

Shelby County Schools
2017 Technology Plan



Contents

SYSTEM TECHNOLOGY COMMITTEE	3
PURPOSE.....	4
SCOPE.....	4
GUIDING FRAMEWORKS AND STANDARDS	4
COMMON LANGUAGE	6
DATA, NEEDS ASSESSMENTS, ACCOMPLISHMENTS	7
Teacher Feedback	7
Parent Feedback	9
2016 School Tech Plan Self-Evaluations	10
System-Wide Professional Development and Events for 2016.....	19
INFRASTRUCTURE, DATA, AND SECURITY	20
INVENTORY DATA	23
STUDENT TO DEVICE RATIOS	24
DIGITAL DISPLAYS	25
TECHNOLOGY BUDGET	26
2017 TECHNOLOGY PLAN.....	27
GOAL I: Engage and Empower the Learner through Technology	27
GOAL II: Prepare & Support Teachers and Leaders to Graduate College- and Career Ready Students.....	30
GOAL III: Access a Comprehensive Viable Infrastructure	32
TECHNOLOGY DEPARTMENT	34
CURRENT MAJOR PROJECTS FOR BUSINESS and OPERATIONS.....	35
APPENDIX	36
Technology Literacy – Essential Skills	36
Information Literacy - Essential Skills.....	41
21st Century Essential Skills.....	44

SYSTEM TECHNOLOGY COMMITTEE

Name	Position
Susan Poling	Technology Coordinator
Randy Fuller	Superintendent
Dr. Lynn Cook	Assistant Superintendent for Instruction
Dr. Leah Anne Wood	Coordinator of Strategic Planning and Leadership Development
Lauren Woolley	Program Area Specialist, Technology
Leslie Cash	Technology Resource Teacher (EdTech Coach)
Lee Hall	Technology Resource Teacher (EdTech Coach)
Angie Clark	Technology Resource Teacher (EdTech Coach)
Jim Miller	Assistant Superintendent for Human Resources
Angela Walker	Professional Development Supervisor
Jennifer Northrup	Elementary Teacher, Oak Mountain Elementary
Cecil Bunn	Network Engineer & Parent of former graduate
J.D. Chaves	Network Engineer & Parent
Randy Pugh	Network Administrator
Michelle Hall	Library Media & Fine Arts Supervisor
Jason Mayfield	Middle School Teacher
Patrice Marbry	High School Teacher
Jay Peoples	High School Coordinator
Jenni Goolsby	Middle School Coordinator
Rickey Darby	Elementary Coordinator
Dana Martin	School Improvement Supervisor
Linda Campanotta	Federal Programs Supervisor
Marla Aldrich	Special Education Coordinator
Fred Watson	Technical Services Supervisor
Wendi Griggs	Technology Secretary

PURPOSE

Shelby County Schools recognizes that in order to be truly *College and Career Ready* today's students must develop new skills for the 21st Century. This plan describes several strategies and activities that the System will undertake to ensure students have opportunities to develop these skills. As a whole, these strategies and activities seek to establish active learning environments where students employ technology in order to achieve academically. In addition, the System seeks to guide students in their development as digital citizens who utilize online resources in a safe and ethical manner.

In accordance with directions from the Alabama Department of Education, Shelby County's plan adheres to the goals and objectives prescribed by the Alabama Transform 2020 Technology Plan. These objectives support the State's three goals, which are:

1. Engage and empower the learner through technology.
2. Prepare and support teachers and leaders to graduate college- and career-ready students.
3. Provide all educators and students with tools to access a comprehensive viable infrastructure when and where they need it.

SCOPE

This plan is not a comprehensive description of Shelby County School's technology program. It does not describe many of the System's ongoing offerings, activities, and processes. Nor does it present the many additional efforts and initiatives led by the schools themselves. In fact, in the current EdTech environment it would be nearly impossible to describe all the ways in which technology is used within our school district. Unlike 20 years ago, when a simple network with several commonly used applications and access to a 'younger, leaner' version of the Internet were all that teachers and students had access to, today's EdTech choices are plentiful, diverse, and widely available for free. Teachers and students are no longer waiting on the IT department to dispense tools to them. Instead, they are choosing the digital tools that they believe will help them succeed as educators and learners from an ever emerging array innovative diverse and applications.

GUIDING FRAMEWORKS AND STANDARDS

Shelby County Schools has incorporated standards from several well-researched frameworks into its technology and instructional programs. These include:

- International Society for Technology in Education (ISTE)
- Partnership for the 21st Century (P21)
- Modern Teacher Framework
- Future Ready Schools
- National Educational Technology Plan

National Education Technology Plan

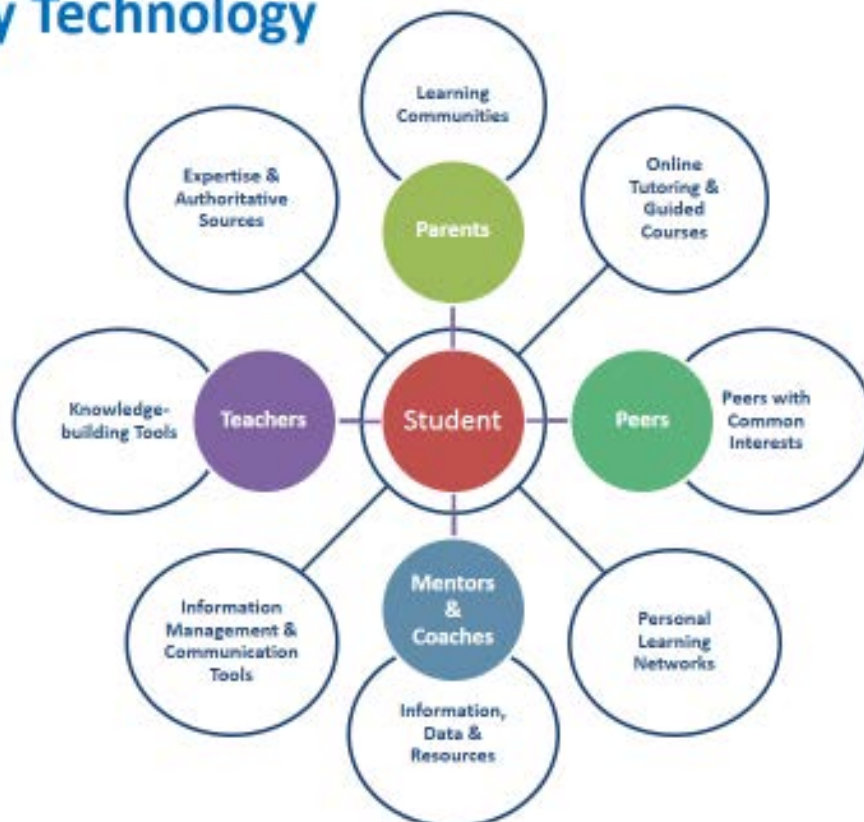
The 2010 National Education Technology Plan's executive summary provides reasons for creating better 21st Century learning opportunities for our students that go beyond simply developing 21st Century skills.

The challenge for our education system is to . . . create engaging, relevant, and personalized learning experiences for all learners that mirror students' daily lives and the reality of their teachers.

Technology provides access to a much wider and more flexible set of learning resources than is available in classrooms and connections to a wider and more flexible set of "educators," including teachers, parents, experts, and mentors outside the classroom.

The NETP's 'Model of Learning Powered by Technology' also demonstrates how the classroom can be digitally expanded and connected to the outside environment in order to provide the student with new opportunities for learning and collaboration.

Model of Learning Powered by Technology



<http://tech.ed.gov/netp/learning-engage-and-empower/>

COMMON LANGUAGE

Blended Learning is a term used frequently in today's EdTech environment. However, what people think of when they hear or use this term varies. Even major EdTech organizations do not agree. The examples below illustrate how two major EdTech organizations use the same term, but describe two very different instructional models.

	Blended Classroom
Speak Up Survey	A formalized structure where the teacher provides instruction part of the time in a physical classroom with a class of students, and part of the time the students follow an online curriculum at their own pace at home or at a school.
ISTE	Blended classrooms, or those that use online content and tools as an integral part of instruction, go beyond using the latest gadget to get kids' attention. They apply technology to expand classroom learning into new realms, providing unique learning experiences that enhance, rather than replace, face-to-face interaction.

Shelby County Schools believes that its stakeholders, teachers, administrators, parents, students, and community members, can move forward more effectively when they agree on a common language that leads to a common understanding. In order to avoid the confusion surrounding the term Blended Learning, the committee is working to establish a term and definition that conveys its vision for our modern day classrooms. Over the next year, the technology committee and school technology coordinators will work towards solidifying the term and its definition, using the following starting point:

Learning Powered by Technology

(Borrowed from the National Educational Technology Plan)

In classrooms where *Learning is Powered by Technology*, educators use technology to:

- *research and create powerful and engaging lessons;*
- *expand learning experiences for students;*
- *create multiple learning pathways for students*
- *enhance and extend face-to-face interactions with students;*
- *identify how they can help each student succeed; and*
- *enable their students' development of 21st Century skills, including responsible and safe online behaviors.*

DATA, NEEDS ASSESSMENTS, ACCOMPLISHMENTS

Teacher Feedback

The following Transform2020 and Speak Up survey results show that Shelby County teachers are using technology more frequently. More than ever before, they believe that technology use has a positive effect on student engagement and learning. Several factors have contributed to this progress. These include well-designed professional development, new technologies that meet teacher and student needs, and greater availability of mobile technology.

How our teachers view the effects of technology on students and themselves.

Source: Speak Up Teacher Survey

My experience has been that . . .	2014	2015	2016	Change
My classroom is traditional <i>(this should decrease to show progress)</i>	n/a	91%	83%	8%
The effective implementation of technology is important to student success	75%	80%	85%	10%
As a result of integrating technology, my students are . . .	2014	2015	2016	Change
More motivated to learn	51%	54%	56%	5%
Collaborating with other students more	21%	39%	43%	22%
Developing creativity skills	33%	35%	43%	10%
Better able to understand abstract concepts	10%	21%	39%	29%
Applying knowledge to practical problems	27%	27%	38%	11%
As a result of how I have integrated technology I . . .	2014	2015	2016	Change
Have a better understanding of what my students are learning	14%	17%	20%	6%
Am better able to differentiate instruction	19%	21%	53%	34%
Am creating more interactive lessons	46%	47%	47%	1%
Am creating more relevant lessons	31%	37%	36%	5%
Am able to give my students more personalized attention	14%	12%	28%	14%
Am better organized	52%	50%	36%	-16%

How our teachers are using technology in the classroom.

Source: Transform2020 Teacher Survey

I Frequently or Routinely Use Technology to Help Students . . .	2014	2015	2016	Change
Develop and express creative and innovative thinking	64%	69%	72%	8%
Solve real-world/authentic problems	61%	68%	69%	7%
Reflect, individually and collaboratively	49%	53%	56%	7%
Collaborate to construct knowledge	53%	54%	55%	2%
Pursue and assess their own learning via authentic experiences	51%	54%	55%	4%
Master ISTE National Education Technology Standards for Students	46%	48%	46%	0%
Customize activities for their learning styles, abilities, and interests	58%	65%	64%	6%
Demonstrate mastery via varied formative and summative assessments	56%	60%	61%	5%
Collaborate with me and others to support their success	49%	53%	55%	6%
Communicate with me	65%	71%	71%	6%
Locate, analyze, and evaluate information	59%	61%	62%	3%

Learn safe, legal, and ethical uses of technology	74%	79%	78%	4%
Develop digital etiquette	74%	79%	80%	6%
Develop digital citizenship and global/cultural awareness	45%	49%	53%	8%

How our teachers utilize technology to improve their craft.

Source: Alabama Transform 2020 Teacher Survey

As a teacher I frequently or routinely . . .	2014	2015	2016	Change
Customize learning for diverse learning styles and abilities	58%	65%	64%	6%
Demonstrate technology fluency	62%	66%	67%	5%
Engage in learning with colleagues to support my students' success	49%	53%	55%	6%
Communicate with students and parents using technology	65%	71%	71%	6%
Use learner-centered strategies and ensure equitable access to technology	66%	71%	72%	6%
Participate in local and global learning communities	38%	38%	38%	0%
Exhibit leadership & vision	40%	42%	43%	3%
Reflect on research and professional practice	49%	38%	38%	-11%
Contribute overall effectiveness and vitality of teaching profession	56%	60%	61%	5%

How our teachers view mobile technologies in the classroom.

Source: Speak Up Teacher Survey

The Effect on Mobile Devices in the Classroom -	2014	2015	2016	Change
Mobile devices increase student engagement	71%	76%	76%	5%
Mobile devices increase student ownership of learning	24%	54%	67%	43%
My students do <u>not</u> regularly have access to mobile devices in the classroom (<i>this should decrease to show progress</i>)	64%	53%	22%	42%

What teachers need in order for technology to have a greater impact.

Source: Speak Up Teacher Survey

In order to more efficiently and effectively integrate digital content, tools, and resources into daily classroom instruction I need . . .	2014	2015	2016	Change
Class set of devices			64%	
Funds to purchase digital resources or apps			49%	
Confidence that students have access to Internet outside of school			42%	
Planning time to work with my colleagues			46%	
Professional development			40%	

Parent Feedback

How our parents view technology use in our classrooms.

Source: Speak Up Parent Survey

How important is the effective implementation of technology within instruction to your child's success?	2014	2015	2016	Change
Important or Extremely Important		90%	92%	2%
Which of these types of classroom models do you think would be best for your child to succeed in school?	2014	2015	2016	Change
Traditional - <i>The teacher provides instruction to a class of students in a physical classroom on a regular schedule.</i>			43%	
Blended – <i>The teacher provides instruction part of the time in a physical classroom with a class of students, and part of the time the students follow an online curriculum at their own pace at home or at a school.</i>			60%	
Flipped - <i>The teacher assigns online videos of lessons, labs, and lectures for students to watch as homework, and then the in school class period is used for doing projects, in depth discussions, remediation, and individualized schoolwork help.</i>			18%	
Virtual - <i>The teacher provides instruction to students who are all online.</i>			4%	

What concerns our parents about technology use in our schools?

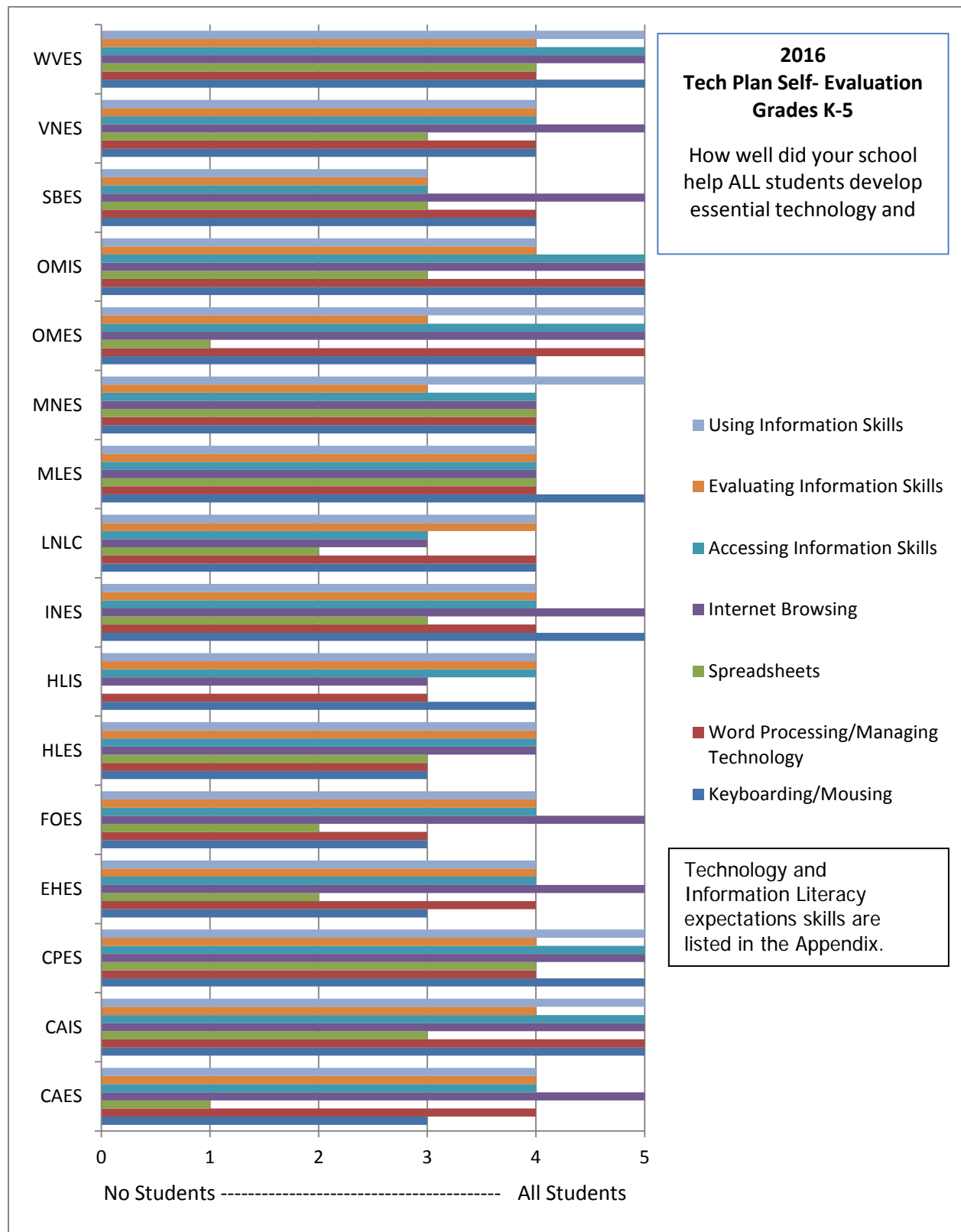
Source: Speak Up Parent Survey

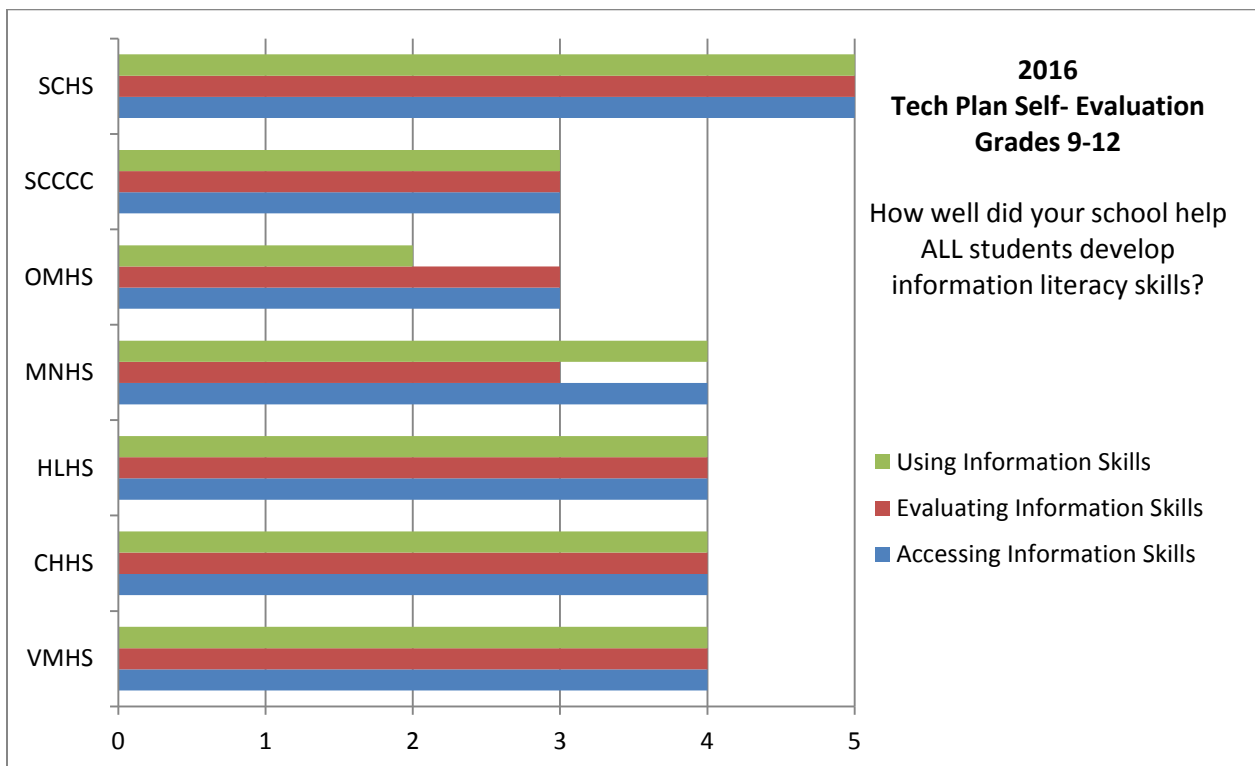
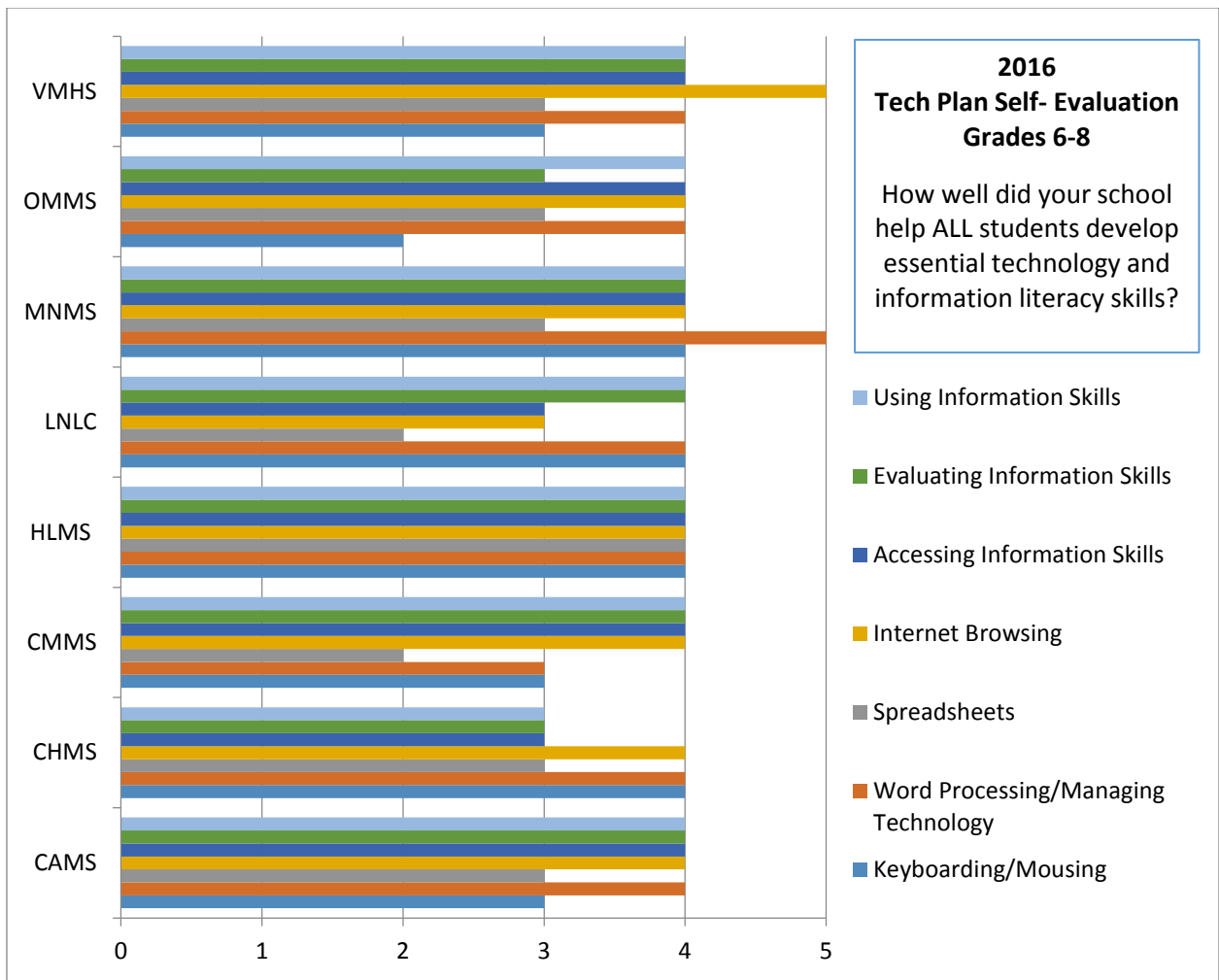
What concerns you most about the use of technology at your child's school?	2014	2015	2016	Change
Technology use varies from teacher to teacher	27%	34%	48%	-21%
Students don't have access to technology in every class (<i>decrease shows improvement</i>)	16%	45%	29%	-13%
Students <u>cannot</u> use their own laptop or table within class (<i>decrease shows improvement</i>)	13%	18%	9%	4%
Student personal information <u>not</u> being sufficiently protected or being shared without parental permission (<i>decrease shows improvement</i>)		46%	21%	-25%
Students are <u>not</u> learning Internet Safety and digital citizenship (<i>decrease shows improvement</i>)		42%	25%	-17%

2016 School Tech Plan Self-Evaluations

In preparation for creating their 2017 technology plans, each school rated how well it performed in relation to their 2016 technology plan objectives.

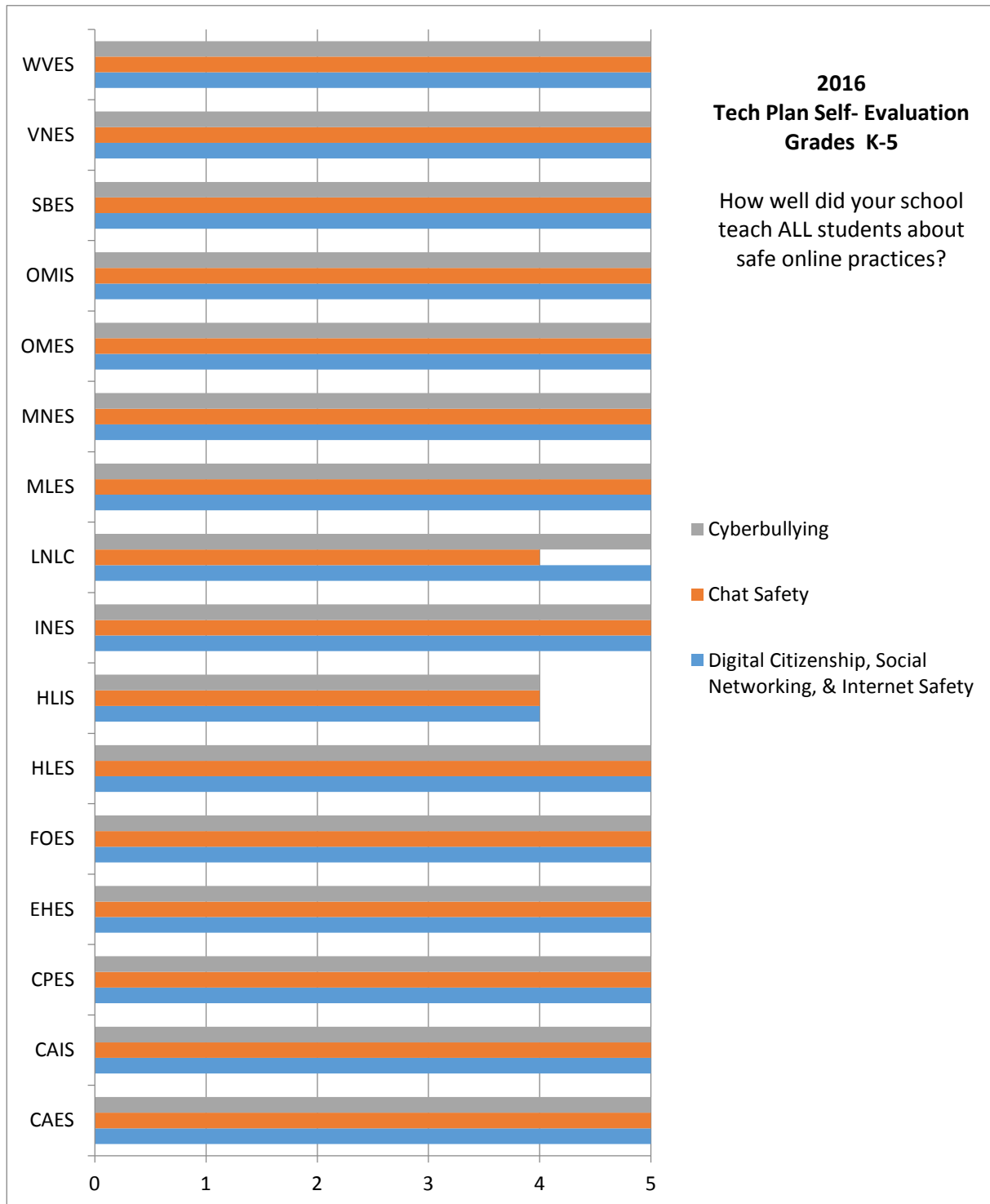
Technology and Information Literacy Skills

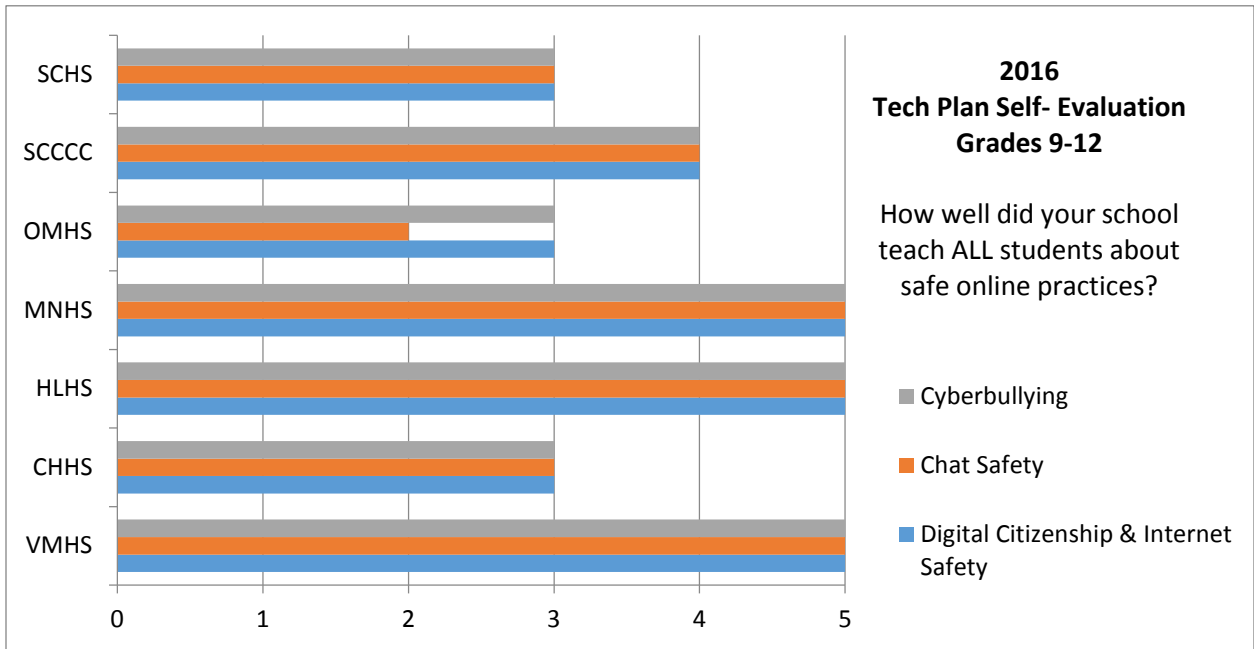
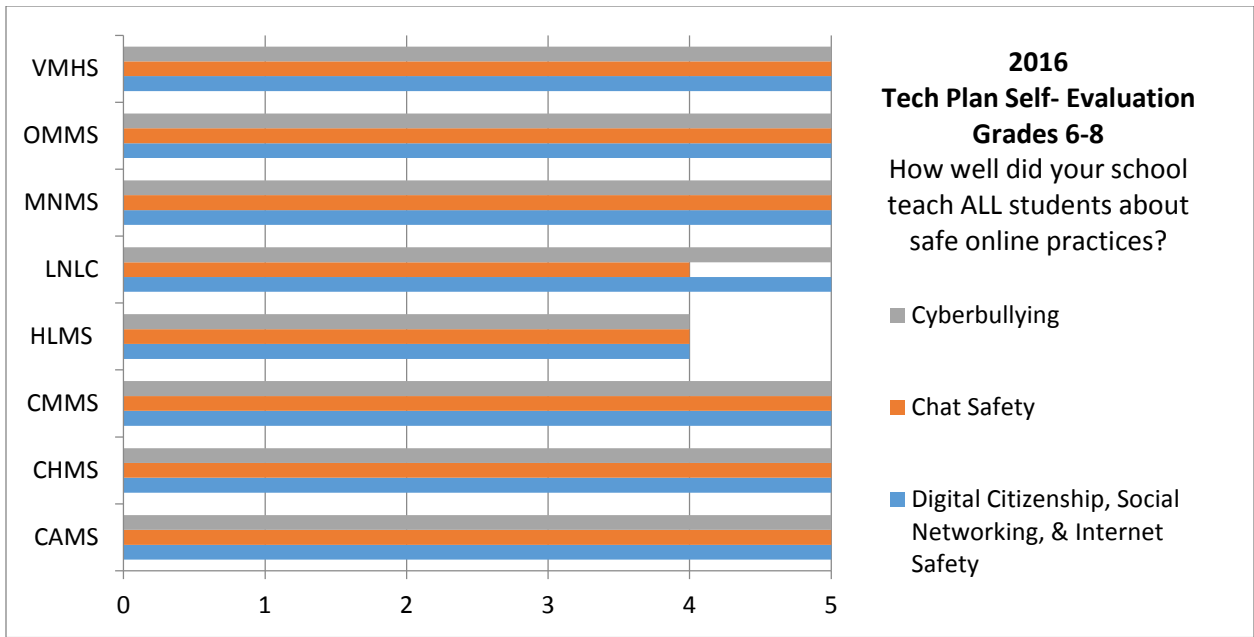




Internet Safety Training

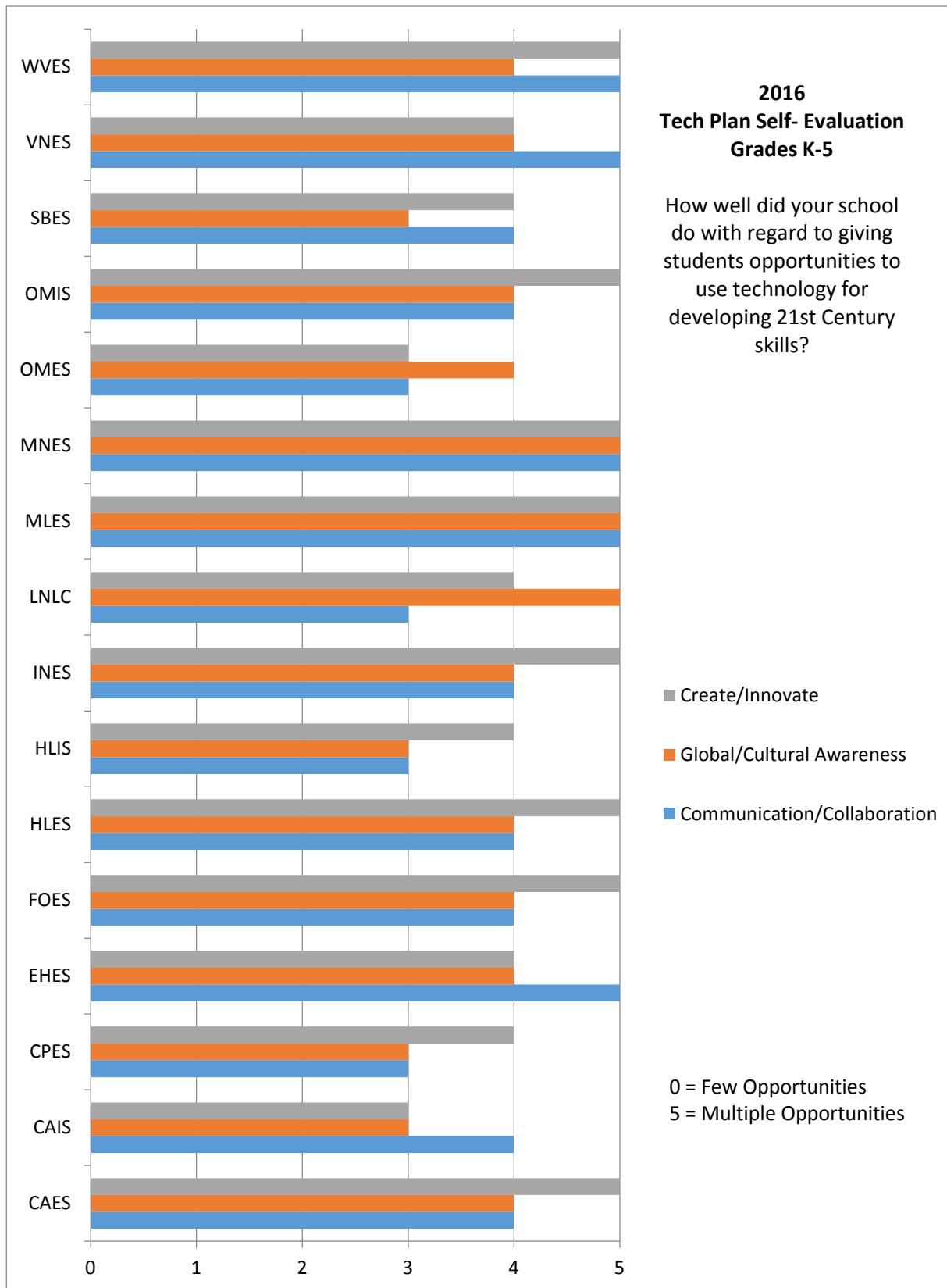
This training is required annually for all students by the Federal Children's Internet Protection Act.

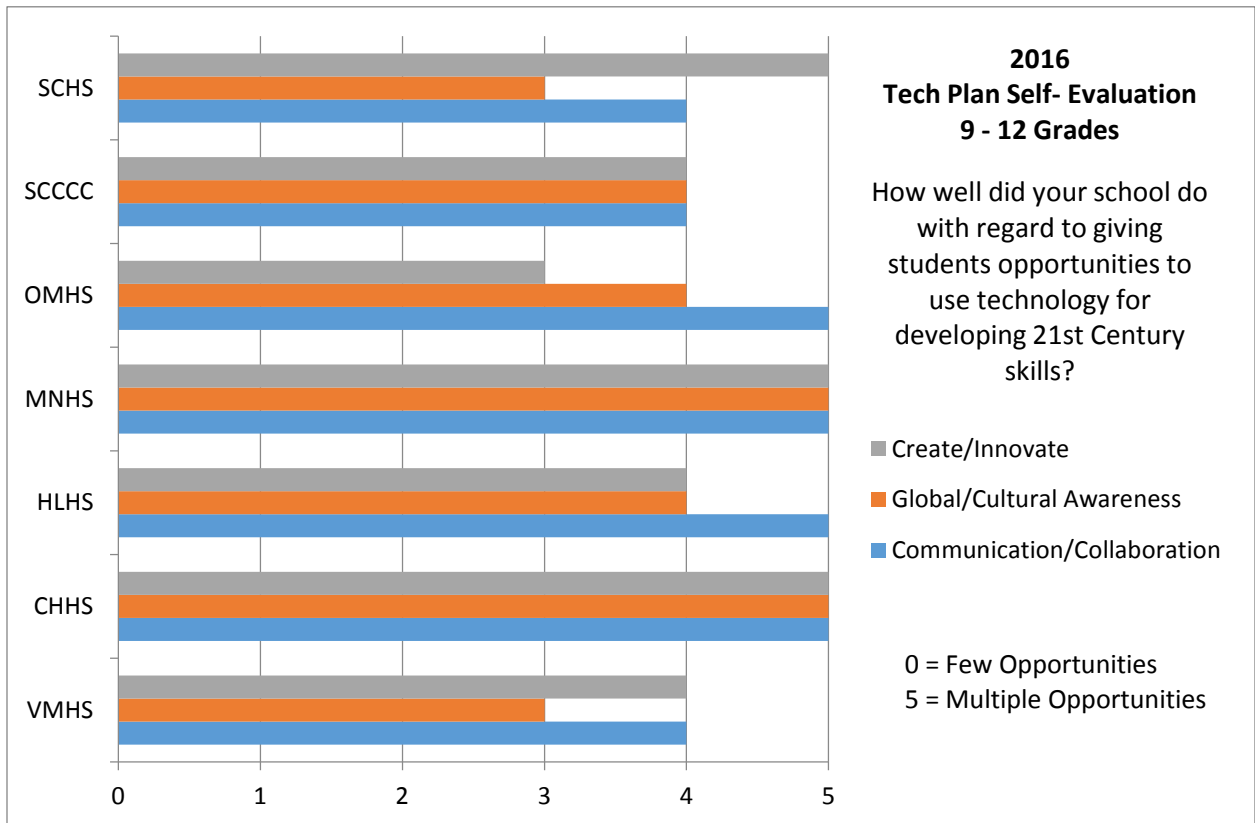
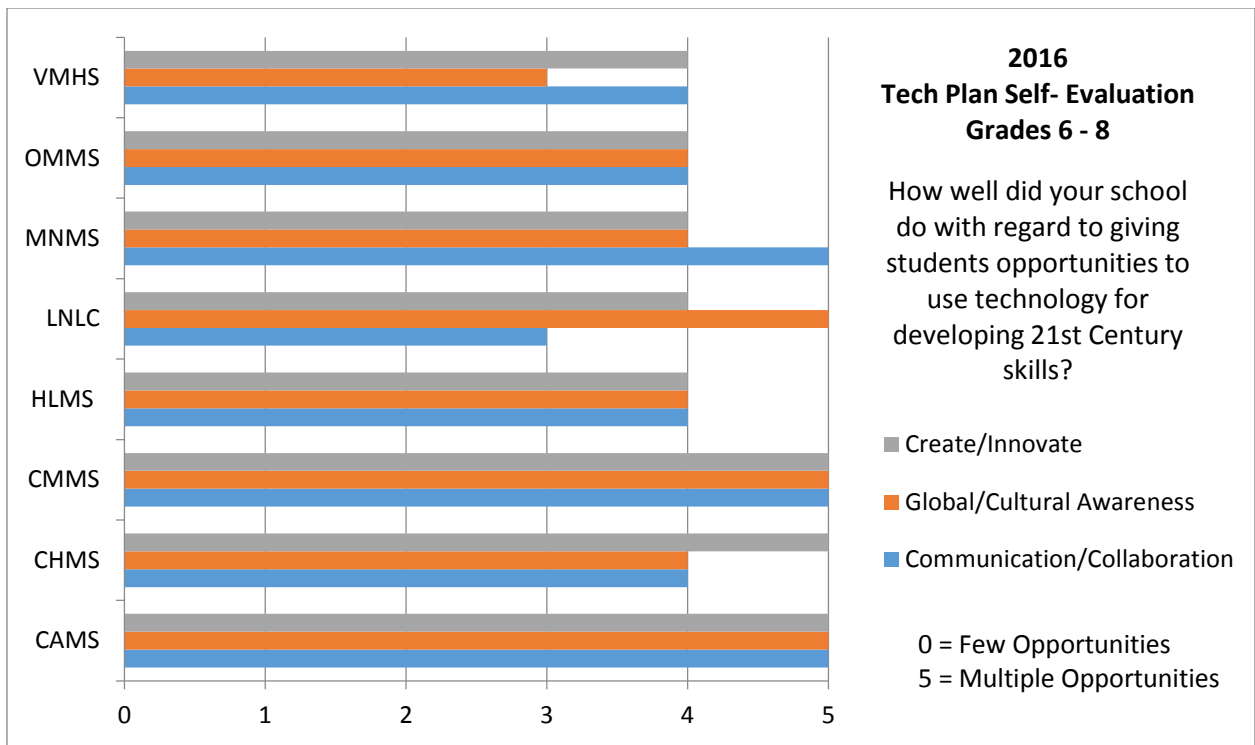




21st Century Skills

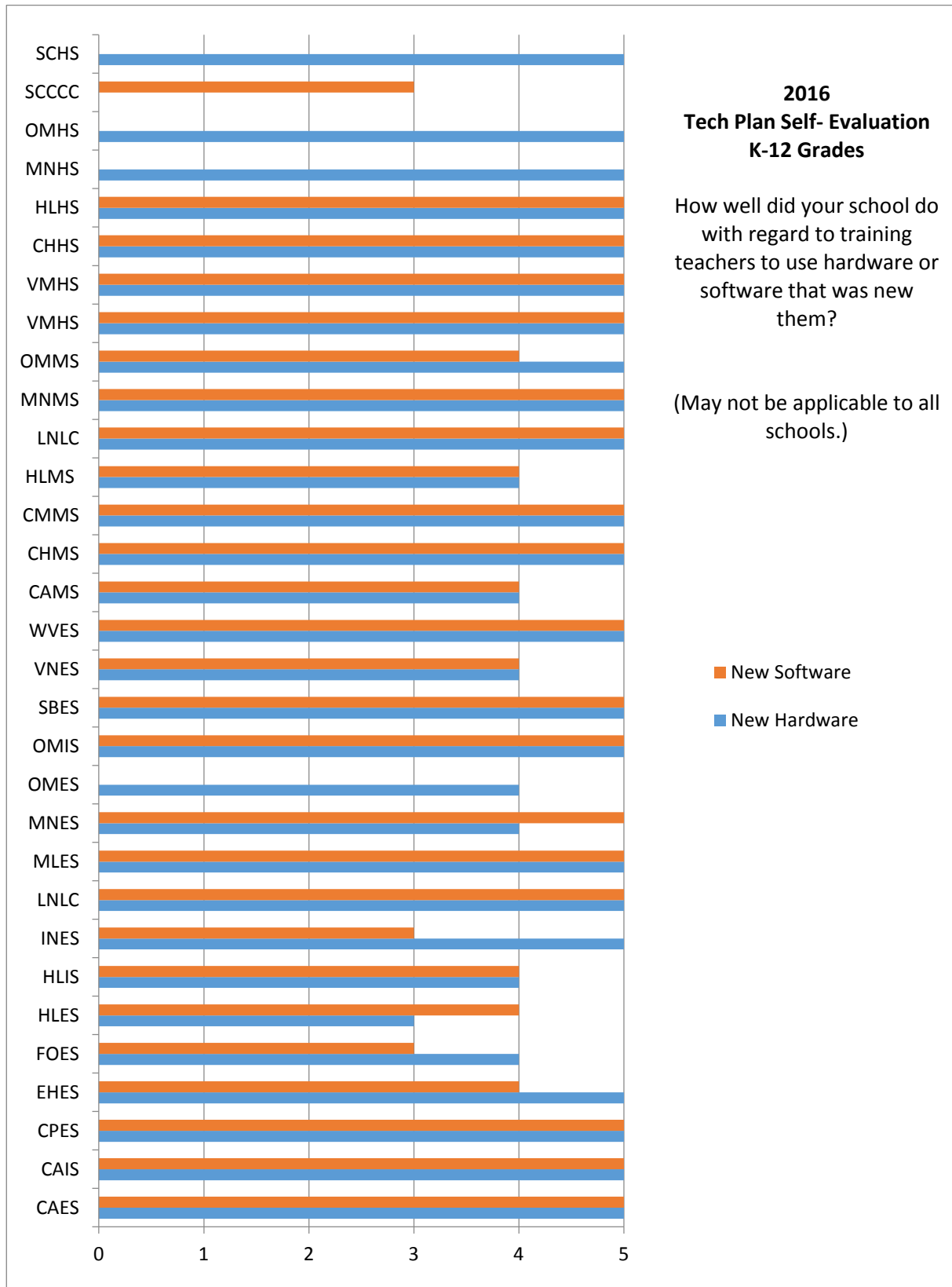
The following skill areas are broad in nature, but critical for today's successful student. More information about why Shelby County Schools places value on giving students opportunities to develop these skills may be found in the Appendix.



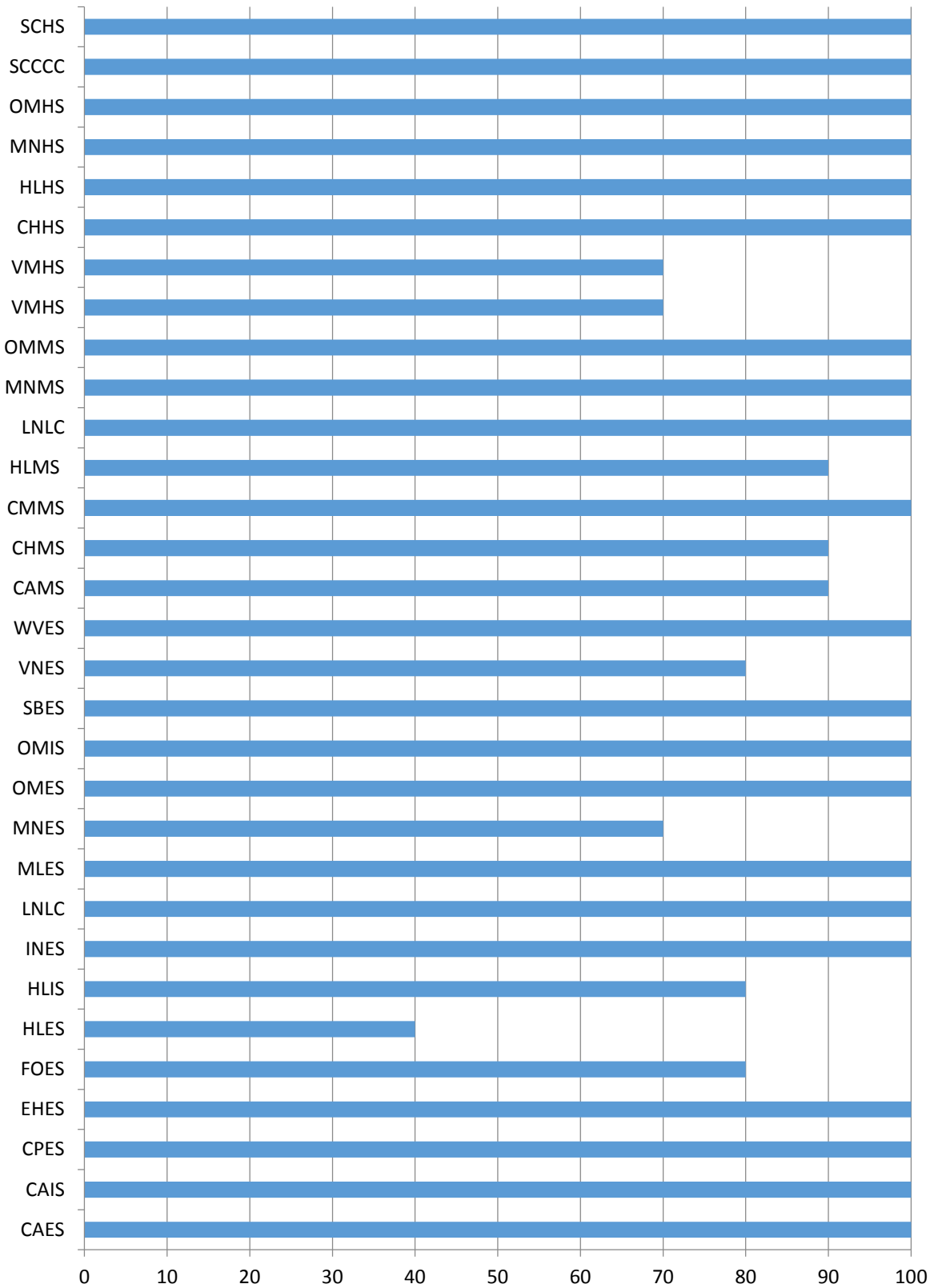


Professional Development

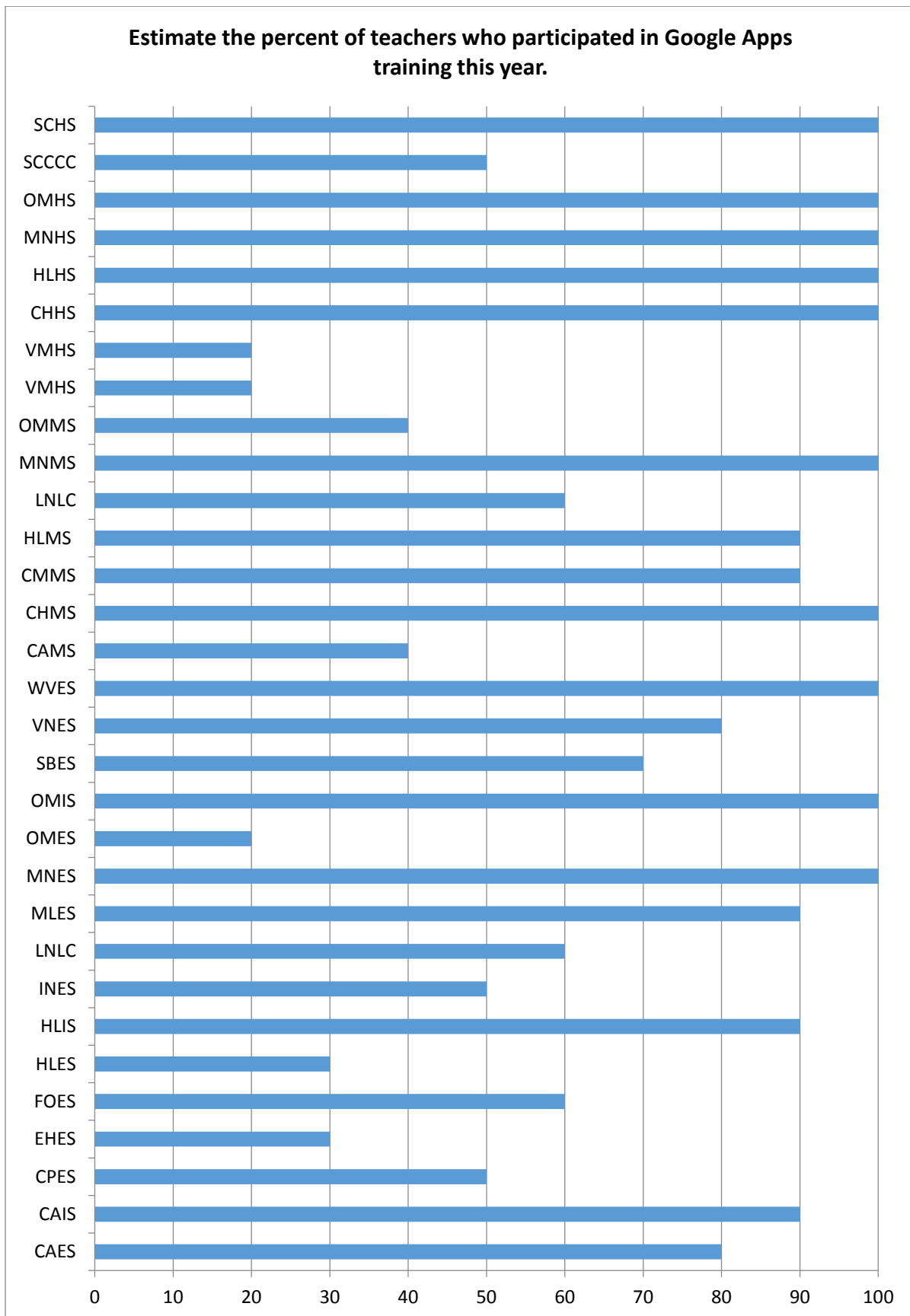
Some hardware and software is common across all schools, but each school may also have unique systems. School plans included how they would train teachers on new technology and how they would train new teachers on existing technologies that were unique to their school.



Estimate the percent of NEW teachers who received an orientation about the technology available in the school.

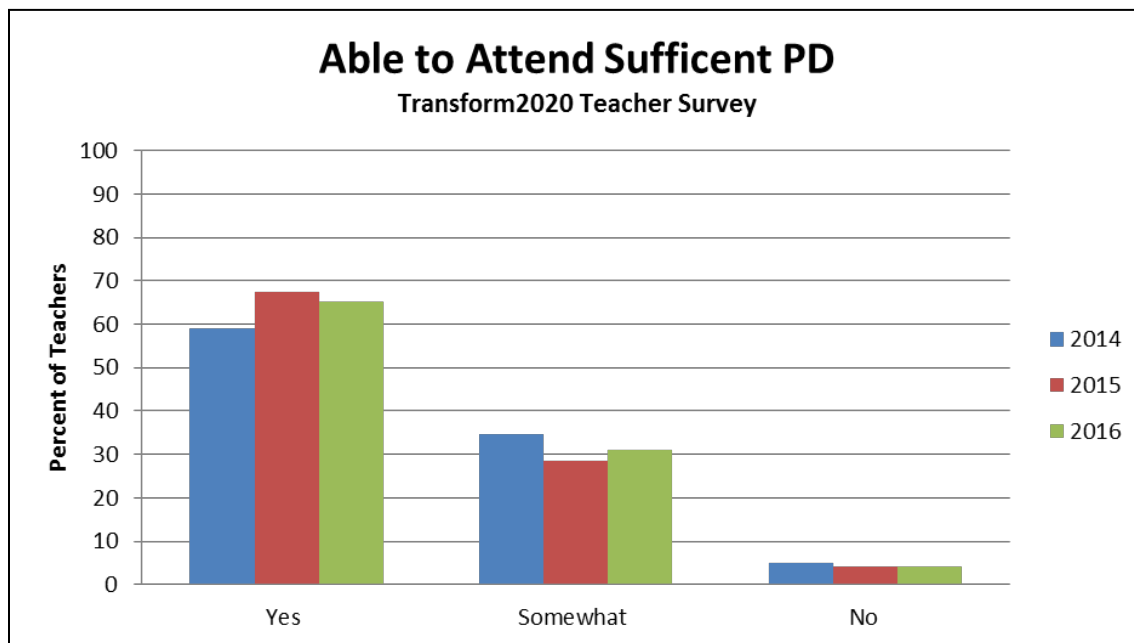


Google Apps - In 2016, Shelby County Schools was in its second year of being a Google Apps school system. Schools were asked to encourage all teachers to participate in ongoing training.



System-Wide Professional Development and Events for 2016

Shelby County Schools employs an Educational Technology Program Area Specialist and three full time EdTech coaches. This team plans and conducts professional development and training year round.



Highlights from the 2016 academic year include:

- Teachers participated in 3,931 combined Professional Development hours
- All administrators participated in Google Apps training
- 112 teachers participated in the 2016 Technology Academy
- Over 1800 students and 735 teachers participated in the Digital Day of Learning
- 16 schools participated in the Hour of Code
- 12 elementary and middle schools participated in the first annual Keyboarding Challenge

2016 Technology Academy	Owens – Young Awards
<p>This yearlong professional development program was the result of teacher input during the 2016 technology planning meeting. These teachers recommended grade-alike, job-alike cohorts be offered sustained professional development that included plenty of time to plan and redesign lesson plans. The System set aside \$50,000 for substitute teachers and implemented the Technology Academy. Groups in grades 3-12 were formed from across the System. Each job-alike, grade-alike group attended four full-day sessions spanning 11 months. Participant feedback and classroom observation have shown this to be highly effective. Many of the teachers involved said it was the best training of any kind they had ever attended.</p>	<p>This award is now in its third year. It honors two late members of the technology department, Denise Owens and Michael Young. Teachers are nominated by their peers and administrators for excellence in implementing technology in the classroom. Each year three awards are made. Each receives \$1,000 technology award for their classroom and then serves on the next year's System technology planning committee. The 2016 honorees were:</p> <p style="text-align: center;">Jennifer Northrup, Oak Mountain Elementary</p> <p style="text-align: center;">Jason Mayfield, Columbiana Middle</p> <p style="text-align: center;">Patrice Marbury, Vincent Middle High</p>

INFRASTRUCTURE, DATA, AND SECURITY

Wide Area Network

All of Shelby County's schools and facilities are connected via a lit fiber Ethernet wide area network, leased from AT&T. E-Rate funding offsets 60% of the cost of these services. Bandwidth capacities are as follows:

	Location	Students	Bandwidth	Mbps per Student
Columbiana Area				
1	Central Office	n/a	500 Mbps	
2	Operations Offices	n/a	100 Mbps	
3	SC College & Career Center	206	500 Mbps	2.4
4	Shelby County High	619	500 Mbps	0.8
5	Columbiana Middle	425	500 Mbps	1.2
6	Elvin Hill Elementary	518	500 Mbps	1.0
7	Shelby Elementary	170	100 Mbps	0.6
8	Wilsonville Elementary	165	100 Mbps	0.6
Pelham Area				
9	Linda Nolen Learning Center	36	100 Mbps	3.8
Helena Area				
10	Helena High School	1,218	1 Gbps	0.8
11	Helena Middle School	1,004	1 Gbps	1.0
12	Helena Elementary	945	1 Gbps	1.1
13	Helena Intermediate	866	1 Gbps	1.2
Oak Mountain Area				
14	Oak Mountain High	1,557	1 Gbps	0.6
15	Oak Mountain Middle	1,115	1 Gbps	0.9
16	Oak Mountain Intermediate	692	500 Mbps	0.7
17	Inverness Elementary	593	500 Mbps	0.8
18	Oak Mountain Elementary	719	500 Mbps	0.7
Montevallo Area				
19	Montevallo High	395	250 Mbps	0.6
20	Montevallo Middle	321	250 Mbps	0.8
21	Montevallo Elementary	726	500 Mbps	0.7
Chelsea Area				
22	Chelsea High	1,212	1 Gbps	0.8
23	Chelsea Middle	1,021	1 Gbps	1.0
24	Chelsea Park Elementary	871	500 Mbps	0.6
25	Mt. Laurel Elementary	599	500 Mbps	0.8
26	Forest Oaks Elementary	669	500 Mbps	0.7
Vincent Area				
27	Vincent Middle-High	486	500 Mbps	1.0
28	Vincent Elementary	406	500 Mbps	1.2
Calera Area				
29	Calera High	766	500 Mbps	0.7
30	Calera Middle	680	500 Mbps	0.7
31	Calera Intermediate	713	500 Mbps	0.7
32	Calera Elementary	699	1 Gbps	1.4
Alabaster Area				
33	Instructional Services Center	n/a	10 Gbps	0.5
Total		20,206		28.4 Gbps

Core Switching

Because the WAN is an Ethernet switched network, switches with advanced capabilities, rather than routers, are used to connection each school's LAN and the WAN. The core switches at each school and at the System data center were upgraded during this past year.

Local Area Network Infrastructure

All classrooms, common areas, libraries, computer labs, cafeterias, and administrative offices connect to Local Area Networks (LAN). Most classrooms have three to eight wired network drops. The System's LAN switches operate at 100 Mbps to the desktop and at 1 Gbps to the MDF of the building. The majority of LAN switches are older Cisco units. Three schools use Allied Telesis LAN switches. All schools use Allied Telesis Power over Ethernet (PoE) switches. Over the next two years all of the old Cisco and standard Allied Telesis switches are scheduled to be replaced with Brocade equipment. The number of wired ports in classrooms may be reduced when the upgrade is performed due to an increasing use of wireless devices. E-Rate funds will be used to offset the cost of infrastructure upgrades.

Intermediary wiring closets (IDFs) within schools connect to the building's main wiring closet (MDF) with multi-mode fiber connections and in some cases multiple fiber cables. These allow for 1 Gbps or higher transmission speeds. Wireless access points and wired connections from switches to wiring jacks are connected via Cat 5e copper cable capable of 1 Gbps, with the actual speed being dependent on the device's networking card.

Wireless Local Area Networks

The System operates a wireless infrastructure with over 1,000 access points. These WLANS provide for high density Wi-Fi coverage in 100% of learning spaces and administrative offices with easy access to the Internet. The Ruckus system uses a centralized controller, 802.11 a/b/g/n/ac access points at both 2.5 and 5 Ghz. Separate SSIDs have been established for System-owned devices, BYOD devices, and visitor devices. Log on authentication is required for the first two. Visitors must use a password that changes daily. The System will file E-Rate to upgrade the WLAN controller in order to access a newer software platform with better reporting capabilities.

Internet Access

The System has ordered a 2 Gbps connection to the Internet via Alabama Supercomputer, an increase of 500Mbps. Typically, System aggregated traffic does not reach 1.5 Gbps, but we anticipate increasing demands over the next year as more and more applications are located off-site.

Voice over IP Phone System

LANs include a VoIP ShoreTel phone system, which has been operating well and requires no upgrades at this time. The system currently uses traditional trunk lines to make the connection between its PBX and the Publicly Switched Telephone Network, or outside world. The System will research switching to SIP trunking over the next year.

Information Security & Safety

Internet content is filtered through the System's iBoss on-site filter appliance. Internet safety policies and Acceptable Use Policies (AUP) have been approved by the Board. A public hearing was held in compliance with CIPA requirements in the past and the filtering polices of the System have not changed with any significance since that time. A filtering committee was established. This committee reviews the System's parameters periodically and makes recommendations.

The System uses several security measures to protect data and resources including firewalls, antivirus software, and spam filtering. A new layer 7 capable firewall was installed in August 2015. This firewall was purchased with the help of E-Rate funding. It adds additional threat protections such as identifying bot-infections, blocking proxies, blocking specific apps that are popularly used for bullying, and more.

The System also has a comprehensive data governance policy in place to protect System and student data. This policy involves the establishment and implementation of protocols, settings, and specific procedures governing access to and transmission of student data protected by FERPA, HIPAA, IDEA and other laws. School administrators and teachers must seek permission from the Technology Department before entering into contracts or establishing online accounts which involve the service provider acquiring student data. The Technology Department researches the privacy policies of such services and provides guidance on the use of such services. Where applicable, Memorandums of Understanding, Memorandums of Agreement, contracts, and/or Non-Disclosure Agreements may be executed before use of any such service can begin.

Digital Content

All teachers and administrators are encouraged to use online accounts such as blogs, Edmodo, Moodle, and Google Apps for Education provided by the System. These online resources help educators to communicate with students and their parents, including making instructional resources accessible to both.

The System's curricular experts, special education experts, and English language learner experts review and select effective online resources and software to increase student success and help teachers teach. This year the System has added a Dyslexia resource page to its website. This page has links to many resources and strategies that support students with various forms of Dyslexia. The site is available to teachers, parents, students, and the public.

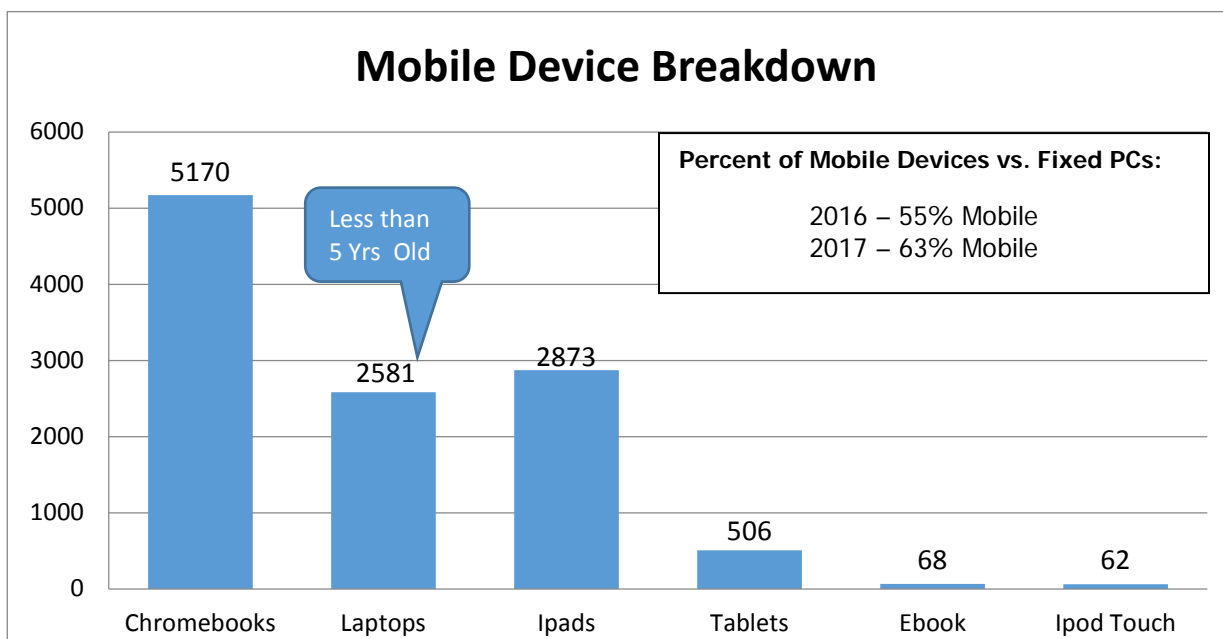
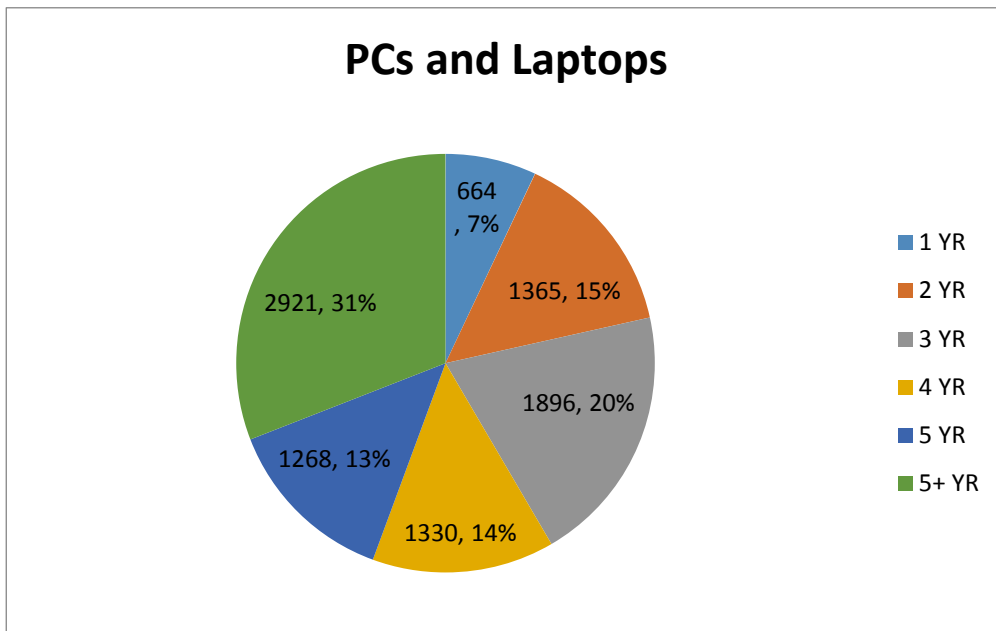
Digital Tools

Nearly all rooms are equipped with digital projectors. In addition, hundreds of classrooms are equipped with interactive whiteboard technologies, document cameras, printers, and multiple computers. Some programs have now purchased 3-D printers. Desktops, laptops, iPads, and Chromebooks are used throughout Shelby County Schools. Assistive devices and software are available for students with particular needs. A Dyslexia font is available to all staff and students.

INVENTORY DATA

As of August 2016, Shelby County Schools had just over 9,000 Windows PCs and laptops. However, the percentage of *Windows* equipment that is 5 years or older increased from 26% in 2014 to 44% in 2016. This increase is not the result of budget alone. Rather, it is a result of how the budget is spent. Since the iPad was introduced in 2010, and Chromebooks became popular in 2015, the System has shifted its purchasing in favor of these mobile devices. They cost less, boot faster, have longer battery life, and provide easy access to apps and cloud resources. The net result is better student-to-device ratios in all schools and more devices used in the classroom.

The rising percentage of older Pcs is also a result of the fact that many teachers are reluctant to dispose of them. These machines run older software that will not work on newer operating systems, but which teachers still find useful for students. They also provide a station on which students can browse the Internet or practice keyboarding. Nonetheless, the System will begin to remove or upgrade 5+ year old PCs and laptops beginning January of 2017.



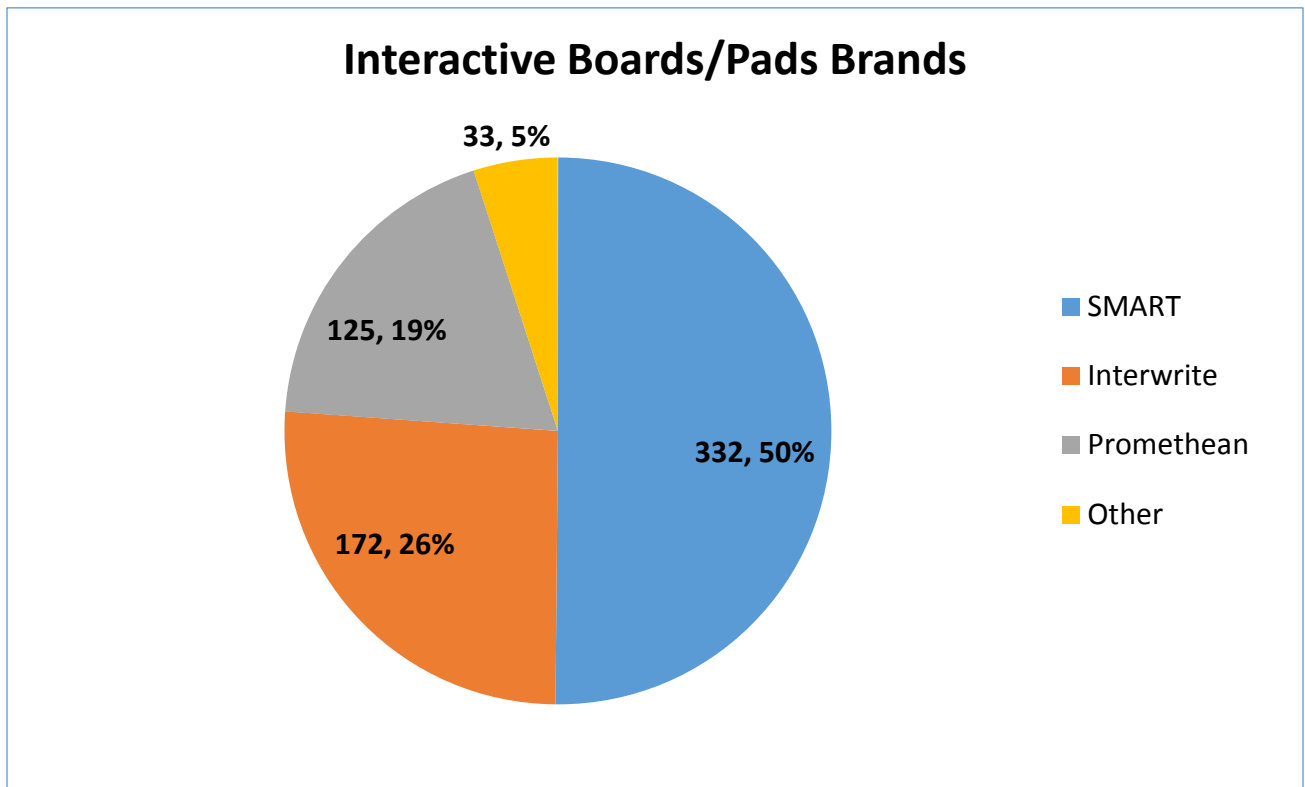
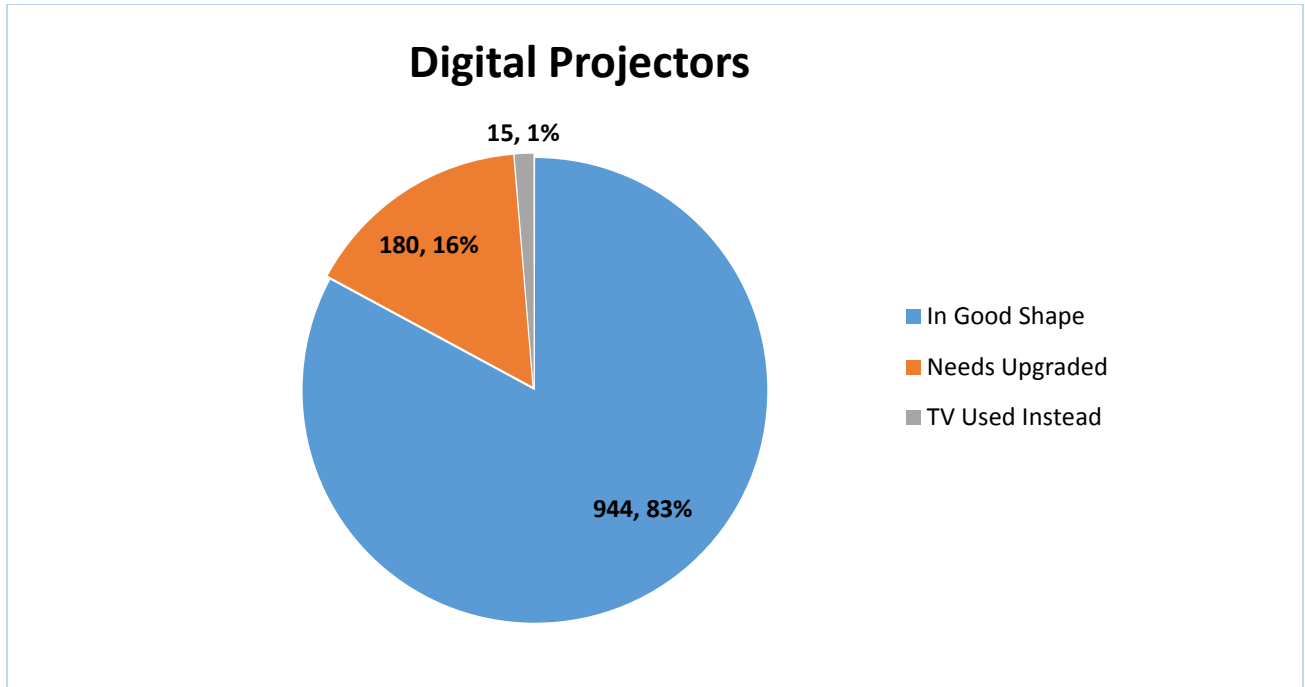
STUDENT TO DEVICE RATIOS

Location	STUDENT-TO-ALL DEVICES PCS, Laptops & Mobile			STUDENT-TO-MOBILE Chromebooks & Tablets	
	2015	2016	2017	2016	2017
Calera Elem	2.5	1.59	1.3	7.8	2.16
Calera High	3.47	2.44	2.4	7.7	3.78
Calera Inter	2.19	1.26	1.4	3.0	2.31
Calera Middle	2.99	1.86	1.4	3.8	2.52
Chelsea High	4.18	2.28	3.1	12.0	5.29
Chelsea Middle	3.32	2.20	1.2	5.6	1.55
Chelsea Park Elem	3.33	2.47	1.8	6.1	2.70
Columbiana Middle	1.74	1.28	1.5	3.3	2.91
Elvin Hill Elem	1.37	1.09	1.3	4.0	2.65
Forest Oaks Elem	4.22	2.78	1.9	10.1	3.32
Helena Elem	4.92	3.09	2.5	5.9	4.25
Helena High	4.15	3.60	2.5	12.2	5.27
Helena Inter	3.03	3.45	2.8	20.8	3.81
Helena Middle	3.48	2.50	2	10.2	4.09
Inverness Elem	4.13	2.78	2.1	7.0	4.04
Linda Nolen Learning Center	0.38	0.30	0.6	0.8	0.89
Mt. Laurel Elem	2.04	1.88	1.2	3.1	1.83
Montevallo Elem	2.68	0.96	2.5	11.5	7.61
Montevallo High	1.17	0.90	1	3.9	1.39
Montevallo Middle	1.14	0.50	1	3.6	1.21
New Direction / SCCCC	0.72	2.91	0.8	9.7	1.50
Oak Mtn. Elem	1.59	1.16	2	3.6	2.45
Oak Mtn. Inter	2.77	3.38	1.4	5.7	1.97
Oak Mtn. High	3.12	1.80	2.8	8.0	4.45
Oak Mt. Middle	2.94	0.29	1.7	8.2	2.50
Shelby Elem	0.98	0.84	1	0.3	1.38
Shelby County High	1.93	1.41	1.7	5.4	2.58
Vincent Middle/High	1.03	1.18	1.6	2.3	1.84
Vincent Elem	1.36	0.42	1.1	2.4	1.88
Wilsonville Elem	1.14	0.00*	0.7	1.5	1.02

*more than 1 device per student

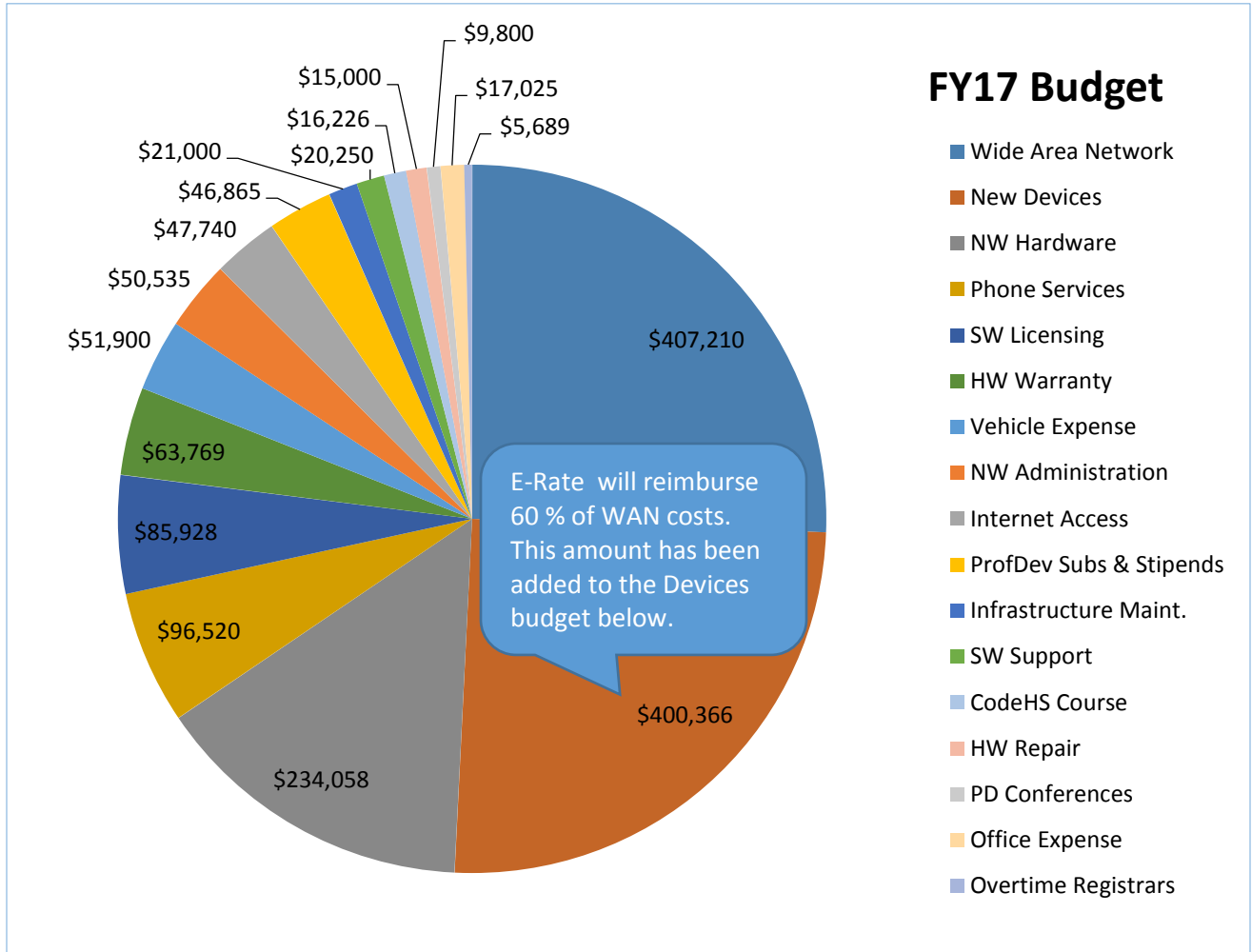
DIGITAL DISPLAYS

In addition to computing devices, digital displays have become an essential part of the classroom. The data below shows that many of our schools' digital projectors need to be replaced within the next year.



TECHNOLOGY BUDGET

The chart below represents local funding for technology as well as E-Rate revenues that will be spent on technology. In addition, each school receives a 'per teacher' amount to be spent in accordance with their school technology plan. This year, Shelby County Schools will receive \$169.34 per teacher, or a total of \$233,533. Other sources of funds include Title I, Career Tech, and Parent Teacher Organization fundraisers. Finally, Shelby County School's teachers have been successful in using the [Donors Choose](#) Organization in order to obtain technology equipment for their classrooms.



2017 TECHNOLOGY PLAN

GOAL I: Engage and Empower the Learner through Technology

[Objective statements use the required State Department of Education wording.]

OBJECTIVE	Students will demonstrate a proficiency in creative and critical thinking expertise, and effective collaborative communication skills by developing innovative products and processes using technology in a variety of learning environments by 05/30/2020 as measured by our students' use of digital tools and venues.
Strategy:	Continue the implementation of Google Apps for Education (a.k.a. Google Apps or G-Suite) for students in grades K-12, teachers, and administrators. Google Apps for Education is a suite of online programs and services provided by Google to schools free. G-Suite includes Gmail, Google Calendar, Google Sites, Google Docs, and more. Google Apps makes it easy for users to create content, share and collaborate on documents, communicate with others, organize their work, and manage their time.
Activity:	Automate account creation for students and staff. Conduct ongoing training on the use of various components of G-Suite.
Strategy:	Provide students with access and training in Microsoft Office products.
Activity:	Renew Microsoft Campus Agreement. Make Office available on all computers. Train students on Office in various classes.
OBJECTIVE	Students will complete a portfolio or performance using digital tools, individually and collaboratively, in and out of the classroom to gather, organize, evaluate, and share and present information by 05/27/2020 as measured by students using mobile devices in the classroom.
Strategy:	Students will use mobile devices in the classroom and throughout the campus to expand and personalize their learning experiences.
Activities:	Students are allowed to use their personal devices in class to access digital tools and resources in school as part of the System-wide BOYD program. Some exceptions may apply to elementary grades.
Activities:	Apply any forthcoming Alabama Ahead Devices money to expanding the use of mobile devices in classrooms. (See also Goal 3)
Strategy:	Students and teachers will collaborate using a variety of we-hosted Learning Management Systems (LMS) and cloud accounts.
Activity:	Students will use venues such as teacher blogs, Edmodo, Moodle, Desire2Learn, and Google Apps to receive and submit assignments, communicate, and collaborate with teachers and peers.
Strategy:	Library Media specialists in each school will devise and conduct lessons on Information Literacy Skills in accordance with System-determined objectives.

Activity:	All Library Media Specialists (LMS) will establish lessons for developing essential information literacy skills. These lessons will help students to improve their ability to gather, organize, analyze, evaluate, and use information. Media specialists will collaborate and communicate with classroom teachers to reinforce the application of these skills in the classroom.
OBJECTIVE	Students will demonstrate behaviors which show that they understand human, cultural, societal issues, and personal responsibilities related to technology, and practice legal and ethical behavior in and out of the classroom by 05/30/2020 as measured by lesson plans.
Strategy:	Schools will implement the System's Social Networking, Chat, and Cyberbullying curriculum (SNCC) to inform students about the risks, effects, and repercussions of unsafe and inappropriate digital activity.
Activity:	SNCC presentations will be conducted in every school throughout the year using System SNCC materials and any additional resources and strategies schools may choose to implement.
Strategy:	Students will learn about digital reputation building through exposure to SNCC and student leadership presentations.
Activity:	Local school and System activities will be conducted during October which is Digital Citizenship month
OBJECTIVE	Students will demonstrate a sound understanding of technology concepts, systems, and operations by 5/29/2018 as measured by online computer programming course activity.
Strategy:	High school students will be given the opportunity to take an introductory computer-programming course. This opportunity will help them understand the technological world better and determine if they are interested in a career involving computer programming.
Activity:	Students in grades 11 and 12 may enroll in the online CodeHS coding course as an elective.
Strategy:	Generate student interest in coding.
Activity:	Schools and the System will engage students in coding activities through the national Hour of Code events. The System will promote this and provide schools with resources to use.
OBJECTIVE	Students must participate in at least one online experience, "defined as a structured learning environment that uses technology consistently and regularly with Intranet/Internet-based tools and resources as the delivery method for instruction, research, assessment, and communication" by 05/29/2020 as measured by enrollment in online courses, including ACCESS and System-offered courses meeting the SDE's criteria.
Strategy:	Increase opportunities for students to take blended and online courses.
Activities:	Students take CodeHS online programming course. This course meets all SDE criteria for an online course/experience.

	<p>All high school students will be required to take the Financial Literacy, Computer Applications, and Career Preparedness course. This course involves extensive use of structured online learning systems such as Moodle and meets the additional state requirements for an online experience.</p>
	<p>Enable students to take online courses and virtual classes via ACCESS.</p>
OBJECTIVE	<p>Students will complete a portfolio or performance in student technology skills and literacy by 05/31/2018 as measured by grade level proficiency objectives defined within the school technology plans.</p>
Strategy:	<p>All students in grades 1 - 8 will have the opportunity to develop basic keyboarding skills and proficiency using online software accessible from school or from home.</p>
Activities:	<p>Schools will develop plans for all 1st - 8th graders to access the Typing Agent software and practice keyboarding from school and from home, when possible.</p>
	<p>Elementary and middle schools shall form teams of their best keyboarders who will participate in an online competition in May. Winning schools for the three grade-span flights shall receive \$6,000 to use towards the purchase of technology.</p>
Strategy:	<p>Students in grades K-8 will receive instruction in basic technology skills and be given opportunities to apply these skills, which have been identified by the System as essential.</p>
Activity:	<p>Schools shall develop plans on how they will teach students the Essential Technology Literacy skills found in the school technology plan template. This may be in labs and/or embedded in classroom instruction.</p>
Strategy:	<p>Library Media specialists in each school will devise and conduct lessons in accordance with System-determined objectives.</p>
Activity:	<p>All Library Media Specialists will establish lessons for developing essential information literacy skills. These lessons will help students to improve their ability to gather, organize, analyze, evaluate, and use information. Media specialists will collaborate and communicate with classroom teachers to reinforce the application of these skills in the classroom.</p>

GOAL II: Prepare & Support Teachers and Leaders to Graduate College- and Career Ready Students

OBJECTIVE	EdTech Coaches will collaborate to assist teachers in using technology effectively for assessing student learning, differentiating instruction, and providing rigorous, relevant, and engaging learning experiences for all students by 05/29/2018 as measured by classroom observations, lesson plans and professional development records.
Strategy:	System EdTech staff will attend conferences in order to learn from colleagues from around the state, nation, and internationally.
Activities:	The System's technology coordinator and other members of the technology staff will attend regional and State AETA meetings and 'EdCamps.'
	Technology staff will attend and present at the Alabama Educational Technology Conference. Shelby County Schools' Owens-Young winners will also attend.
	System-level data administrators will attend the Chalkable statewide conference.
Strategy:	Utilize G-Suite and other technologies to facilitate and encourage educators to collaborate on instructional design, use of technology, lesson plans, and other aspects of school improvement.
Activities:	Conduct EdCamps for Google Apps each summer and mini-camps during the school year.
	Provide school and System administrators with training and support in how to use, and model the use of, collaborative technologies.
Strategy:	Help teachers improve instruction by creating their own video mini-lessons.
Activity:	Conduct workshops on how to create videos with mobile technologies and embed them into teaching and learning activities.
OBJECTIVE	Demonstrate a behavior and understanding of local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices by 05/30/2017 as measured by participation in the new teacher orientation Technology Policy session.
Strategy:	Provide a technology orientation for newly hired teachers.
Activity:	Conduct annual workshop introducing newly hired teachers to our network and the variety of technology opportunities that they have to work with.
Strategy:	Require all new teachers to complete certain required training,
Activity:	Beginning in August of 2017 only new teachers will be required to review the online content and complete associated questionnaires. This includes Copyright, FERPA, Cyberbullying (Gr K-12), and BYOD Management (Gr. 4-12)

OBJECTIVE	Administrators will collaborate to inspire and lead development and implementation of a shared vision for comprehensive integration of technology by 05/27/2017 as measured by administrators participating in technology workshops in conjunction with the System's annual Professional Learning Unit (PLU).
Strategy:	All Shelby County Schools' administrators and educators with administrative certificates attend monthly PLU workshops. Technology will be integrated into each of these sessions.
Activities:	EdTech Program Area Specialist and Coaches will collaborate with the System's PD Supervisor in order to design and conduct workshops aligned to the System's PLU for this year - Teaching & Learning
OBJECTIVE	Collaborate to conduct needs assessments in order evaluate the impacts technology is having and guide the development of professional learning activities by 05/31/2017 as measured by survey participation.
Strategy:	School TCs will encourage teachers, administrators, parents, and students to take surveys. They will then use this information to guide their technology plan and instructional practices.
Activities:	All administrators and teachers will take the Transform2020 survey in the spring. The results will be analyzed for positive and negative changes from last year and these results will be used to inform the next year's technology plan.
	Teachers, students, administrators, and parents will be encouraged to take the fall Speak Up surveys annually. Results will be used to inform the next year's school and System tech plans.
OBJECTIVE	Collaborate to assist teachers to effectively plan, implement, and manage learning environments that include the use of a variety of digital tools and resources that engage learners in the production of products, services, and/or projects by 07/31/2017 as measured by survey results, PD participation, lesson plans, and classroom observation.
Strategy:	Engage multiple cohorts of teachers in sustained professional development designed to enrich skills and strategies for effectively integrating technology for improving student success, digital skills and citizenship.
Activity:	Between 80 to 100 teachers will be selected to attend 4 days of training spanning 10 months. Job-alike, grade-alike cohorts will be formed. This group will include an Inclusion job-alike group to further assist teachers in utilizing technology with special education students.

GOAL III: Access a Comprehensive Viable Infrastructure

OBJECTIVE	Demonstrate a proficiency to ensure students, teachers, and administrators have excellent, viable bandwidth and wireless connectivity in order to access the Internet, digital learning resources, productivity tools, online assessments, and data by 06/30/2018 as measured by WAN and ISP bandwidth usage reports.
Strategy:	Provide Wide Area Network and Internet connectivity services to all locations. Maintain awareness of Wide Area Network and Internet Access capacity to meet System needs and adjust service levels accordingly as funding permits.
Activities:	Conduct periodic analysis of WAN and ISP usage in order to identify problems and anticipate needs. High activity times, such as online testing windows, will be target dates for collecting data. Identify components creating bottlenecks, where applicable.
	Provide 10 Gbps central aggregation connection to network operations center. Provide schools with 100 Mbps to 1 Gbps WAN connections, depending on the size of the location.
	Upgrade ISP services from Alabama Supercomputer Authority to 2 Gbps. Utilize AREN consortium for E-Rate funding and bid for additional services.
OBJECTIVE	Demonstrate a proficiency by establishing viable wireless networks in every classroom so that all students, teachers, and administrators can access network and Internet-based resources by 05/31/2018 as measured by coverage and density capacity of WLAN networks in schools.
Strategy:	Upgrade management and reporting capabilities of WLAN. Improve ease of use for users, if affordable.
Activities:	Upgrade to Ruckus SmartZone controller to obtain better management and reporting tools. Utilize E-Rate funding to discount cost, if possible.
	Research wireless onboarding software in order to make accessing WLAN easier and establish technical onboarding policies for non-System devices.
	Purchase an additional year of licensing for Ruckus Access Points when current licenses expire. Apply for 1 year and offset with 60% from E-Rate. (Purchasing licensing for multiple years is not acceptable to e-Rate.)
OBJECTIVE	Demonstrate a behavior by developing procedures and implement security policies and technical strategies that meet filtering expectations and protect data and network resources by 06/30/2017 as measured by web filter reports, network reports, intrusion events, and settings.
Strategy:	Differentiate access to the Internet based on user type.
Activities:	Maintain filtering measures using a local filter appliance and firewall policies. If needed, adjust filtering permissions in order to maintain a CIPA compliant environment, while accommodating access to learning resources for teachers and students.
OBJECTIVE	Demonstrate a proficiency by providing teachers, students, and administrators with new computer equipment, including replacing outdated units, in order to increase and improve access to digital tools and resources by 09/30/2017 as measured by the annual technology inventory.

Strategy:	Replace outdated computer equipment, and add Chromebooks and iPads.
Activity:	Add computers for new teachers. Replace school registrar computers. Refresh critical PCs.
Strategy:	Analyze inventory and project needs. Purchase and distribute equipment.
Activities:	Purchase PCs, Chrome Boxes (if viable), Chromebooks, and iPads for equitable distribution across schools
	Assist schools with replacing approximately 200 outdated digital projectors.
OBJECTIVE	Demonstrate a proficiency in developing and implementing a financial support strategy for the overall improvement of the EdTech program by 05/31/2018 as measured by the amount of funding generated.
Strategy:	Identify and develop new sources of revenues and funding.
Activities:	Apply for E-Rate funding for all applicable services.
	Support legislation at the state and national levels for providing funding for technology devices, PD, and digital resources.
OBJECTIVE	Demonstrate a proficiency in network operations and management by 06/30/2018 as measured by establishing uniformity in network switching equipment, upgrading servers, and maintaining other network appliances and software.
Strategy:	Replace switches at 3 schools, central office, and non-instructional facilities in order to establish uniformity across all locations, enabling access to performance monitoring data.
Activity:	Replace LAN switches at Central Office, Facilities, Calera Middle, Helena High, Forest Oaks.
Strategy:	Identify and replace servers at the school and System network levels.
Activities:	Replace INOW servers during 2017 school year.
	Replace identified virtual hosts and school domain controllers before August 2019. Apply for E-Rate for any eligible portions.
Strategy:	Maintain a variety of network servers, appliances, and software in order to maintain operations and services.
Activity:	Maintain warranties and software support for vital network components, including VOIP phone system. Maintain software licenses for productivity software, such as MS Office, anti-virus, etc.
	Maintain phone services for all schools. Remainder Trunk lines and long distance. \$53,000 for POTS lines (not E- Rate eligible).

TECHNOLOGY DEPARTMENT

The Technology Department contributes to the mission of Shelby County Schools by providing leadership and services in support of instruction, administration, and operations. The earlier sections of this plan address the State Department of Education's three Transform2020 Goals. Those goals focus on the applications of technology for improving teaching and learning. However, Shelby County Schools' Technology department also supports the business and operational facets of the school system and has many other ongoing projects.



CURRENT MAJOR PROJECTS FOR BUSINESS and OPERATIONS

The following represent major projects, some of which take months to complete. This list is not comprehensive. It does not include routine software upgrades and maintenance. It also does not include other technical projects already outlined in Goal 3.

Project	For Department	Status as of October 2016
Email – Convert from Exchange to Gmail	Technology	100% Complete
Wireless – complete Wi-Fi upgrades in cafeterias	Technology	100% Complete
Firewall – Upgrade	Technology	100% Complete
Time and Attendance – Timekeeper Kiosk Upgrade/replacements	Human Resources	100% Complete
WebSmart (CNP) – Upgrade to MCS Newton POS	Child Nutrition Program	100% Complete
NextGen – Upgrade	Accounting	100% Complete
NextGen Data Portability (Extraction)	Human Resources	0% Complete
Gmail Domain for Student Accounts	Technology	0% Complete
Employee Badge System – Proximity chips	Operations	0% Complete
Forms Workflow Conversion	Technology	0% Complete
Telecommunications – Research converting trunk lines to SIP and alternatives for POTS once AT&T stops offering POTS lines.	Technology	0% Complete
Evaluate Single Sign-On solution Clever	Technology	0% Complete

APPENDIX

Technology Literacy – Essential Skills

Adapted from the Alabama Technology Course of Study and ISTE-NET-S Essential Technology Literacy Skills by Grade Level		
Kindergarten	Use Mouse/Touchpad	<ul style="list-style-type: none"> • Move pointer • Double-click to open program • Single-click to position cursor
	Keyboarding	<ul style="list-style-type: none"> • Know correct keyboarding technique <ul style="list-style-type: none"> ○ Right and left hand identification ○ Letter and number identification on keyboard
	Word Processing	<ul style="list-style-type: none"> • Select font • Format text – apply bold, italics, underline, and color • Use Enter key to create new line
	Manage Technology	<ul style="list-style-type: none"> • Turn technology on and off properly • Use desktop icons for opening applications • Log into and out of accounts properly • Save work
	Internet Browser	<ul style="list-style-type: none"> • Use bookmarks preset by teachers to access websites • Understand and use scroll bars • Understand how to close a page
1st Grade	Keyboarding	<ul style="list-style-type: none"> • Reinforce previous skills • Understand location of home row keys and finger placement • Use Shift key for capital letters • Use number keys • Use Shift key for symbols (i.e. ?, \$, @)
	Word Processing	<ul style="list-style-type: none"> • Align text • Use Toolbars for formatting and editing text (i.e. font size/color/style) • Capitalize words appropriately
	Manage Technology	<ul style="list-style-type: none"> • Navigate files and folders • Create and use appropriate file names for saving files • Save files in appropriate folders/locations • Use click and drag mouse skills
	Internet Browser	<ul style="list-style-type: none"> • Understand parts of a browser (URL bar) • Use the back arrow • Use the forward arrow and what it means if “grayed out” • Recognize links on a page
2nd Grade	Keyboarding	<ul style="list-style-type: none"> • Master home row keys • Use correct body posture and hand placement • Identify location of letters on upper and lower rows • Understand desired movement of fingers on keyboard • Locate and use / when typing URL addresses • Gain proficiency and speed in touch typing
	Word Processing	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Type paragraph using tab to indent • Highlight text to format • Cut, copy, paste, within a document • Insert and resize graphics from outside sources
	Manage Technology	<ul style="list-style-type: none"> • Work toward master of previous skills • Use the Start menu to access applications • Be aware of battery levels when using mobile devices

	Internet Browser	<ul style="list-style-type: none"> • Understand basic search techniques • Understand bookmarking sites for later use • Use the Home button to return to a homepage • Type in a specific URL and press enter • Stop page from loading if slow or incorrect address
3rd Grade	Keyboarding	<ul style="list-style-type: none"> • Demonstrate correct finger techniques for use of period, space bar, comma and question mark • Demonstrate correct use of space bar, enter key, shift key and tab • Achieve minimum competency of 15 wpm speed at 95% accuracy on one-minute timing
	Word Processing CCSS.ELA-Literacy.W.3.6 With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Copy, cut, and paste text from outside sources¹ • Use bulleted list • Use Word Art • Understand the appropriate use of built-in editing tools (spell check, dictionary, thesaurus, grammar check) • Proofread and edit writing using built-in tools
	Spreadsheet	<ul style="list-style-type: none"> • Understand uses of a spreadsheet • Understand rows, columns, and cells • Understand cells may be used for text, dates, or numbers • Understand number formats (Number, Currency) • Format text • Create simple formula (add, subtract) • Identify Formula bar (view cell formulas) • Select cells and create simple graph (use F11)
	Manage Technology	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Save work periodically so as not to lose it • Identify different file types by icon and file extension (word processing document, spreadsheet, graphic file) • Create subfolders for storing documents in certain categories (courses, subjects, etc.) • Understand when and why to use Save or Save As <ul style="list-style-type: none"> ○ Make a copy to avoid overwriting a file ○ Save a file in a different location
	Internet Browser	<ul style="list-style-type: none"> • Understand the internet as a source of information • Copy and paste information from the internet into a document¹ • Copy and paste URL of information into a document to reference the source of the information • Understand tabs within browsers • Recognize different browsers and different features associated with each (i.e. Chrome, Internet Explorer) • Understand when to refresh displayed web pages

4th Grade	Keyboarding	<ul style="list-style-type: none"> • Show correct body and finger positions • Keep eyes on copy or monitor, not on hands • Demonstrate correct keyboarding technique while keying from printed copy or online prompts • Achieve minimum speed of 20 wpm speed at 95% accuracy on one-minute timed writings
	Word Processing CCSS.ELA-Literacy.W.4.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Set line spacing (single, double, 1.5, etc.) • Use toolbars for formatting page layout (margins, page orientation, etc.) • Type 1 full page in one sitting
	Spreadsheet	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Use Auto Fill to populate series or copy cell contents • Enter data and perform calculations using formulas • Use mathematical symbols e.g. + add, - minus, *multiply, /divide • Select data to create graphs and charts <ul style="list-style-type: none"> ○ Select appropriate chart type ○ Format chart headings, legends, etc.
	Email	<ul style="list-style-type: none"> • Open email program (shelbyed.org Gmail account) • Identify parts of an email program (To, Subject, Body, Menu Bar) • Understand parts of an email name john.doe@domain.org • Compose and send an email to teacher • Understand email folders (Inbox, Sent Mail, More -Trash) • Delete/Trash Read Mail
	Manage Technology	<ul style="list-style-type: none"> • Work towards mastery of previous skills • Name and rename files and folders
	Internet Browser	<ul style="list-style-type: none"> • Resizing Windows and minimizing • Understand different domain name endings (.com, .edu, .gov)
5th Grade	Keyboarding	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Increase accuracy and speed • Achieve minimum speed of 24 wpm speed at 95% accuracy on one-minute timed writings
	Word Processing CCSS.ELA-Literacy.W.5.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Insert tables and understand when applicable • Insert headers and footers • Type 2 full pages in one sitting

	Spreadsheet	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Adjust decimal places • Use spreadsheets to make predictions, solve problems, and draw conclusions • Use AutoSum icon • Wrap text within a cell
	Email	<ul style="list-style-type: none"> • Organize inbox using labels and other organizational tools in GAFE • Attach file to email • Send and Reply to multiple recipients • Add members to "My Contacts" for future use
	Manage Technology	<ul style="list-style-type: none"> • Work towards mastery of previous skills • Select multiple files to move, delete, etc. using Shift or Control keys • Delete files and folders • Save and access files to a variety of storage spaces. (USB, DVD, H:)
	Internet Browser	<ul style="list-style-type: none"> • Print from a webpage • Understand downloading from the internet (.pdf) how to access and save downloaded files • Understand that downloaded files could contain malware or viruses • Identify encrypted URLs (https://) and understand the implications
6th Grade	Keyboarding	<ul style="list-style-type: none"> • Show correct body and finger positions and posture • Keep eyes on copy • Demonstrate correct keyboarding technique while keying from printed copy or online prompts • Achieve minimum speed of 27 wpm at 95% accuracy on two-minute timed writings
	Word Processing	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Demonstrate appropriate use of intermediate features of word processing (i.e. tabs, indent, tables, margins, headers and footers) • Use format painter • Use print preview
	Spreadsheet	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Use features of a spreadsheet (sort, filter, find) • Use multiple sheets within a workbook
	Manage Technology	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Identify basic trouble shooting strategies • Move files between folders via copy/paste, or cut/paste

7th Grade	Keyboarding	<ul style="list-style-type: none"> • Increase accuracy and speed • Achieve minimum speed of 30 wpm speed at 90% accuracy on one-minute timed writings
	Word Processing CCSS.ELA-Literacy.W.5.6	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Apply advanced formatting and page layout features when appropriate (i.e. columns, templates, and styles) to improve the appearance of documents
	Spreadsheet	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Convert number with decimal places to percentage • Find Average of a column of numbers • Find the Total and the Average of non-adjacent numbers • Use cell alignment (center, left, right)
	Manage Technology	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Browse to folders and files within various applications to attach or import files
	Internet Browser	<ul style="list-style-type: none"> • Locate and examine Terms of Use and Privacy statement of websites offering online accounts
8th Grade	Keyboarding [For Students NOT in BTA Course. BTA students use standards in that course.]	<ul style="list-style-type: none"> • Continue practicing using correct hand positions and posture in order maintain or improve skills at the 7th grade level of 30 wpm speed with 90% accuracy on two-minute timed writings
	Word Processing [All students]	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Insert graphics and spreadsheet charts into documents • Use the comment feature to better communicate with teacher and for peer editing
	Spreadsheet [All students]	<ul style="list-style-type: none"> • Work toward mastery of previous skills • Copy spreadsheet chart into word processing document • Copy and Paste data between spreadsheets and other applications
	Manage Technology [All students]	<ul style="list-style-type: none"> • Identify sizes of files
9-12 Grades	Required Business Course	

Information Literacy - Essential Skills

Developed by Shelby County School Library Media Specialists

Information literacy is a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”

(American Library Association. *Presidential Committee on Information Literacy, Final Report.*)

Kindergarten – 2nd Grade	Accessing Information	<p>The student who is information literate accesses information efficiently and effectively.</p> <ul style="list-style-type: none"> • Recognizes the need for gathering information when making choices. • Formulates questions based on information needs (with support.) • Identifies fiction and nonfiction sections of the library with support. • Names and locates different types of print and digital resources. (with support)
	Evaluating Information	<p>The student who is information literate evaluates information critically and accurately.</p> <ul style="list-style-type: none"> • Distinguishes between fact and opinion with prompting and support. • Identifies information relevant to the topic or question. • Identifies author, title, title page, illustrator, cover and spine of book (with support).
	Using Information	<p>The student who is information literate uses information ethically and creatively.</p> <ul style="list-style-type: none"> • Listens attentively and respectfully to other perspectives. • Organizes information using graphic organizers or storyboards. • Works independently or in groups to present the results of research in an appropriate format (with support.)
3rd – 5th Grade	Accessing Information	<p>The student who is information literate accesses information efficiently and effectively.</p> <ul style="list-style-type: none"> • Identifies keywords for a specific topic. (with support) • Uses provided sources (print and digital) to locate information and relate it to a specific topic. • Identifies and uses print and digital reference tools such as dictionary, atlas, and encyclopedia. • Uses text features (e.g., table of contents, captions, index)
	Evaluating Information	<p>The student who is information literate evaluates information critically and accurately.</p> <ul style="list-style-type: none"> • Independently differentiates between fact and opinion. • Identifies appropriate and relevant sources of information. • Collaborates with other students to solve informational problems. • Applies evaluation criteria (author, publisher, owner) to determine authenticity of digital sources (with support).

	Using Information	<p>The student who is information literate uses information ethically and creatively.</p> <ul style="list-style-type: none"> Integrates information from two sources on the same topic in order to write or speak about the subject knowledgeably (with support). Records information using note taking strategies with a graphic organizer. Presents the results of research by creating products using multimedia techniques (with support). Understands evidence and uses title and author when referencing a source.
6 th – 8 th Grade	Accessing Information	<p>The student who is information literate accesses information efficiently and effectively.</p> <ul style="list-style-type: none"> Identifies keywords and uses advanced search functions (Boolean Operators) to acquire relevant information. Demonstrates skill using the electronic library catalog. Locates library materials on the shelf by call number Gathers relevant information from a variety of print and digital sources and/or recall relevant information from prior knowledge. Defines a research topic (with support). Uses website sitemaps or other navigation tools.
	Evaluating Information	<p>The student who is information literate evaluates information critically and accurately.</p> <ul style="list-style-type: none"> Recognizes primary and secondary sources. Differentiates between scholarly research and popular articles. Defines relevance, currency, authority in relation to evaluating sources. (with assistance) Analyzes different points of view on the same topic. Identifies bias and author's purpose in print and digital resources.
	Using Information	<p>The student who is information literate uses information ethically and creatively.</p> <ul style="list-style-type: none"> Selects an appropriate format for communicating ideas and shares information accurately. Uses writing and speaking skills to present information. Understands plagiarism and ethical use of copyrighted materials. Cites print and non-print sources in a properly formatted bibliography with guidance.
9 th – 10 th Grade	Accessing Information	<p>The student who is information literate accesses information efficiently and effectively.</p> <ul style="list-style-type: none"> Articulates an information need and formulates questions for research. Develops a purpose or thesis statement. Seeks diverse perspectives during information gathering. Recognizes primary and secondary sources. Recognizes blogs, Twitter, online interviews, and other venues as being primary sources of information.

	Evaluating Information	<p>The student who is information literate evaluates information critically and accurately.</p> <ul style="list-style-type: none"> • Reads, views, listens to information critically. • Uses paraphrasing, highlighting, plotting or other extraction techniques to identify and record relevant information. • Applies evaluative criteria to determine the relative value of the information: relevancy, suitability, authority, objectivity, currency. • Analyzes different points of view on the same topic.
	Using Information	<p>The student who is information literate uses information ethically and creatively.</p> <ul style="list-style-type: none"> • Analyzes information and identifies topics, subtopics and relationships • Organizes information in a logical sequence. • Selects an appropriate format and successfully communicates ideas. • Properly uses and credits copyrighted materials either under Fair Use or Creative Commons when incorporating the original work of others into end products.
11 th – 12 th Grade	Accessing Information	<p>The student who is information literate accesses information efficiently and effectively.</p> <ul style="list-style-type: none"> • Independently selects keywords, synonyms, and related terms appropriate to investigate a research based question. • Constructs appropriate questions for research and refines the search strategy if necessary. • Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized. • Retrieves digital and print information using a variety of methods.
	Evaluating Information	<p>The student who is information literate evaluates information critically and accurately.</p> <ul style="list-style-type: none"> • Evaluates gathered information to determine whether it contradicts or verifies thesis statement. • Seeks expert opinions through a variety of mechanisms (interviews, emails, listservs) • Synthesizes information from multiple sources to create new meanings.
	Using Information	<p>The student who is information literate uses information ethically and creatively.</p> <ul style="list-style-type: none"> • Independently manipulates digital text, images, and data; transferring them from original locations and formats into new context. • Uses a range of technology to create a product or performance. • Communicates clearly and effectively with a style that supports the purpose and the intended audience. • Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own. • Demonstrates an understanding of intellectual property, copyright, and Fair Use of copyrighted material.

21st Century Essential Skills

The Integrating Authentic, Meaningful 21st Century Skills (*i • am21*) initiative began in 2008. The *i • am21* committee reviewed national frameworks and research before establishing the following as essential skills for the 21st Century student.

Global and Cultural Awareness	
Skills	Rationale
<ul style="list-style-type: none"> • Use 21st Century skills to explore national and global issues • Explore how understanding other cultures can assist the U.S. in interacting, competing, and partnering with other countries in the global economy • Learn from and work collaboratively with individuals representing diverse cultures, races, religions and backgrounds in a spirit of mutual respect and open dialogue • Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors 	<p>"Technology is obliterating geographic boundaries and time zones; collaborating and communication across these boundaries is now commonplace. In this environment, people need a deeper understanding of the thinking, motivations and actions of different cultures, countries, and regions." ~ <i>Partnership for the 21st Century</i></p> <p>"We live in multicultural societies, teach in multicultural settings, and our students often interact with those who come from a different place in terms of gender, rural or urban environments, nationalistically, linguistically, racially, and religiously. Awareness of and sensitivity to culturally determined norms promotes understanding." ~ <i>AT&T</i></p> <p>"The world is rapidly becoming wired and the resulting globalization of commerce and trade has increased the need for cultural literacy. In such a global economy, with the U.S. concerned about interactions, partnerships and competition from around the world, there is a greater necessity for knowing, understanding and appreciating other cultures, including cultural formations established as norms in a technological society, such as virtual realities." ~ <i>The Metiri Group</i></p>
Information Literacy	
Skills	Rationale
<ul style="list-style-type: none"> • Access information efficiently and effectively • Evaluate information critically and competently • Use information accurately, ethically, and creatively • Understand both how and why media messages are constructed, and for what purposes 	<p>"Learning skills are increasingly important in workplaces and community life. They enable students to acquire new knowledge and skills, connect new information to existing knowledge, analyze, develop habits of learning and to work with others to use information." ~ <i>Partnership for the 21st Century</i></p> <p>Today's environment "requires individuals to be able to identify and react to changing conditions independently-- self-directed learners who are able to analyze new conditions as they arise, identify the new skills that will be required to deal with these conditions and independently chart a course that responds to these changes." ~ <i>The Metiri Group</i></p>

Technology Literacy	
Skills	Rationale
<ul style="list-style-type: none"> • Master and apply technology concepts, terminology, skills, and habits in accordance with the AL Technology Course of Study, and ISTE's National Education Technology Standards(NETS) • Use technology as a tool to research, organize, evaluate and communicate information • Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy 	<p>The definition of literacy in the 21st Century has changed.</p> <p>According to the Educational Testing Service, literacy in the 21st Century means students have "the ability to use digital technology, communications tools, and/or networks appropriately to solve information problems in order to function in an information society." This includes "the ability to use technology as a tool to research, organize, evaluate, and communicate information. . ."</p> <p style="text-align: right;"><i>~ Educational Testing Service</i></p> <p>"Students need to develop competencies in enacting learning skills via the application of 21st Century learning tools."</p> <p style="text-align: right;"><i>~ Partnership for the 21st Century</i></p>
Communication and Collaboration	
Skills	Rationale
<ul style="list-style-type: none"> • Understand and utilize a variety of 21st Century asynchronous and synchronous communication and collaboration tools, such as person-to-person email interactions, group interactions in virtual learning spaces (wikis, blogs, online courses), and interactive audio or video conferencing • Understand and utilize the most appropriate media creation tools, characteristics and conventions to communicate ideas 	<p>"The rapid pace of today's society and its communications networks have caused -and enabled- a shift in the level of decision-making down to the worker closer to the client or product. At the same time the complexity of today's world requires a high degree of specialization by decision makers-hence the need for teaming of specialists to accomplish complex tasks in ways that are efficient, effective and timely."</p> <p style="text-align: right;"><i>~ The Metiri Group</i></p>
Ethics, Actions, and Accountability	
Skills	Rationale
<ul style="list-style-type: none"> • Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies and media • Understand the uses, risks, dynamics, and impacts of social networks • Advocate and practice safe, legal, and responsible use of information and technology 	<p>"New technologies bring about the need to interpret old values in new ways, but also may call for the creation of new codes of conduct when new actions are made possible with the use of technology."</p> <p style="text-align: right;"><i>~ Doug Johnson</i></p> <p>21st Century literacy ". . . also requires students to understand the "ethical [and] legal issues surrounding the access and use of information."</p> <p style="text-align: right;"><i>~ Educational Testing Service</i></p>

Creativity and Innovation

Skills	Rationale
<ul style="list-style-type: none">• Develop visualization skills to be able to decipher, interpret, detect patterns, and communicate using imagery• Utilize multiple media and technologies, and know how to judge their effectiveness and impact• Use a wide range of idea creation techniques• Leverage social and cultural differences to create new ideas and increase both innovation and quality of work• Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts	<p>"In addition, today's knowledge workers are expected to rapidly adjust and adapt to changing environments. Without creativity and risk-taking there would be few quantum leaps in discoveries, inventions, and learning." ~ <i>The Metiri Group</i></p>