Appendix D

Florida STaR Chart

Florida School Technology and Readiness (STaR) Chart

The Florida STaR chart has been an invaluable roadmap for the thinking of many of the Laptop Task Force members. Given the comprehensiveness of the STaR chart, Task Force members felt that it would be helpful to include the standards in an appendix along with additional comments relating the standards to the use of laptop computers. Please note that for the purposes of this appendix, the STaR chart has been slightly reformatted. In its published chart form, it is designed to be read from bottom to top to facilitate the interpretation of school profile data presented in graph form. For the purposes of this narrative however, it seemed best to present items in a top-to-bottom order. Also, it is important to note that the sections headed "Task Force Comments" are comments by the Task Force on the implications of each section for a laptop initiative. These comments are not a part of the published STaR chart.

Each category has indicators for entry, intermediate, advanced, and target levels. Each level builds upon the previous one, and may retain the same technology traits while expanding in depth and breadth.

Technology Administration and Support:

Technology Planning

Entry	School has a technology plan Planned technology use mainly for administrative tasks such as word processing, budgeting, and attendance
Intermediate	Educational technology planning aligns with District/State technology plans Planned technology use for internal planning, budgeting, applying for external funding and discounts for direct instruction and some student use
Advanced	Educational technology planning is integrated into the SIP process and approved by the school's SAC committee The collaboratively developed technology plan guides policy and practice, planned technology use addresses higher order teaching and learning for ALL students (including ESOL and ESE), and is regularly updated
Target	The school's administration, teachers, and staff actively support technology planning The technology plan focuses on student success; planned technology use is based on needs, research, proven teaching, and learning principles; Revised annually
Task Force Comments	*The need for careful technology planning is magnified by the introduction of laptop computers into the classroom. As indicated in the STaR chart, the focus of any technology implementation (including a laptop initiative) must remain on teaching and learning, rather than administrative tasks. It is critically important that a laptop initiative not leave any child behind either in terms of hardware or curriculum. All students must be given access to curriculum that emphasizes higher order teaching and learning. Furthermore, the need for careful research regarding the use of laptops is necessary, but beyond the means of most schools and even some districts. For this reason, the Task Force is recommending a strong research component as a part of any state-supported laptop initiative.*

Technical Support

Entry	Technical support comes from outside the school Technical support response time greater than 24 hours
Intermediate	Part-time school-based technical support Technical support response time less than 24 hours
Advanced	Full-time school-based technical support capable of troubleshooting basic network and hardware repair including assistive technologies Technical support response time less than 8 hours
Target	Full-time school-based technical support with additional staff as needed (including faculty) to support network and web production Technical support response time less than 4 hours
Task Force Comments	*A lack of technical support can undermine any laptop program. Successful initiatives have often included loaner laptops for students when an extensive repair is needed. Many schools have also trained both teachers and students to solve minor support problems, thereby freeing technical support staff to focus on more serious issues.*

Instructional Technology Support

Entry	Instructional Technology support comes from outside the school
Intermediate	Part time school-based instructional technology specialist
Advanced	Full time school-based instructional technology specialist
Target	Full time school-based instructional technology specialist and additional staff as needed (including faculty) with expertise in specialized areas of integration
Task Force Comments	*The Task Force has noted that the amount of instructional technology support may vary greatly depending on the predominant style of teaching in a school. If a school tends toward a student-centered, constructivist style of teaching, then teachers can often be quite successful with a basic introduction to the capabilities of the students' software followed by examples of technology integration. In the best schools, technology integration can take on a life of its own and creative uses spread rapidly from one teacher to the next. On the other hand, schools that tend toward a traditional teacher-centered model, will often need significantly more assistance from instructional technology specialists. A laptop implementation must be an integrated part of school reform. A teacher who insists on being the sole source of knowledge in a classroom is on a collision course with a class of students who have been given the means to obtain multiple sources of information, develop higher order thinking skills, and collaborate with their classmates and others.*

School Budget

Entry	Budget for hardware and software purchases and professional development
Intermediate	Budget for hardware and software that is accessible to all students, professional development, and some ongoing costs
Advanced	Budget for hardware and software that is accessible to all students, professional development, and ongoing costs
Target	Budget also addresses facilities and investigation of new technologies Budget reflects the goals identified in technology plan
Task Force Comments	*The Task Force agrees that the school budget should provide hardware and software accessible to all students as well as professional development for teachers. Sustainability must be taken into account. Laptops are not simply a one-time purchase. Budget provisions should be made for support and hardware replacement. To be effective, professional development must be ongoing, so provisions must be made for funding.*

Funding

Entry	District, state and federal technology allotments only
Intermediate	In addition to allotments, seeks grants and other funding such as bond funds, business partnerships, donations, foundations, and other local funds designated for technology to meet enhanced technology needs and minimal instructional technology needs
Advanced	Successfully obtains funding from one source other than their allotment
Target	Successfully obtains funding from two or more sources other than their allotments
Task Force Comments	The Task Force recognizes that funding will become a major consideration as laptop implementations transition from smaller pilot or demonstration projects to widespread rollouts. Schools and districts will have to look beyond their continuing technology allotments. Successful laptop initiatives across the country have been funded by a mix of bond funds, business partnerships, donations, foundations, and the reallocation of other local funds. For example, monies can be redirected from textbooks to technology as laptops reduce the dependence on traditional textbooks. The business community, in particular, has been recommending that our schools add important 21st century skills to the curriculum. A laptop initiative that includes such an emphasis may well attract additional community and business support.

Technology Capacity:

Student Computer Access

Entry	One modern computer per instructional area, or 10 or more students per computer; no refresh cycle
Intermediate	Fewer than 10 students per one modern computer; refresh cycle every 5 years Special needs workstations (including Universal Access stations) limited to special education instructional areas Student access to computers for after-school care students or by special arrangement
Advanced	Fewer than 5 students per one modern computer; refresh cycle every 4 years Special needs workstations (including Universal Access stations) limited to some instructional areas and media center After-school access to computers for all students 1–5 hours per week
Target	One computer per student; refresh cycle every 3 or fewer years Special needs workstations (including Universal Access stations) are available in all instructional areas as needed After-school access to computers for all students over 5 hours per week
Task Force Comments	*The Task Force notes that the established target level of student computer access in Florida is one-to-one and that issues of after-school access would be resolved if the students were permitted to take their laptops home with them.*

Teacher Computer Access

Entry	One dedicated teacher computer per 2 or more teachers; no refresh cycle
Intermediate	One dedicated computer per teacher; refresh cycle every 5 years
Advanced	One dedicated modern computer per teacher; refresh cycle every 4 years
Target	One dedicated modern computer per teacher; refresh cycle every 3 or fewer years
Task Force Comments	*The Task Force believes that teacher computer access is a critical prerequisite to any successful student laptop program.*

Internet Access

Entry	Dial-up connectivity to the Internet available to support web-based applications only on a few computers
Intermediate	Direct connectivity to the Internet at the school and accessible in some rooms Adequate distribution of bandwidth to the school to avoid most delays
Advanced	Direct connectivity to the Internet at the school and all instructional areas Adequate bandwidth to each instructional area over the LAN to avoid most delays
Target	Anywhere, anytime direct access to the Internet for any desired application Bandwidth supports multiple web-based applications
Task Force Comments	*A laptop computer with a wireless connection would provide access throughout and around the school campus.*

Video Capacity

Entry	Video available in the instructional area on magnetic or optical media Media is available via instructional area device such as VCR or DVD player
Intermediate	Capacity to schedule and distribute video over school network to the instructional area Capacity to receive via satellite and distribute programming to the instructional area
Advanced	Capacity to schedule and distribute video over district or cable access network to the instructional area Two-way interactive video conferencing used to connect schools
Target	Network provided video on demand Two-way interactive video conferencing used to connect to postsecondary institutions and other education providers
Task Force Comments	*Two-way video conferencing capability should be included in laptop specifications in order to meet this standard*

LAN/WAN

Entry	Fewer than 5 networked computers connected to the LAN (Local Area Network within the school) Some computing devices connected into a server environment Limited print/file sharing capabilities
Intermediate	Most instructional areas connected to the LAN with student access Minimum 10/100 hubbed network Servers are capable of serving some applications for instructional purposes
Advanced	All instructional areas connected to the LAN with student access Minimum 10/100 switched school network Schools are connected to the district via a WAN Servers are used to connect schools
Target	All instructional areas connected to the LAN/WAN with student access WAN has 100 MB/GB and/or fiber switched network that allows for resources in the instructional day (e.g., video streaming, desktop conferencing) Anytime, anywhere access to network
Task Force Comments	*The Task Force notes that a number of laptop initiatives have been victims of their own success. In these schools network utilization rose dramatically as students engaged in research and collaboration activities. A school must ensure that its network can handle the increased demands of a 1:1 student laptop implementation.*

Curriculum-based Tools

Entry	Limited access to some instructional equipment (i.e., televisions, VCRs, digital cameras, scanners, programmable calculators, etc.) Tool-based software limited to word processing and spreadsheets
Intermediate	Shared use of instructional equipment among groups of teachers Tool-based software includes presentation, some graphics and concept mapping
Advanced	Instructional equipment assigned to each teacher/ instructional area including at least a computer with projection device, TV, and VCR or DVD Tool-based software includes some multimedia authoring and video editing
Target	Fully equipped instructional areas with all the technology that is available to enhance student instruction including all forms of software, digital cameras, scanners, other devices specific to content areas resources for students and teachers including some wireless connectivity and off campus access
Task Force Comments	*An essential piece of any laptop initiative must be tool-based software, including multimedia authoring and video editing. The goal of a laptop implementation is not to replace print textbooks with equivalent electronic textbooks. Included software should be sufficient to enable students to be producers, not merely consumers, of content. There should also be a shared supply of digital devices such as scanners, still and video cameras, microphones, science probes, etc., to provide students with multiple sources of digitized content for their projects.*

Educator Competency and Professional Development

Educator Use of Technology

Entry	Teachers use e-mail and word processing programs Technology not used to review student assessment information
Intermediate	Streamlined administrative tasks (grades, attendance, lesson planning, etc.) Technology used infrequently to review student assessment information
Advanced	Technology used for research; creating templates for students; multimedia and graphical presentations and simulations; and correspondence with experts, peers, and parents Technology frequently used to review student assessment information
Target	Teachers explore and evaluate new technologies and their educational impact; technology used for inquiry, analysis, collaboration, creativity, content production, and communication Technology regularly used to review student assessment information which results in needed changes in instruction
Task Force Comments	*A teacher laptop would greatly facilitate many of the teacher tasks itemized above. Every teacher who has ever prepared multimedia presentations at home has dealt with the difficulties of transferring all of the related files to disks, taking them to school, and checking to make sure they work on the classroom machine. A teacher laptop that can be taken home would facilitate presentation, research, and administrative tasks.*

School Administrators

Entry	Recognizes benefits of technology in instruction Limited use of technology
Intermediate	Recognizes benefits of technology in instruction for all students and supports use of technology in instruction Routinely uses technology in some aspects of daily work
Advanced	Recognizes and identifies exemplary use of technology in instruction for all students Models use in daily work including communications, presentations, on-line collaborative projects and management tasks
Target	Promotes exemplary use of technology in instruction for all students; advocates and encourages parental and communal involvement in the training and integration of technology and education Maintains awareness of emerging technologies; participates in job-related professional learning using technology resources
Task Force Comments	*It is essential that the principal or curriculum leader have a vision of how technology can improve the teaching and learning process. Administrators must be equipped to model how technology can be used as a productivity tool in their schools.*

Professional Development Budget

Entry	5% or less of money spent on technology for your school is devoted to professional development in technology-related training
Intermediate	6–24% of money spent on technology for your school is devoted to professional development in technology-related training
Advanced	25–29% of money spent on technology for your school is devoted to professional development in technology-related training
Target	30% or more of money spent on technology for your school is devoted to professional development in technology-related training
Task Force Comments	*The most recent STaR Survey indicates an average of only 14% is spent for professional development. This should be increased to at least 25% to bring it into the "Advanced" range.*

Models of Professional Development

Entry	Leader presents information to group of teachers Training provided by school or district staff
Intermediate	Teachers participate in hands-on instruction with follow-up to activity Additional training provided by outside instructors brought to the school
Advanced	Majority of instructional staff participate in coaching, modeling of best practices, scaffolding, and school-based mentoring Educators participate in workshops, conferences, and seminars outside the school/district
Target	Learning communities created among instructional staff to provide continuous coaching, modeling of best practices, and school-based mentoring to promote individual growth Additional professional development available any time, at any level, through a variety of delivery systems
Task Force Comments	*Just as 1:1 laptop computing encourages a movement in the classroom environment from teacher-centered activities to more effective student-centered activities, a 1:1 laptop initiative for teachers would tend to move professional development from the leader-centered "entry" level to the recommended learner-centered "target" level.*

Content of Professional Development

Entry	Teachers become acquainted with technology (i.e., basic computer skills)
Intermediate	Teachers learn to use technology in the classroom (i.e., administration, management, and or presentation software; Internet as a research tool; vendor-specific training)
Advanced	Teachers learn to use technology with curriculum/students (i.e., integration skills for creating learner-centered technology projects using Internet, applications, multimedia presentations, data collection; making accommodations with assistive technologies; etc.)
Target	Teachers learn about emerging technologies and their uses with curriculum/students (i.e., creation and communication of new technology-supported, student-centered projects)
Task Force Comments	*Learning to use technology effectively is a process that takes place over time. Professional development should be designed to move teachers from lower-order skills such as basic knowledge and comprehension to higher-order skills such as synthesis and evaluation.*

Learners and Learning:

Student Use of Technology

Entry	Infrequent use by students as a basic tool for drill and practice, and/or integrated learning labs
Intermediate	Frequent individual use by students to access information resources for communication and presentation projects
Advanced	Students regularly use technology for working with peers and experts, evaluating information, analyzing data and content in order to solve problems, and evaluating individual progress
Target	Students regularly use technology for working collaboratively in communities of inquiry to propose, assess, and implement solutions to real world problems, and for evaluating and analyzing their own assessment information to improve learning Students communicate effectively with a variety of audiences
Task Force Comments	*Technology is more than a tool to provide content or deliver an electronic textbook. Student must have opportunities to create their own knowledge and products, mimicking real world situations.*

21st Century Classroom

Entry	Teacher-centered learning Teachers allow students to use technology to work on individual projects
Intermediate	Teacher-directed learning Teachers encourage students to use technology for cooperative projects in their own classrooms Teachers support student use of technology to accomplish curriculum goals
Advanced	Teacher-facilitated learning Teachers establish communities of inquiry for students to collaborate with community members Technology is embedded in core curriculum areas
Target	Student-centered learning Teachers act as mentors/ facilitators with national / international business, industry, and university communities of inquiry to develop 21st century skills Technology is vital to all curriculum areas and embedded in daily instruction
Task Force Comments	*If we want the high level of learning we need project based, student-centered learning.*

Secondary Technology Courses

Entry	Offers some technology courses
Intermediate	Offers a variety of technology courses on different topics or at different levels
Advanced	Offers at least one sequential program of study in an area of technology
Target	Offers multiple sequential programs of study in technology
Task Force Comments	*All students need the 21st century skills recommended elsewhere if they are to succeed in the workplace and community. These are skills that should be embedded in all courses. However, we also need to provide additional technology courses for those students who will be entering technical fields requiring prerequisite skills and knowledge.*

Community Outreach

Entry	Uses technology such as voice bulletins, voice mail, and telephone homework hotlines to communicate with parents Parents can access school computers during extended (noninstructional) hours
Intermediate	Uses email to communicate with parents School offers technology awareness programs for parents (e.g., family tech night or through web sites or videos)
Advanced	Uses a variety of technologies, including the Internet, to communicate with parents/community School staff lead technology training for parents/community
Target	Uses a variety of technologies, including radio or television broadcasting, to communicate with parents/community School participates in establishing technology access centers for the community Students lead technology training for parents/community
Task Force Comments	*Laptops going home to students' families will greatly increase communication between school and parents. Many schools with laptop program report a dramatic increase in parent involvement with the school, increased parent attendance at PTA meetings, and opportunities for parent technology training in the evenings. When parents are actively involved in their children's school, student achievement tends to rise. Laptops going home with students ensure that all parents have access to email and a direct method of communication with the school.*

Accountability

Student Technology Standards

Entry	Core curriculum teachers address the technology implicit standards (SSS)
Intermediate	Specific student technology standards beyond SSS adopted
Advanced	A method for monitoring and evaluating student progress established Technology integrated into curriculum areas; grade level and subject-area expectations for technology established
Target	All technology standards for students are accomplished
Task Force Comments	*A 1:1 laptop program is the most effective means of achieving the standards that have been set by the State of Florida and the Federal government for student technology literacy.*

Teacher Technology Standards

Entry	Up to 25% of educators meet Educator Accomplished Practices (EAP) #12 at or above the Professional level proficiencies and utilize them in the classroom
Intermediate	At least 25% of educators meet Educator Accomplished Practices #12 at or above the Professional level proficiencies and utilize them in the classroom
Advanced	At least 50% of educators meet Educator Accomplished Practices #12 at or above the Professional level proficiencies and utilize them in the classroom
Target	At least 75% of educators meet Educator Accomplished Practices #12 at or above the Professional level proficiencies and utilize them in the classroom
Task Force Comments	*Laptops computers would give teachers the tool they need to meet the standards set by the State of Florida for Educator Accomplished Practice #12.*