Using Technology to Improve Reading and Writing Outcomes for Learning Disabled Students

A Sequenced Approach

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Introduction

This document is a guide for teachers, building administrators, district decision-makers, and school board members who would like to use technology to improve outcomes for their students with learning disabilities but lack funding or are not sure where to begin. We recognize that every situation, student, and school is different and that a single recommendation cannot serve every need. This sequenced approach simply represents our best recommendations for how to get started with no financial investment and how best to augment your technology resources in gradual steps when money becomes available.

"It helped me realize that the LD students were just as capable as the general education students when given the tools to assist them."

Why Use Technology?

"It broke that cycle of them thinking . . . 'I don't know how to write. I've never been able to write'"

Learning disabled (LD) students are often academically capable but have trouble with reading, organizing their thoughts on paper, or the physical act of writing. Technology can enable these students to focus on the writing process rather than on mechanics, to read at their developmental level rather than their reading ability level, and to meet higher expectations.

We have observed that assistive technology and training on its use can significantly improve the keyboarding, writing, academic, and behavioral skills of LD students and improve the ability of their teachers to deliver individualized instruction. The teachers we worked with consistently reported that their LD students who used technology were more willing to write, created better written products, and showed more confidence in their academic abilities and more pride in their work. We also discovered that:

"We do a lot more editing than we used to . . . the kids are not as afraid to go ahead and type a first draft and then print another one and another one."

- Technology empowers students to work independently. Student can use spellcheckers and talking dictionaries to learn the correct spelling and meaning of words. Other software can help the students select the correct words and put sentences together.
- Technology that reads text aloud helps struggling readers independently read textbooks, stories, and information from the Internet.

- Using technology, LD students can read the same materials and produce the same products as their peers.
- Technology helps LD students think about themselves differently. Because their written products are legible and look as good as those of other students, LD students become more confident in their academic abilities.
- Technology provides additional tools and learning options for LD students.

> *"The kids are a lot more aware that there are things they will have access to throughout their lives—there are jobs out there they will be able to do besides working in the field or McDonald's."*

How We Developed the Sequence

From 1997 through 2002, LD students and their teachers in 34 school districts throughout Washington State participated in the Learning Disabilities and Technology project, a Technology Literacy Challenge Fund grant that provided participating schools with technology to help LD students read and write and the training to use the technology. This project was administered through the Special Education Technology Center (SETC) at Central Washington University in Ellensburg, Washington, and evaluated by RMC Research Corporation in Portland, Oregon. Throughout the 5 years of implementation and 4 years of formal evaluation, the project and evaluation staff gained a wealth of information on how technology can improve the reading and writing of students with learning disabilities and empower students and teachers to achieve higher goals.

> *"[Without technology] they had such difficulty—they knew what they wanted to say, but then they had to figure out 'Okay, now, which direction does a B go?'"*

We developed this sequence based on our experience implementing and evaluating this project and the input of participating teachers. We trained, assisted, observed, interviewed, and surveyed special education and regular education teachers and students in a variety of school settings. Most students were in Grades 3–8, although a few were in high school. Roughly two-thirds of the students were boys (reflective of the general population of children with learning disabilities) and the majority were Caucasian (reflective of Washington State as a whole), although some participating classrooms had high percentages of African American or Hispanic students.

How to Use This Sequence

This sequenced plan describes the hardware, software, and other resources and expenditures recommended at each of 5 steps of implementation. Step 1 (*Getting Started*) is for any teacher, school, or district that simply wants to begin using technology to improve outcomes for LD students. This step is almost free of capital expenditures, requiring only technology already available in almost all schools. Steps 2, 3, and 4 (*Minimal*, *Moderate*, and *Full Implementation*) outline the order in which technology should be added to the best advantage of the LD students as funding becomes available. Step 5 (*Special Needs and Extras*) details additional technologies that fill specific needs or support specific teaching styles. Because each step builds on the skills and resources acquired in the previous step, it is important not to skip steps. We also encourage you to implement all the technology in any given step at once.

The next section details the components of each implementation step and provides information on implementing an effective program. The appendix details hardware and software specifications and recommendations.

Step 1: Getting Started

Step 1 is almost free of capital expenditures and can be used to build capacity to use assistive technology by helping teachers gain experience and confidence while providing limited technological accommodation for students. To begin using technology to accommodate your LD students, you will need the following:

- One or more special education teachers who are interested in and willing to integrate technology into their teaching. At least 1 teacher should know how to use a desktop computer and printer, word processing software, and the Internet.
- Teacher release time or commitment to formal or informal training, depending on the teachers' knowledge and comfort level with the existing technology.
- On-site technical support or at least 1 participating teacher who already possesses the ability to troubleshoot and fix problems with the existing technology.
- Approximately $140 for software (optional but recommended), if funding is available.

Hardware, Software, and Other Resources Needed for Step 1

Desktop Computer	At least 1 desktop computer in the classroom available for use by targeted LD students
Printer	Any black and white or color printer networked or connected to the desktop computer
Internet Connection	Students can use Internet resources for research and for the exchange of information via e-mail. The addition of text-to-speech software will allow students to hear text, giving struggling readers access to digital resources.
Text-to-Speech 1 COPY RECOMMENDED (e.g., *Write:OutLoud*) or **General Word Processor** (e.g., *Word*)	Use the computer and a word processor for all regular school-day activities. ▪ Students can edit work easily, which makes them more willing to do so ▪ Students can keyboard rather than write by hand, which eliminates problems with the physical act of writing (e.g., forming the letters) ▪ Students can print legible rough drafts for teacher or peer review and attractive final drafts. LD students' work looks as good as that of their peers ▪ Many students think computers are fun and are more motivated to do schoolwork on a computer. Further, developing computer skills can make students feel more confident in their academic skills Text-to-speech word processing software reads aloud any text composed in or pasted into the software. ▪ Students can hear what they have written and evaluate their writing. This ability is useful for vocabulary assignments, spelling lists, notes, outlines, essays, reports, etc. ▪ Students can read text independently from any electronic source, including the Internet.
Keyboarding Software 1 COPY RECOMMENDED (e.g., *UltraKey*)	Because keyboarding is a prerequisite to effective computer use, students should practice at least 10 minutes a day. Ultimately, their keyboarding rate should be at least as fast as their peers' handwriting rate.
Other Resources & Expenditures	▪ Teacher training on hardware and software, classroom implementation, and technical support ▪ Sharing of impacts; garner support and funding for move to next phase

Note. See the appendix for hardware and software specifications, recommendations, and other details.

Step 2: Minimal Implementation

Step 2 allows the most basic implementation of technology for *all* LD students with the least possible funding. To move to this step, you will need the following:

- In-district technical support.
- A commitment to teacher training.
- Funding for hardware, peripherals, and software. (See the appendix for cost estimates.)

Additional Hardware, Software, and Other Resources Needed for Step 2

Laptop Computers or **AlphaSmarts**	Portability allows students to use technology throughout the day and is central to accommodating LD students. See the appendix for a sample Computer Equipment Lending Agreement. ▪ Laptop computers allow students access a computer in all classes and when studying at home. Purchase several computers to be shared among the targeted students and, if possible, 1 computer for exclusive teacher use. ▪ Laptop computers are much more versatile and are preferable to AlphaSmarts, which allow only simplified word processing, outlining, and word prediction. AlphaSmarts are, however, much less expensive, less fragile, and simpler to operate. ▪ Allocating a laptop to the teacher builds his or her skills and confidence with the technology the students are using and allows planning and access to professional development outside of school.
Wireless Internet Access	Wireless Internet access provides access to the Internet or e-mail on laptop computers from anywhere within 150–300 feet. This capability allows for easy access to and seamless use of the Internet. Additionally, teachers can give and receive assignments through the network.
Headphones	Headphones allow students to use text-to-speech software without disturbing others and without feeling self-conscious. ▪ Helps students focus on their work.
Networked Infrared Printer	Networking allows printing from any computer on the network. The infrared accommodation allows quick access to printing from laptop computers or AlphaSmarts without the encumbrance of cables.
Text-to-Speech Word Processor	1 copy of a text-to-speech word processor for each laptop or AlphaSmart. See Step 1 for details.
Word Prediction Software (e.g., *Co:Writer*)	Word prediction software provides a list of suggested words based on the characters already typed and the sentence syntax. ▪ Provides prompting for accurate spelling and use of topic-related vocabulary. ▪ Reduces the number of keystrokes needed to type each word.
Keyboarding Software	1 copy of a keyboarding program for each laptop or AlphaSmart. See Step 1 for details.
Other Resources & Expenditures	▪ Continued training and sharing of impacts. ▪ Insurance and extended warranty on all equipment at time of purchase. ▪ In-district technical support.

Note. See the appendix for hardware and software specifications, recommendations, and other details.

Step 3: Moderate Implementation

Step 3 allows implementation of the most crucial technology for accommodating LD students. To move to this step, you will need the following:

- In-district technical support.
- A commitment to teacher training.
- Funding for hardware, peripherals, and software. (See the appendix for cost estimates.)

Additional Hardware, Software, and Other Resources Needed for Step 3

Flatbed Scanner with Optical Character Recognition (OCR)	A flatbed scanner allows scanning of textbooks, worksheets, literature, or other text sources, which can be imported into scan/read software and presented audibly.
Large Capacity Data Storage	Large capacity data storage is needed to store scanned files too large to store on hard drives and diskettes. Suitable storage media include network drives, CDs (requiring a CD burner), and flash drives. Additionally, scanned textbooks and other curriculum materials can be saved to a network or CD library (*check copyright laws*.)
Scan/Read Software (e.g., *WYNN*, *Kurzweil*)	Scanned text from books or other printed sources can be imported into scan/read software and read aloud to students. Scan/read software also includes Internet and e-mail access; built-in dictionaries, spellchecking, and word prediction; study tools such as highlighters and bookmarks; recorded voice notes; and teacher tools. This software is indispensable for accommodating LD students. ▪ Students are able to read any printed text independently. ▪ Students can complete the same reading assignments assigned to their peers from any written source. ▪ Students can customize the interface to meet their visual and learning needs. ▪ Access to several tools through 1 program maintains students' focus and increases productivity.
Concept Mapping Software (e.g., *Inspiration*)	Concept mapping software allows students to use concept maps and pictures to develop, plan, and organize their thoughts. ▪ Can be used to take notes or create outlines. ▪ Supports visual learning styles.
Writing Process Software (e.g., *Draft:Builder*)	Writing process software leads students through the draft-writing process (organizing ideas, taking notes, and writing the draft) and provides text-to-speech feedback. ▪ Displays a visual representation of the process and provides a framework. ▪ Students are less overwhelmed and more organized.
Other Resources & Expenditures	▪ Continued training and sharing of impacts. ▪ In-district technical support.

Note. See the appendix for hardware and software specifications, recommendations, and other details.

Step 4: Full Implementation

Step 4 provides comprehensive accommodation for all LD students served. To move to this step, you will need the following:

- In-district technical support.
- A commitment to teacher training.
- Funding for hardware, peripherals, and software. (See the appendix for cost estimates.)

Additional Hardware, Software, and Other Resources Needed for Step 4

Additional Laptop Computers	Purchase additional laptops (or upgrade from AlphaSmarts) to provide 1 laptop computer for each LD student plus 1 laptop for exclusive teacher use. Having and being trusted with their own laptop: ▪ Provides all LD students with portable accommodation. ▪ Helps students focus on schoolwork without the pressure of other students waiting to use the computer. ▪ Makes students feel worthy of, and more capable of, learning. Self-esteem may increase.
LCD Projector	An LCD projector projects whatever is on the computer screen onto a projection screen or light-colored wall. ▪ Facilitates whole-class instruction. ▪ Builds student confidence by allowing them to present their work to the class. ▪ Can be used to demonstrate technology at school board meetings, staff development trainings, and conferences.
Presentation Software (e.g., *PowerPoint*)	Presentation software allows students to present their ideas and writing in a more visual format. ▪ Can motivate some students because it is fun to use.
Electronic or Text-to-Speech Books (e.g., *Start-to-Finish*)	Text-to-speech allows text to be presented both visibly and audibly. ▪ Students can read text on grade level and thus participate in mainstream language arts classes. ▪ Students are more likely to completely comprehend the story. ▪ Voices unique to each character and background sound-effects make the stories engaging. Some reluctant readers are able to read and enjoy a novel for the first time. ▪ Because electronic books are available in series, they encourage students to keep reading. ▪ Some electronic books include chapter review activities that assess reading and listening comprehension.
Other Resources & Expenditures	▪ Continued training and sharing of impacts. ▪ Insurance and extended warranty on all equipment at time of purchase. ▪ In-district technical support. ▪ Develop support and funding for long-term maintenance and upgrades.

Note. See the appendix for hardware and software specifications, recommendations, and other details.

Step 5: Special Needs and Extras

Step 5 details additional technologies that fill specific needs or support specific teaching styles. These technologies may be added at any time, though we recommend you fully implement the first 4 steps before funding these items.

Additional Hardware, Software, and Other Resources Suggested for Step 5

Digital Camera	Using a digital camera, students can enhance their writing with photos, describe their ideas visually, or personalize their work. ▪ The use of a digital camera is highly motivating and may engage reluctant or unmotivated students to write.
Color Printer	Color printing can enhance the appearance of student work. ▪ Some students are more enthusiastic about written projects presented in color. ▪ Color printing can helps struggling readers discriminate between different ideas or headings in text and understand it better.
Electronic Handheld Dictionary (e.g., *Franklin*)	Dictionaries with text-to-speech capability help students understand what they read and correctly spell what they write without teacher assistance. ▪ Students can look up words using phonetic spelling. ▪ Electronic handheld dictionaries are small, portable, and easy to use.
Voice Recognition Software (e.g., *Dragon Naturally Speaking*)	Voice recognition software converts spoken words into text without a keyboard or a transcriber. ▪ Ideal for students with physical or motor impairments who cannot use a keyboard or students who are otherwise unmotivated to write. ▪ The software is continually improving, but it can be challenging to learn, must be trained to each student's voice, and requires some patience and tenacity. ▪ The software cannot correct organization or grammar; it does not replace instruction on the writing process and the mechanics of writing.
Picture-Supported Reading and Writing Tools (e.g., *Picture It, PixWriter*)	Picture-supported tools help struggling, handicapped, beginning, or limited English proficient readers associate graphics with text while the computer speaks the words to them. Students can read or write words, sentences, or stories. ▪ Teachers can customize the program to meet individual student needs. ▪ Beginning readers and writers can build confidence.
Writing Assessment Software (e.g. *NCS Mentor*)	Writing assessment software trains teachers to assess student writing uniformly. Can be used to measure and monitor student improvement and for students to assess themselves or their peers. ▪ All schools in Washington State have the NCS Mentor for Washington software, which teaches the rubrics used to score the state assessments.
Test-Taking Software (e.g., *TestTalker*, *Kurzweil*)	Test-taking software reads testing material aloud. ▪ Students can take tests independently. ▪ Students may find tests less intimidating. ▪ Teachers can prepare customized tests.

Note. See the appendix for hardware and software specifications, recommendations, and other details.

Sequenced Implementation Plan Overview: Implementing Technology for Students With Learning Disabilities

	Hardware & Peripherals	Software	Other Resources & Expenditures
Step 1: Getting Started	Desktop computer Printer Internet connection	Text-to-speech word processor (1 copy) or general word processor Keyboarding software (1 copy)	Teacher training on hardware & software, classroom implementation, and tech support Sharing of impacts; garner support and funding for move to next phase
Step 2: Minimal Implementation	*All of the above plus:* Laptop computers (preferred) or AlphaSmarts Wireless Internet access Headphones Networked infrared printer	*All of the above plus the following software for each laptop:* Text-to-speech word processor Word prediction software Keyboarding software	*All of the above plus:* Insurance and extended warranty on all equipment at time of purchase In-district technical support
Step 3: Moderate Implementation	*All of the above plus:* Flatbed scanner with optical character recognition (OCR) Large capacity data storage	*All of the above plus:* Scan/read software Concept mapping software Writing process software	*All of the above*
Step 4: Full Implementation	*All of the above plus:* Additional laptop computers (not AlphaSmarts; 1 per student + 1 for teacher) LCD projector	*All of the above plus:* Presentation software Electronic or text-to-speech books	*All of the above plus:* Develop support and funding for long-term maintenance and upgrades
Step 5: Special Needs and Extras	Digital camera Color printer Electronic handheld dictionary	Voice recognition software Picture-supported reading & writing tools Writing assessment software Test-taking software	

Note. Each step includes all hardware and peripherals, software, and other resources and expenditures from the previous steps.

Other Considerations

Teacher Training

We cannot understate the importance of teacher training and technical support to the success of implementing technology with students. Despite an increased emphasis on training and technical support throughout our project, participants continually recommended adding more.

"I am more willing to seek opportunities to have students write."

In addition to training on how to use, maintain, and manage the software and hardware, teachers will need to learn how to use assistive technology effectively with LD students. Originally, our project placed very little emphasis on teaching classroom integration of assistive technology, assuming that if teachers had useful technology at their disposal they would simply use it well with the students. But classroom observations, surveys, and interviews convinced us that the teachers did not know how to use the resources to their best advantage. For instance, teachers allowed students to use the computers only to type up final drafts rather than to assist with all stages of the writing process.

"Lessons are independent with less teaching. Students are less dependent on me."

We recommend allocating 25% of available funding to teacher training. For example, if you have $10,000 available for technology, spend only $7,500 on hardware and software and reserve $2,500 for training on its effective use. Potential sources of teacher training include the following:

- Classes offered by Educational Service Districts.
- Annual meetings such as the Northwest Council for Computer Education conference and the IDEAS conference on special education sponsored by Washington Educational Service District 101 and North Central Educational Service District.
- Regional and videoconference classes offered by SETC.

Technical Support

Adequate on-site technical support is essential to the effective use of technology in the classroom. Computers break down, freeze up, lose server connections, and exhibit a variety of

unwanted behaviors. Teachers cannot effectively manage technology—especially unfamiliar technology or technology used in new ways—without in-depth technical knowledge or regular, accessible technical support. It is difficult to begin using assistive technology with your LD students if your school or district is unable to provide this support.

Supplies and Maintenance

To ensure the maintenance of all hardware, we strongly encourage you to purchase extended warranties, theft and damage insurance, and antivirus programs at the time of purchase. Additionally, to ensure the continued use of technology, schools must be prepared to provide ongoing funding for technology supplies such as printer cartridges, batteries, and CDs.

General Recommendations

"[The students] are really pretty amazing people—don't be afraid. . . .not everything has to be perfect."

For many teachers, using technology to accommodate LD students requires a substantial change in their teaching methods and, consequently, can be intimidating or frightening. Our project participants typically responded by trying to learn everything about a certain technology before using it with students or leaving the technology in the box until they felt "ready." Retrospectively, the teachers consistently reported that they wished they had allowed the students to start using the technology right away. They discovered that they could learn to use the technology along with and from their students.

Additionally, our project teachers discovered the value of making presentations on their students' use of technology to other teachers, administrators, school board members, or community members. Through these presentations, the project teachers shared useful ideas with other teachers and parents and informed a wider audience about the needs of LD students. Additionally, the teachers increased their confidence in their own knowledge and skills.

"The board was impressed by the things we are doing in our classes. Our population of students doesn't always get much notice. This helped change that."

Finally, the LD students involved in our project mentored regular education students in the use of technology. This mentoring helped LD students reinforce their technology skills and regular

education students learn to use technology. The LD students also gained self-esteem by serving as experts and leaders.

Further Assistance

If you have questions, need help getting started, or want more ideas or information, please contact SETC or visit their website. The website also provides information about improving mathematics outcomes for LD students.

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400 E 8th Avenue, Ellensburg, WA 98926
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www.cwu.edu/~setc/

Appendix

- Hardware and Software Specifications
- Sample Computer Equipment Lending Agreement

Hardware and Software Specifications

Item	*Information & Recommendations*	*Quantity*	*Approx. Cost*	*Recommended Venders*
	STEP 1			
Desktop computer	Any desktop computer will suffice for Step 1. If your existing computer does not meet the following specifications, implementing later steps in the sequence will be difficult. MINIMUM SPECIFICATIONS: PC Platform Pentium type or higher 233 MHz; 256MB RAM; 250MB HDD space; CD-RW; Windows; Internet Explorer; SoundBlaster 16-compatible (or better) sound card with speaker; 800x600, 256 color-mode video card and monitor; modem, DSL or network connection. Apple Platform G3, CD-RW, Floppy Drive, Mac OS 9.	At least 1 per classroom	($900–$1500 if purchase is needed)	Contact SETC for recommendations 509-963-3354 Apple Computer, Inc. www.store.apple.com 800-800-2775
Printer	Any printer connected to the desktop computer will suffice for Step 1. If purchasing a printer, see *Networked Infrared Printer* under Step 2.	1 per classroom	N/A	N/A
Internet Connection	Internet access from the desktop computer.	N/A	N/A	N/A
Text-to-Speech Word Processor	*Write:OutLoud* by Don Johnston, Inc.	1 copy	$99 (volume discounts); $30 in WA though statewide purchase agreement	Don Johnston, Inc. 800-999-4660
Keyboarding Software	For laptops: *UltraKey* by Bytes of Learning. For AlphaSmarts: *KeyWords* SmartApplet by AlphaSmart.	1 copy	*UltraKey*: $40 per copy *KeyWords*: $36 per copy; $150 per 35 user pack	Learning Services 888-805-3157 Micro/k12connected.com 800-658-1000

STEP 2				
Laptop Computers	MINIMUM SPECIFICATIONS: Pentium Class; 128MB RAM; 4.3G HDD; 3.5 FDD; CD; minimum 11 inch TFT LCD screen; Ports: 2 USB, Serial, VGA; PS/2, RJ11, Double PCMCIA, infrared; integrated speakers/microphone; Windows 98 or later; Internet ready; touch pad; long battery-life; durable padded carrying case; external mouse may be needed for some students; anti-virus program; desktop security program. RECOMMENDATION: Sager brand; www.sagernotebook.com. Have your tech specialist create a custom "restore image" to quickly restore a malfunctioning computer to the original setup. EXTENDED WARRANTY: Purchase a 3-year extended warranty for each laptop computer. The warranty makes the repair process easy and cost-effective; 3 years is the approximate life of the computer. Express-exchange warranty takes 1-2 repair days and 2-4 shipping days. INSURANCE: Purchase a single damage and theft policy for all laptops. Insurance on a $1,500 laptop costs $60; repairing a broken computer screen, by comparison, costs $900.	As many as possible; ideally 1 per LD student	$1000–$1400 each + 3-year Extended warranty: $120 + Insurance: $4 per $100 of value; $100 deductible per incident Replacement Batteries: $85–$120	Contact SETC for recommendations 509-963-3354 Safeware Insurance 800-800-1492 x 2021
AlphaSmarts	RECOMMENDATION: AlphaSmart 3000IR (Infrared). Requires 3 AA batteries. Automatic shut-off ensures long battery life.	1 per student	$215 each	Micro/k12connected.com 800-658-1000
Wireless Internet Access	PC Platform IEEE Wireless Access Point with Wireless PCMCIA Card. Apple Platform Apple Airport with Apple Airport Card. We have not found wireless network access to pose a security risk; however, check with your school district regarding network policies.	1 hub per 150–300 foot radius + 1 card per laptop	IEEE: $175–$300 per hub + $40–$130 per laptop Apple: $125–$225 per hub + $40–$89 per laptop	Contact SETC for recommendations 509-963-3354
Headphones	Durability is the most important consideration. Earpiece covers may be foam (require periodic replacement) or vinyl (require periodic cleaning).	1 per student (for sanitary reasons)	$10 each	Contact SETC for recommendations 509-963-3354
Networked Infrared Printer	Infrared is necessary for direct printing from a laptop or AlphaSmart. RECOMMENDATION: HP LaserJet 2100 series (reliable; hassle-free tech support). EXTENDED WARRANTY: Purchase a 3-year extended warranty at the time of purchase. The warranty makes the repair process easy and cost-effective; 3 years is the approximate life of the printer.	1 per classroom	$650–$1100 + Extended Warranty: $170 Toner cartridges: $75–$125 each	Contact SETC for recommendations 509-963-3354
Text-to-Speech Word Processor	See Step 1	1 per computer	See Step 1	See Step 1

Word Prediction Software	For laptops *Co:Writer* by Don Johnston, Inc. For AlphaSmarts *Co:Writer* SmartApplet by Don Johnston, Inc.	1 per computer	$325 per copy (volume discounts); $86 in WA though statewide purchase agreement $139 per copy (volume discounts)	Don Johnston, Inc. 800-999-4660
Keyboarding Software	See Step 1	1 per computer	See Step 1	See Step 1
	STEP 3			
Flatbed Scanner with Optical Character Recognition	Must be capable high quality optical character recognition RECOMMENDATION: Contact publishers of your scan/read software (Freedom Scientific or Kurzweil) for current scanner recommendations.	1 per classroom	$150–$250	Contact SETC for recommendations 509-963-3354
Large Capacity Data Storage	CD burner or flash drive.	1 per desktop computer	$100–$400	LaCie www.lacie.com
Scan/Read Software	PC Platform *WYNN Wizard* & *WYNN Reader*. PC or Macintosh Platform *Kurzweil Scan/Read* & *Kurzweil Read.*	1 per computer	$995 & $425 per copy (volume discounts); $795 & $350 in WA though statewide purchase agreement $1,095 & $189 per copy	Freedom Scientific 888-223-3344 www.freedomscientific.com Zephyr-TEC 206-523-3586
Concept Mapping Software	For Laptops: *Inspiration* (Grade 6 or higher) / *Kidspiration* (Grade K-5) by Inspiration Software, Inc. For AlphaSmarts *Inspiration Outliner* SmartApplet by AlphaSmart.	1 per computer	$69 per copy (volume discounts) $39 per copy	Learning Services 888-805-3157 Alpha Smart 888-274-0680
Writing Process Software	*Draft:Builder* by Don Johnston, Inc.	1 per computer	$149 (volume discounts); $86 in WA though statewide purchase agreement	Don Johnston, Inc. 800-999-4660
	STEP 4			
Laptop Computers	See Step 2	1 per student	See Step 2	See Step 2
LCD Projector	RECOMMENDATION: Hitachi CP-S225WAT; 1400 lumens, 800 x 600 resolution. See WA Educational Service District #112 for other recommendations: http://edtech.esd112.org/bids/index.html.	1 per classroom	$1300–$1400	Contact SETC for recommendations 509-963-3354
Presentation software	*PowerPoint* by Microsoft.	1 per computer	$53 per license through statewide purchase contract for your state (disc and manual extra)	WSIPC / Dell Marketing 888-977-3355 x 40520
Electronic or Text-to-Speech Books	*Start-to-Finish* by Don Johnston, Inc.	1 per student	$65 per title; $174 per set of 3 titles	Don Johnston, Inc. 800-999-4660

STEP 5				
Digital Camera	RECOMMENDATION: Sony Mavica. Digital video cameras are not much more expensive and will take either still or moving shots. (RECOMMENDATION: Canon ZR series).	1 per classroom	$350–$500	Contact SETC for recommendations 509-963-3354
Color printer	RECOMMENDATION: HP InkJet 970 or later mode (reliable; ink replacement is comparatively economical; remanufactured ink cartridges are available at a reduced price.)	1 per classroom	$175–$220 + $32 per cartridge	Contact SETC for recommendations 509-963-3354
Electronic Handheld Dictionary	RECOMMENDATION: Speaking Homework Wiz Franklin KID-240JV (elementary students) or Speaking Merriam Webster Dictionary/Thesaurus Franklin MWS-1840JV (secondary students) by Franklin Electronic Publishers.	1 or 2 per classroom	$50–$80 each	Franklin Electronic Publishers www.franklin.com
Voice Recognition	*Dragon Naturally Speaking, Preferred Edition* by ScanSoft, www.scansoft.com	1 per classroom	$175–$210	Next Generation Technologies 425-744-1100
Picture-Supported Reading & Writing Tools	*Picture It!/PixWriter /PixReader* by Slater Software, Inc.	1 per user	$255 / $185 / $80	Slater Software 877-306-6968
Writing Assessment Software	*NCS Mentor* by NCS Pearson.	1 per school	$55; every school in WA owns 1 copy	NCS Pearson 800-662-0727
Test-Taking Software	*TestTalker* by Freedom Scientific. Can be purchased bundled with *WYNN*. Teacher edition comes with 1 teacher copy and 1 student copy.	1 per student	Teacher edition: $399; Student edition: $249 (volume discounts)	Freedom Scientific 888-223-3344 www.freedomscientific.com

Computer Equipment Lending Agreement

We at _____ are fortunate to have laptop computers available to enhance student learning. These computers are lightweight and portable, allowing your child to take a computer to different classes and home after school. The computers are fairly rugged if treated appropriately, and your child will be trained in their use.

RULES FOR COMPUTER USE

Please read the following rules with your child. If your child agrees to follow the rules and you agree to take responsibility for the computer while it is in your child's possession, sign the computer use agreement below.

1. Treat the computer as a valuable tool.
2. Do not drop the computer.
3. Do not eat or drink near the computer.
4. Do not allow the computer to get wet.
5. Protect the computer from direct sun and extreme heat.
6. Protect the computer from cold and freezing conditions.
7. Keep the computer clean.
8. Do not use chemical cleaners on the computer screen.
9. Do not loan the computer to anyone. The computer may be used only by the student to whom it is checked out.
10. The computer should be used primarily for schoolwork.
11. If you have a technical problem with the computer, call your child's teacher immediately:

Teacher's Name _____ Phone_____

COMPUTER USE AGREEMENT

Equipment Description _____ Estimated Value_____

Computer Serial Number _____ School ID Number _____

Checkout Date _____ Estimated Return Date_____

I have reviewed the rules above and agree to follow them while the computer is checked out to me. I will return the computer and any other equipment to the school whenever asked to do so by my teacher.

Student's Name _____

Student's Signature _____ Date _____

I have reviewed the rules above and agree to ensure that my child follows them while the computer is check out to him or her. I understand that the computer referenced above is my responsibility while checked out by my child. I will ensure that its condition is maintained and that the computer and any other equipment are returned to the school whenever requested by my child's teacher. If the computer is lost or stolen, I will be responsible for its return or replacement.

Parent's Name _____

Parent's Signature _____ Date _____

Phone Number(s) _____