b>11</b>
<b>Computer Services</b>	<b>429</b>	<b>7</b>
<b>CPS</b>	<b>11</b>	<b>6</b>
<b>Data Projector</b>	<b>192</b>	<b>6</b>
<b>Document Camera</b>	<b>54</b>	<b>4</b>
<b>Email</b>	<b>63</b>	<b>5</b>
<b>InterWrite Pads</b>	<b>122</b>	<b>4</b>
<b>Laptops</b>	<b>353</b>	<b>8</b>
<b>Network Connectivity</b>	<b>83</b>	<b>6</b>
<b>Printing</b>	<b>246</b>	<b>8</b>
<b>Telephone Services</b>	<b>107</b>	<b>4</b>
<b>Wireless Connection</b>	<b>94</b>	<b>5</b>

**Objective 4.7:**

Average Local School Staff to Staff Ratio: 1:65  
 Technical Staff to Computer Ratio: 1:658

*\*In Mountain Brook Schools, though the Local School Technology Coordinators work with users and deliver professional development, they also perform technical responsibilities but are not included in the district numbers above for technical support. Sonia Montana is a technician housed at Mountain Brook High School. Sonia is counted as both user support and technical support. Donna Williamson, Director and Patsy Combs, Data Specialist are not included in ratios though both provide user support and technical support.*

**Objective 4.8:**

**Goal 4 Source of Evidence:**

100% of all schools and the district departments have active web pages.

100% of all teachers and/or school departments have web pages.

Links to AVL and other on-line resources are available to all users.

**Plan**

1. Put procedures and processes in place to improve technical support in order to effectively and efficiently utilize technology in all instructional support areas.
  - a) Keep the follow spare parts and technologies in stock to minimize down time.
    - o sound enhancement systems: microphones and rechargeable batteries
    - o data projector
    - o document camera
    - o tuners
    - o InterWrite School Pads
    - o computer parts
    - o printer toner
    - o “older” laptops as spares
  - b) Have assessment done by 3<sup>rd</sup> party of printing costs.

**Plan Continued...**

- a) Discuss possibilities of utilizing technology aide at CES to assist at MBE on a scheduled basis and at CB and BWF during peak times.
  - b) Continue implementing use of copiers at schools for scanning and network printing.
2. Add 6 additional access points to designated locations to improve connectivity, run CAT5e cable to replace copper in MBHS social studies wing (2 per classroom for total of 24), add 24 port switch, and run CAT5e to replace fiber in BWF library computer area.
  3. Purchase and install computers and laptops as specified on technology tools replacement plan.
  4. Install second GB Nic in each primary fileserver to increase throughput to server.
  5. Continue fileserver virtualization project. In 2009-2010, 10 servers were virtualized, SMS was upgraded to
  6. Monitor bandwidth to the Internet – time periods where 50 MB capacity is met or exceeded.
  7. Monitor Internet traffic to determine applications causing high Internet usage.
  8. Implement QOS on Cisco ASA and or other networking equipment to limit saturation of bandwidth by streaming video.
  9. Work with consultant to modification MB Guest account, when used by students and staff on campus with personal laptops, to access files through the MBS Portal to solve any connection issues. (BWF)
  10. Due to local funding, plans to complete the 7 classrooms at Mountain Brook Junior High that do not have sound enhancement systems are on hold.

## Technology Budget 2010-2011:

Approximately five percent (5%) of total school system budget is spent for technology. The total school system budget is \$46,410,398.

District Technology Department Budget	\$1,026,201.00
Less salaries Technology Salaries	\$1,157,898.00
Funds Reflected in other budgets prior to any budget amendments.	\$36,756.00
<b>Total:</b>	<b>\$2,220,855.00</b>

## Funding Sources

State	\$0.00
MBCS Foundation funds	\$162,640.00
E-rate received for 2009-2010	\$5,097.60
General Funds	\$2,053,117.40
<b>Total:</b>	<b>\$ 2,220,855.00</b>

- Additional MBCS Foundation funds for Summer Professional Development stipends not included above: Estimated \$32,000.
- Technology resources in Curriculum Budget: Approx. \$20,000.00 (EM Games and Renaissance)
- Special Education Laptops MBJH: \$11,000
- Mountain Brook Schools declined Title IID: \$202.00 and Title IID ARRA: \$0
- Technology funding per student, excluding Local School PTA funds: Approximately \$500.00 per