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INTRODUCTION

Reading is fundamental to academic success, high school graduation, and positive transition to employment or post-secondary education. Unfortunately, many students with disabilities continue to have significant reading deficits when they enter high school despite the best efforts of special education intervention during their elementary years. These students frequently fall behind and become at risk for dropping out of school, failing to gather enough credits to graduate, or otherwise failing to successfully transition to employment or post-secondary education. This is especially true for students with disabilities such as traumatic brain injury, autism, dyslexia, and other disabilities that impact reading proficiency.

Special education remediation has been the traditional intervention used to address reading deficits in high school students with disabilities. However, students with disabilities often realize maximum benefit from remediation by the time they reach high school. Other interventions include providing specific academic supports and enhancing study skills. Even these techniques are frequently ineffective in making students independent, successful learners. These students continue to struggle with academic content, reinforcing a sense of failure, and become less engaged and motivated at school.

Rarely is reading compensation through text-to-speech (TtS) software and accessible instructional materials (AIM) considered a viable intervention for these students. This technology allows print information from textbooks, worksheets, tests, or notes to be scanned or obtained in digital format and then "read aloud" by a speech synthesizer. This means students can work free of human assistance (no more "oral reading" accommodations). The speech output generated by the software shifts the skill demand to listening comprehension (receptive language) and the student is able to focus on academic content rather than struggling with reading decoding, fluency, or comprehension problems. The software is customizable to match the needs of each student. Highlighting of text helps visual tracking; word prediction supports written expression; and a built-in dictionary, thesaurus, and other multi-modal tools are available within most robust TtS software applications.

The use of accessible instructional materials (AIM) and TtS software as a compensatory strategy for secondary students with reading deficits is well supported in current research literature. Dr. Marshall Raskind provides an excellent overview of that research base in an article entitled Research Trends: Reading Machines for Students with LD, Great Schools Inc., 2008, found at http://www.schwablearning.org/articles.aspx?r=984. Research data is also available from the Iowa Text Reader Longitudinal Study on the efficacy of text-to-speech tools in increasing both reading fluency and comprehension levels (see http://www.kurzweilaustin.com/K3000/Studies/Iowa_Text_Reader_Study.pdf). A recent article in the journal ADVANCE for Speech-Language Pathologists and Audiologists (June 15, 2009) provides additional perspectives on the use of accessible instructional materials as a

"self-accommodation" for students with dyslexia (see Bright Students with Dyslexia at http://speech-language-pathology-audiology.advanceweb.com/ebook/magazine.aspx?EBK=SP061509#/1/).

It is important to understand the fundamental difference between using TtS/AIM as a compensatory strategy for specific students and using TtS/AIM as a general instructional technique for all or most students in a class, grade, building, or district. Both are excellent interventions that can support student achievement, but each has a different primary focus: one on compensating for skill deficits, the other on supporting skill development. In addition, the two approaches are different in application: one is used primarily with specific students who have unique learning needs and the other is typically used with large groups of diverse students.

State and local education agencies have recently renewed their attention to accessible instructional materials as a result of new IDEA requirements for schools to purchase textbooks and other core instructional materials from publishers who make their content available in electronic form—specifically, the National Instructional Materials Accessibility Standard (NIMAS). This focus on accessible instructional materials has created an environment in which increased use of TtS assistive technologies is supported. A number of new reading devices have become available that use electronic text and new research is becoming available. Humanware, a company that produces such a reader, has recently published an article in their newsletter that provides data on the educational impact of access to audio and visual text on college bound students with learning disabilities (see http://www.humanware.ca/web/en/Newsletter/15.html).

Adding support to recent research findings are increasing numbers of positive personal experiences and a groundswell of advocacy on the part of individuals with reading disabilities. Once students have experienced better understanding of course work; improved grades; increased enjoyment of reading, self-esteem, self-confidence, motivation, and inclusion; they frequently become self advocates for access to TtS and accessible print materials. These self-determination skills can prove invaluable in transitioning to post-secondary and employment settings. In addition, first-hand experience shows that students once dependent on human assistance are able to work independently and more efficiently with TtS and accessible materials, thus freeing teachers and paraprofessionals to devote their time and energy to instruction.

A coalition of organizations, the Reading Rights Coalition, was recently formed to advocate on behalf of individuals with disabilities for access to text-to-speech and accessible electronic text. The Reading Rights Coalition believes access to the written word is the cornerstone of education and democracy and advocates for access to electronic formats and TtS

so that people with disabilities have the opportunity to enjoy books on an equal basis with those who can read print. For more information on the Reading Rights Coalition, see the following web page: http://www.readingrights.org/equal-and-not-separate-reading-rights.

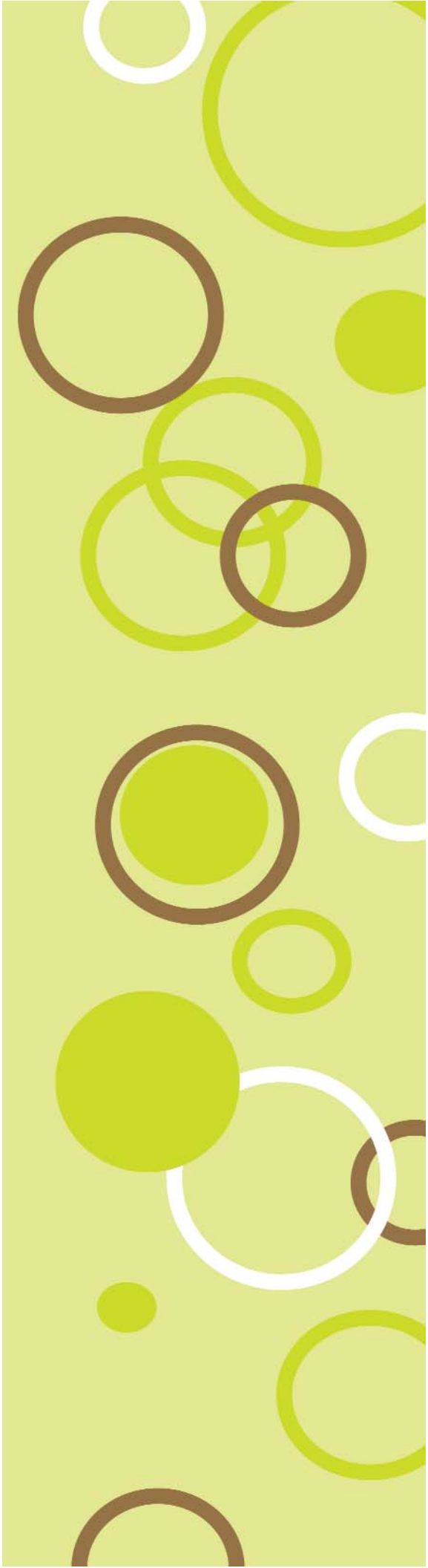
For schools looking for ways to improve academic achievement and persistence to high school completion, utilization of TtS technology paired with accessible instructional materials (AIM) is worth serious consideration. This implementation guide was developed to support use of TtS and AIM as a compensatory strategy at the secondary level. It is based on the collective experiences of educators in local school districts who implemented pilot TtS/AIM projects. These projects provided text-to-speech technology and accessible instructional materials throughout the day to individual students and tracked educational outcomes. Accessible instructional materials were acquired and provided through a variety of methods in conformance with copyright provisions resulting in comprehensive access to print content.

The content of this guide was reviewed and vetted by practitioners in the field and includes extensive resources that address student selection criteria, technology considerations, training needs, IDEA requirements for accessible instructional materials and copyright provisions. It is organized into three sections: Pre-Implementation, Implementation, and Post-Implementation; providing information and resources in support of each phase. In addition, the guide includes a set of data collection tools that can be modified to meet local needs, a set of checklists that can be used during implementation, a DVD that can be used to garner buy-in for implementation, product descriptions for commonly used TtS systems and support products (e.g., scanners and conversion software) along with references and policy resources related to obtaining and producing AIM. States will need to add their own state policy information to make the guide appropriate for their school districts. Missouri-specific policy information is included as an example.

It is hoped this guide will serve as a resource and catalyst for schools interested in implementing TtS and AIM in secondary classrooms.

SECTION ONE:
PRE-IMPLEMENTATION

- Text-to-Speech as a Compensatory Accommodation
- Potential Barriers/Implementing Change
- Building Support
- Key Personnel Roles and Responsibilities
- Initial Investment Decisions
- Selecting Students
- Policy/Legal Issues



I. PREPARING FOR IMPLEMENTATION

Text-to-Speech as a Compensatory Accommodation

Text-to-speech (TtS) software allows print information (once converted to a digital format) to be read aloud to students, allowing them to work more independently and efficiently. The software is customizable to match the needs of individual students. Highlighting of text helps visual tracking, word prediction assists with written expression, and built-in dictionary and thesaurus tools and a host of other multi-modal tools are accessible within text-to-speech software.

A number of text-to-speech software programs are commercially available and several share-ware programs exist that can be accessed online. Major commercial products such as Read & Write Gold, Kurzweil 3000, Read OutLoud, and WYNN are frequently used in schools, primarily because they offer a robust array of tools and the products' companies provide high levels of technical support.

In addition, there are a handful of stand-alone readers that provide simultaneous access to speech and print output, such as Victor Reader, Mobile Reader, and ClassMate Reader. Additional information on products available to support audio output can be found in Appendix C of this guide along with at-a-glance guides to support initial product selection and use.

When using TtS as a compensatory accommodation, a secondary student must have access to a system ubiquitously throughout the school day and at home to be used with all print instructional materials to provide comprehensive access to the curriculum. Such a system includes a computer, TtS software, a scanner, and a printer. Print instructional materials must be made available in accessible electronic form (such as a DAISY format file) or converted into electronic form through the use of scanning. Additional information about resources for electronic text and copyright provisions can be found in section II: Implementation.

Potential Barriers/Implementing Change

Implementing text-to-speech software as a compensatory strategy for students who are not visually impaired generally faces two philosophical barriers that must be addressed prior to implementation:

1) Typically there is great reluctance on the part of educational staff to compensate for reading deficits. Educators tend to persist in focusing on remediating reading deficits and are frequently unwilling and/or unable to implement a compensatory strategy. Some educators view compensatory technology as an "unfair advantage" and are not supportive of its use.

2) Frequently there is anxiety on the part of administrators about the number of students who will benefit from this particular compensatory strategy. Many administrators are fearful of being inundated with requests for computers with TtS software for all special education students. Providing this volume of equipment would obviously result in overwhelming equipment costs. In addition, staff time required to address such requests would further drain resources. Schools also have concerns about the expertise necessary to support such technology on a broad scale and those associated costs.

To address the reluctance of educators to embrace compensatory strategies, groundwork must be done with all stakeholders to clearly explain the use of TtS/AIM and to individually address concerns. Specific suggestions to address this potential barrier can be found in the next section on Building Support.

To reduce anxiety among administrators, specific information should be provided about student characteristics that are predictive of success with TtS. For example, students need good oral language skills to use TtS effectively as a compensation mechanism. Usually such students have oral reading accommodations in their IEPs and evidence already suggests that they benefit greatly from the accommodation. All relevant factors together provide reassurance that there are reliable ways to identify students for whom this intervention is appropriate and those for whom it is not. More information on student selection and data analysis can be found in subsequent sections of this guide.

A more generalized potential barrier is the ever-present tendency of people to maintain the status quo rather than to try something different. To support implementation of any change, the following key steps are critical:

1) Engage in a planned, organized process for implementation. A popular aphorism states that if you fail to plan, you plan to fail. A systematic planning process is supported through the materials in this guide.

2) Ensure details and processes of the intervention are consistent with other current initiatives and policies (synergistic support). TtS intervention is a “perfect fit” with a number of initiatives in general and special education, such as Response to Intervention, Tiers of Intervention, IDEA transition goals, IDEA requirements for accessible instructional materials and access to the general education curriculum. Districts should be able to identify a number of local initiatives that are aligned with TtS intervention.

3) Actively involve all stakeholders and understand each perspective. Building support of key personnel is addressed in the next section of the guide and is critical to success.

4) Have measurable outcomes. Desired student outcomes can be clearly defined and measured both pre- and post-intervention. Potential data elements are identified in the Implementation section and sample data collection forms are proved in Appendix A.

5) Celebrate incremental/monumental progress. Develop and implement a plan for sharing positive outcomes with parents, the school board, and the public. Too often the only news heard about education is less than positive and when an intervention is successful it needs to be shared.

Building Support

The first step in building support is to identify one or two key staff members who will act as change agents, organizers, and coordinators and who are primarily responsible for implementing the TtS/AIM intervention project. Individuals selected should be ones who have a professional interest and commitment to utilizing TtS/AIM as a compensatory strategy for secondary students and who have expertise in assistive technology (e.g., special education teacher, occupational therapist, etc.) These individuals need to be provided with sufficient professional development, planning, and preparation time to undertake coordination of the TtS/AIM project. They will need to have or acquire specific knowledge and expertise about hardware and software needed for the project so they can support installation and occasionally help troubleshoot problems.

Once key coordinating personnel are identified and secured, support must be garnered from a variety of stakeholders. Successful introduction of a TtS/AIM project begins with careful preparation that includes building support among those critical to successful implementation. School board members, district and building level administrators, technology staff, teachers, support staff, parents, and, most importantly, the students themselves should be brought into the fold, introduced to TtS and AIM, and informed of project goals and proposed outcomes.

A successful implementation is also tied to the support of district information technology coordinators. Approaching these individuals early on and introducing them to the concept and associated technical needs can be invaluable once implementation transpires. After all, they will be responsible for software and hardware compatibility issues, network support, etc.

The DVD accompanying this guide has been developed to foster understanding and acceptance of TtS/AIM as an appropriate and effective intervention for students with disabilities. It can be a useful aid when approaching stakeholders. The DVD highlights professionals and students in several Missouri districts implementing TtS/AIM. It showcases academic achievements, highlights administrative concerns, and catches the excitement of students who have achieved new levels of success through the use of TtS/AIM.

Finally, there is considerable value in starting small with a handful of students. By doing so, staff can gain greater familiarity and expertise with software and hardware and how to ob-

tain and to produce AIM. This allows staff to encounter and resolve any kinks that might arise during implementation before expanding the project to a larger number of students.

Key Personnel Roles and Responsibilities

School districts with a successful track record in using TtS and AIM have found it helpful to develop a steering committee composed of leadership staff such as a project coordinator, a special education administrator, a school principal, and district information technology (IT) staff. The primary role of this group is to foster communication, provide support for the project, and assure its smooth implementation.

Overall, this group is responsible for—

- Establishing timelines for various phases of the project
- Arranging for and monitoring teacher and student training
- Providing additional in-classroom and in-service training
- Addressing problems as they arise
- Overseeing scanning, sharing of digital materials and otherwise acquired digital materials
- Communicating with appropriate staff about students
- Ensuring project goals are met
- Collecting, evaluating, and compiling data
- Updating project team, school, and parents about project progress

In addition to a steering committee, additional key personnel need information and support in understanding expectations for their participation as part of the implementation team. These include teachers, therapists, and paraprofessionals who provide instructional services and supports to participating students, central office administrators who will need to provide overall financial and implementation support, and participating students and their parents.

Identification of a project coordinator who has a reasonable level of expertise in assistive technology and accessible instructional materials is essential. Without some existing expertise and a willingness to learn “whatever it takes,” project coordinators will not be able to address the myriad of issues that arise during implementation. This role is critical to keeping activities moving forward during all phases of the project. Successful pilot schools have employed special education teachers, speech-language pathologists, and occupational therapists as project coordinators. A candidate’s educational background is not as important as are their skills, interest in, and commitment to the project.

Because a student's TtS/AIM system will go between school and home with the student, an emphasis on educating parents about TtS/AIM, its intended outcomes and school computer usage policies is necessary. (Additional information about parental releases can be found later in this section.) Some parents may be reluctant to allow their children to utilize TtS and AIM, seeing it as an undesirable "crutch" or unwanted substitute for "real reading." Successful strategies for addressing these concerns include talking with parents about how children learn to read and improve their reading ability by listening to others read and by comparing use of TtS technology with other commonly used technologies such as eyeglasses or calculators.

Each district will need to identify staff responsible for obtaining textbooks and other instructional materials from publishers since accessible materials must either be obtained or produced for use with TtS systems. In some districts this will be a curriculum coordinator/administrator and in other districts an academic department head may have this responsibility. In addition, staff responsible for addressing copyright issues in the district, such as library or media specialists, should be involved to support production and/or acquisition of accessible instructional materials as needed. More detailed information on obtaining and producing AIM can be found in section II: Implementation; Electronic Text and in Appendix E: Policy Resources.

Each of the key stakeholder groups involved in a TtS/AIM project have a distinct role and function in implementation. Appendix A includes a set of documents that describe expectations for major stakeholder groups and provides suggestions for ways to make implementation successful.

Initial Investment Decisions

The basics of implementing TtS/AIM as a compensatory strategy for secondary students with disabilities includes providing a laptop computer pre-loaded with an operating system, software package (e.g., Microsoft Office) and text-to-speech software. Additionally, student access to a traditional printer and a scanner is vital. One printer and one scanner per building may be adequate, assuming students have priority access to it throughout the school day.

The primary costs associated with a TtS/AIM project are accrued up front. However, in developing a budget, it is important to plan beyond initial purchase and installation to address needs two and three years out. Beyond the initial investment, costs accrued might include training, maintenance, and product upgrades. Since implementing a TtS/AIM project is almost exclusively a "one-time" investment, it is perfectly suited to using American Recovery and Reinvestment Act IDEA funding.

Selecting Hardware

Almost all commercially available laptops are compatible with TtS software. District IT specialists should be consulted when selecting computers in order to assure compatibility with existing IT infrastructure, district buying limitations, security concerns, and the like.

Basic system requirements can be found on the web sites of the leading TtS vendors. Generally, most systems should be sufficient if they meet the following requirements:

Tts/AIM System Requirements

Processor	2.4 GHz dual-core
Memory	2.0 GB
Hard Disk Space	160 GB
Operating System	Windows XP or Vista (or Windows 7)
Video RAM	3MB
Screen Resolution	800 x 600 pixels
Scanner Compatibility	TWAIN compliant
Audio File Creation	MP3 encoder and/or Windows Media Player
Required Accessories	USB ports, CD drive, speakers, soundcard, keyboard and mouse (or alternatives as needed)

A general rule of thumb when purchasing systems is to buy twice the minimum requirements. Since systems will be used for two to three years, this helps assure adequate capacity for loading and running additional software required for scanning and similar activities, among other things.

Using TtS on desktop computers is not a viable option for this type of program. It is critical for students to be able to move freely, independently, and as inconspicuously as possible while having their TtS system readily available throughout the school day. This is not possible with a desktop computer.

A question often posed is whether to consider traditional laptop/notebook computers or tablet computers. Generally, advantages of tablets include durability, lighter weight, a spill-resistant keyboard, and long battery life. Tablets also allow for conversion between tradi-

tional laptop mode and tablet mode, plus support for handwriting recognition (allows students to directly write on the screen). One major disadvantage to tablets is their greater cost.

By comparison, traditional notebook computers are less expensive, have a bigger screen size for a comparable price, and generally have faster input speeds than tablet computers. If at some point the computer will be used for other purposes, traditional laptops are easier to pass on to other users due to the use of a traditional keyboard and mouse input over a tablet's on-screen handwriting recognition. Overall, the systems are equal in terms of the types of applications and general operating features they support. The final decision as to which system to utilize should be based on district needs and preferences.

Netbooks are the fastest growing segment of the computer market. Essentially a small laptop running a full Linux or Windows operating system, Netbooks are an extremely attractive option due to their low cost (generally one-half to two-thirds cheaper than full size laptops and/or tablet computers. To keep costs low, many Netbooks are loaded with the Linux operating system, which may not be compatible with some TtS software packages. Most have only 1 GB memory, lack a built-in optical drive, have 8- to 10-inch screens, and smaller-than-normal keyboards. In addition to an attractive price, Netbook capabilities are surprisingly robust: they are portable, and fully loaded with USB ports, webcams, card readers, and built-in Wi-Fi. As with any computer purchase decision, it is important to make an evaluation based on the system's configurations in relation to the demands of chosen TTS software and related peripherals.

Selecting Scanners

All students using text-to-speech software need ready access to a scanner in order to convert print material such as homework assignments, worksheets and similar items into an electronic format. The fact that each student needs access to a scanner should not be misconstrued as each student needing their own scanner. One or two scanners per building, centrally located and available for student use can suffice. Chances are that an adequate scanner or two are already present in the school that might be made available for use by students.

Purchasing a scanner, if necessary, should be a fairly easy process. Nearly all commercially available scanners are compatible with any of the commonly used text-to-speech programs. Most software manufacturers track the compatibility of their products with various scanners on the market and keep updated lists of acceptable scanners on their web sites. Chances are high that if a scanner is TWAIN compliant, it will work with chosen software.

There are three main types of scanners available: flatbed, scanners with automatic document feeders, and all-in-one scanners. Flatbed scanners are the cheapest, most versatile,

and easiest to use. Currently, flatbed scanners cost between $100 and $300.

Scanners with automatic document feeders allow a user to place multiple pages in the scanner rather than one page at a time. The papers are automatically fed through the scanner, allowing for easy scanning of many pages at a time. This reduces the amount of time spent scanning since it requires less human intervention.

All-in-one scanners typically include a scanner, copier, fax machine, and printer. Their primary asset is that combining features takes up less space. However, if a scanner is only intended for student use, an all-in-one scanner is probably not a cost-effective option.

Selecting Software

While there are a wide variety of text-to-speech software programs available, currently four commercial programs seem to predominate in the marketplace. These include WYNN, Read & Write Gold, Read OutLoud, and Kurzweil 3000. These four programs are the most feature-laden and most compatible with trends in accessible instructional materials production.

Arguably, there is no great difference between programs, but issues of compatibility with district operating systems, visual layout, ease of use, training materials, etc. should be reviewed for each product when making a selection. Other features to examine include preparation of digital text, file types read, speaking, and customization of text. Demonstration copies of each software product can be obtained for comparison before a selection is made.

Individual copies of TtS software can be purchased, as can site licenses that allow for installation on multiple computers within a district. The per-student cost of purchasing a site license is less when providing TtS for a half-dozen or more students and allows universal access from any location.

Regardless of the TtS software used, systems will also need to be outfitted with a web browser, word processing software, and any other software widely utilized by students in the district. It is also advisable to consider the installation of virus protection software and security software that monitors Internet activity and prevents access to inappropriate web sites.

It is advisable that districts consider obtaining conversion software and/or software that allows tests, worksheets, and other assignments to be created in accessible formats. These are separate programs housed on a district's server for use by staff, not student TtS system programs.

Dolphin Easy Converter is an example of a conversion program. With it, scanned and electronic materials can be translated into a variety of accessible formats. Teacher-produced worksheets, for instance, could be scanned once, converted into different formats, and accessed multiple times. Overall, ease of production and increased access to materials is achieved since creation of multiple-format materials decreases redundant effort in creating accessible materials.

The purchase of software that allows PDF files to be made accessible should also be investigated. PDF, or Portable Document Format, is widely used. It is not, however, always readily accessible. Within schools, publisher-produced tests and worksheets, along with teacher-developed materials, are commonly created using PDF. TtS software can read PDF files, but due to the inherent inaccessibility of PDF, students are unable to alter the document. Therefore, they are unable to fully utilize their TtS system for all of their academic tasks. Adobe Acrobat 9, Adobe Acrobat 9 Pro, and Acrobat 9 Pro Extended enable users to either make existing documents accessible or create accessible materials.

Overall Costs
Based on the above hardware and software needs, a rough budget for a project beginning with a half-dozen students outfitted with a tablet computer, TtS software, a scanner, printer and training materials is approximately $2,000 per student.

Selecting Students

The freshman and sophomore years are ideal for introducing TtS/AIM as a comprehensive compensatory accommodation. It is around this time that reading levels, workloads, and need for independent print access increase to a level that makes such an accommodation throughout the school day essential to academic success for some students.

Based on experience with TtS/AIM implementation, the following student characteristics appear to be those most indicative of success with this intervention:

- General cognitive ability within the average range
- Adequate listening comprehension skills
- Communication arts, reading, and written expression achievement scores significantly below age- and grade-level expectations
- Substantially limited reading/writing proficiency that has been addressed through special education (IEP) intervention in the past

- Generalized perception of being "at risk" for dropping out of high school, not persisting to high school completion, or failing to accumulate sufficient credits to graduate in a timely manner as a result of reading/writing deficits

- Past history of effective use of "oral reading" accommodations that are provided by human assistance (paraprofessionals, peers, teachers, etc.) or by assistive technology solutions

It should be pointed out that TtS/AIM as a comprehensive compensatory strategy can be successful for students with a variety of disabilities who display these common characteristics. Disability category is not the critical issue; student characteristics are the determinative factors.

Policy/Legal Issues

A number of district policies need to be in place (and understood) prior to implementing TtS/AIM as a compensatory intervention. Students will need to have access to the technology throughout the school day and at home to complete school work. District policies will need to address liability issues associated with student responsibility for technology use throughout the school building, transporting technology from school to home and back, as well protocols for Internet access and security. District policies will also need to allow students to access scanners when needed, which may require leaving a classroom for a central site where the scanner is located.

Depending on district policies, it may be worthwhile to have parents of participating students sign an agreement that outlines their understanding of the goals of using a TtS system, commitment to ensuring compliance with their districts computer usage policies, and vigilance in safeguarding district computer property. If a district foresees sharing data and other findings with individuals outside of the district, local district policy should be followed in obtaining parental consent and releases. Sample technology usage agreement forms/letters can be found in Appendix A.

Districts will need to determine how they want to document use of TtS/AIM as part of IDEA procedures—in particular, what kind of information to include in a student's IEP. As most schools understand, determining when assistive technology and/or accessible instructional materials are necessary for a "free appropriate public education" (FAPE) can be a complex decision. For many students, providing TtS/AIM ubiquitously across the entire school day and outside of the regular school day to do homework assignments will exceed the FAPE

requirement. As a result, it would not need to be specified in the IEP. It is more likely that use of a more general "oral reading" accommodation would be required for specific activities which could be delivered through a variety of mechanisms such as TtS/AIM, human readers, and other alternatives. The IEP must include the accommodation necessary for FAPE in accordance with the policies of the state and district for IEP content.

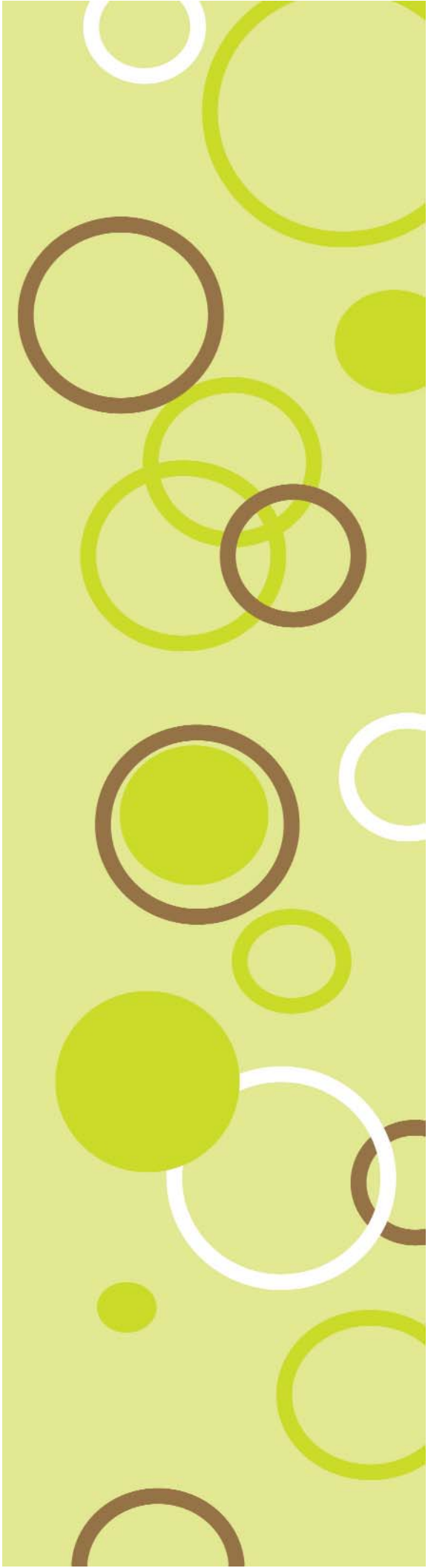
Districts need to remain cognizant of the fact that if TtS/AIM is required for FAPE, then it must be provided. If TtS/AIM is included in a student's IEP and the IEP specifies that it will be available to the student throughout the entire school day and outside of school, then access to the TtS/AIM system becomes part of FAPE and must be provided to comply with IDEA. For these students, use of a TtS/AIM system becomes an entitlement until the IEP is revised to allow for other accommodations or intervention alternatives.

State policies related to use of TtS as an accommodation on state mandated assessments must be understood and implemented as required. Unfortunately at this time many federally mandated standardized tests restrict the use of "read aloud" accommodations for communication arts assessments. Schools will need to understand and implement their own state policies on accommodations. Hopefully district testing policies that are not connected to state mandates do allow for use of TtS to the maximum extent possible on all forms of assessment so long as it does not invalidate the construct of the assessment. A more extensive discussion about standardized testing accommodation issues can be found in section III.

Similarly, state-specific procedures for accessing filesets from the National Instructional Materials Access Center (NIMAC) should be well understood and implemented, along with copyright provisions and general eligibility requirements for AIM. A full discussion of electronic text issues can be found in the next section of this guide and resource information on these issues and specifics related state policies can be found in Appendix E.

SECTION TWO:
IMPLEMENTATION

- Baseline Data Collection
- Training
- Electronic Text
- Stigma Issues and Student Support



II: IMPLEMENTATION

Baseline Data Collection

To determine outcomes and improve implementation, it is critical that baseline data be collected that aligns with the project's overall plan for data collection and post-intervention analysis. While each school can tailor data collection, some basic data elements should be considered. First and foremost, a positive change in academic achievement is desired. This can be measured through existing achievement measures and progress monitoring systems already available in most schools. Other important areas of positive change that should be measured are improved attendance, reduction of time in special education, decrease in amount and degree of human assistance needed, increase in parent satisfaction, and positive transition outcome. All of these are directly related to indicators established by the Office of Special Education Programs (OSEP) for State Performance Plans and are essential when reporting positive outcomes for special education programs. In addition, underlying changes in student self-esteem, self-confidence and overall school engagement should be documented.

Baseline data should include student characteristics information along with current educational performance measures. Suggested data elements include the following:

Data Elements I

Data Element	Measurement	Purpose
Disability	IDEA category	Descriptive
Age/grade	Secondary school grades 9–12	Descriptive
Oral language level	Individual test standard scores	Student selection criteria
Reading level	Individual test standard scores	Student selection criteria
Cognitive level	Individual test standard scores	Student selection criteria
Oral reading accommodation	Rating scale	Student selection criteria
At risk characteristics	Description	Student selection criteria

Data Elements II

Data Element	Educational Measurement	Purpose–Pre/Post Change
Academic achievement	Achievement test proficiency	Improved achievement scores
	Grades for core academic classes	Improved grades
Educational competence	Self and teacher rating (self-confidence; competence)	Increased level of self-confidence; perceived competence
Attendance	Ratio of days attended to total days of school for year	Improved attendance
Time in special education	Minutes per week in special education from IEP	Reduced time in special education
Amount of human assistance	Rating scale; identification of IEP accommodations	Decreased human assistance; decreased IEP accommodations
Parent satisfaction	Rating scale or count of unsolicited positive contacts	Increased parent satisfaction; increased positive contacts
Transition goal	Identified from list of goals on data form (IDEA outcomes)	Positive transition goal; achievement of transition goal

Sample student data collection forms can be found in Appendix B. The project coordinator or another appropriate staff person within the district should be responsible for coordinating all data collection activities.

Training

It simply is not possible to over-emphasize the importance of effective and adequate training in successful implementation of TtS/AIM. Districts wishing to launch model programs should prepare to invest in training both at the outset and over the life of the project.

TtS System Training

Prior to students using their systems in class, it is important to devote adequate time to training with text-to-speech software, the use of related peripherals and basic computer literacy. In addition to the students themselves, school personnel will need to become familiar with TtS systems and scanning to produce accessible materials as needed. The particular needs of a district will vary depending on text-to-speech software purchased, computers used, scanners available, etc. There are, however, a handful of core skills to develop and learning objectives to achieve. A potential training sequence might resemble the following:

Module 1: Basic Skills

Learning Objective: Computer and peripheral features and functions

- Introduction to computer systems
- Introduction to laptops
- Introduction to basic software (Word, Internet Explorer, Excel, etc.)
- Operation of peripherals (scanners, printers, et al.).

Module 2: Introduction to TtS

Learning Objective: Examine TtS program in general; reading features, writing supports, and study skills in particular

- Overview of program and features
- Understanding reading tools
- Understanding writing tools
- Understanding study tools
- Understanding other program tools

Module 3: Speech Options

Learning Objective: Access tools that allow for customization of speech and on-screen highlighting

- Reading text
- Voice options
- Speech highlighting options
- Screen reading features

Module 4: Document and File Support

Learning Objective: Access, convert, and read digital materials

- Introduction to file types and national repositories for files
- File conversion software and conversion techniques
- PDF and other formats
- Reading DAISY files produced by Bookshare.org

Module 5: Scanning to Create Accessible Instructional Materials (AIM)

Learning Objective: Create usable digital materials via scanning

- Scanning in TtS
- Scanning strategies
- Scanning clean-up tips

Module 6: Converting Text into Speech

Learning Objective: Create learning materials in audio formats

- WAV
- MP3
- Proprietary audio formats

Training can be scheduled in a variety of ways to best meet individual school schedules and needs. In addition to introducing basic elements of hardware and software, training provides "ground level" information about how to access and/or produce AIM to use with TtS systems. This general training sequence would be beneficial for all those involved in implementation, including students and teachers, administrators, parents, and information technology staff who are responsible for supporting student use of hardware and software.

Obtaining AIM Training

For district personnel who are responsible for obtaining AIM from external sources, specific training in IDEA provisions and state policies/procedures is critical. Different state structures have been established to implement IDEA requirements and to support access to national repositories of electronic file formats. In addition, local districts will have different staff responsible for seeking out and obtaining AIM.

To implement an efficient process for obtaining AIM when available from external sources, training should include the following topics:

- IDEA provisions related to NIMAS filesets and textbook purchasing
- State-specific procedures for accessing the NIMAC repository (authorized users, etc.)
- State/local interpretations and application of copyright exemption provisions
- Accessing national repositories such as Bookshare
- Working with publishers to obtain AIM

  (See the section on electronic text for specific about core training on obtaining AIM.)

Curriculum Integration

Finally, an equally important but often overlooked consideration is training staff in how to integrate TtS software into their curriculum. Districts might be wise to consider hosting a half-day workshop focused on this facet. Participants would arrive with sample instructional materials from their curriculum and would learn how to how to create AIM using scanning and editing and how application of various software features enhances student understanding and comprehension.

Training Format

There are a variety of different training programs that can be utilized to become proficient with a TtS product. Most have been developed by the manufacturer and are tailored to suite their particular products. The overall aim of the training program is to learn practical application of the software across instructional settings by exploring program features and methods for effective application.

Training supports, made readily available for free from manufacturers include training guides, online help, self-paced video modules, and training CDs. Districts considering professional training can have on-site training, webinars, and conference events. Finally, some companies offer certified trainer programs in which district staff receives intensive training regarding a product, are certified as trainers by the company, and return to their districts to train others.

Regardless of how training is delivered, it is important for participants to have "hands-on" access to a computer, text-to-speech software, and accessible instructional materials—to ensure a reasonable degree of comfort when using the product. Making sure all implementing staff have a good basic level of understanding and with a few people with enough skill to serve as in-house experts, is a solid investment for success.

Electronic Text

Obtaining or producing accessible instructional materials (in appropriate electronic file formats) to be used with TtS systems can often be a daunting task. One or more staff within a district will need to become familiar with the mechanisms available to obtain AIM and how the district will produce AIM when it is not available.

For students using TtS systems, instructional materials need to be in an electronic form that can be processed by chosen technology (software and/or stand-alone reader). Materials that are "teacher-made" are likely to be available in an electronic file (MS Word, Word Perfect, etc.). As long as a file uses standard formatting, such as headings, page numbers, and alternative text for graphics, it can be readily converted into a form that can be used by a TtS system. Schools that utilize a majority of teacher-made and online instructional materials will typically have fewer challenges in obtaining or producing electronic text than those districts that rely heavily on standard print materials.

Textbooks and other instructional materials may be made available in electronic form through four primary mechanisms:

- publishers,
- accessible media producers (organizations providing alternate-format conversions),
- Internet-based repositories, or
- scans of print documents

School personnel can check to see if an electronic fileset is already available through national repositories:

National Instructional Materials Accessibility Center (NIMAC) (http://nimac.privatereserve.com/),

Bookshare (http://www.bookshare.org),
American Printing House for the Blind (APH) (http://www.aph.org/louis/index.html),
Recording for the Blind and Dyslexic (RFB&D) (http://www.rfbd.org/), and
Project Gutenberg (http://www.gutenberg.org/wiki/Main_Page).

These repositories house electronic file formats of print materials typically either provided by publishing companies or copyright-free sources now in the public domain. Files typically have been formatted and are ready to convert into an accessible format, or have already been converted and are ready to implement with appropriate assistive technology applications.

If an electronic file is not available and the materials in question are part of required core instructional materials, schools should contact the publisher directly to inquire about availability of an accessible electronic version and/or to request they submit an electronic fileset (conforming to the National Instructional Materials Accessibility Standards [NIMAS]) to the NIMAC repository as is required by IDEA. This can and should be done for all materials purchased by the district to create a clear market demand for accessible material availability. It is to be hoped that some day in the not-too-distant future, accessible instructional materials will be routinely offered for sale alongside their print counterparts.

If an electronic file is not available from any print source, materials will need to be scanned using optical character recognition (OCR) capabilities. The importance of OCR is that it assures that each typed character is recognized. A text reader then can identify words (versus traditional "copier-type" scanning that identifies the document as a whole, thereby creating a single item result, as if the content were one picture/graphic). Appendix E includes additional general and state-specific information about procedures for obtaining accessible instructional materials (AIM) along with associated copyright and student qualification provisions.

If a substantial amount of materials must be scanned, time and resources can become an issue. Students can certainly be expected to do much of their own scanning for materials other than textbooks and related materials. Scanned materials can be shared, and a local repository can be created to reduce duplicate scanning. Student helpers and paraprofessionals can also scan materials. If teachers are expected to scan, time within their schedules should be provided. Scanning stations at schools must be readily accessible to whoever is scanning—that is, scanners need to be located in an area that is easy to find with unrestricted ability to go to that area whenever necessary.

Finally, schools need to be familiar with various file formats and which ones are compatible with chosen TtS technology. The table below provides an overview of commonly used electronic file types, document extensions associated with them, and descriptions of them. Appendix C provides information about file format compatibility.

File Formats

File Type	Extension	Definition
Word	.doc; .docx	This file format is used by Microsoft Word and the most commonly used of all formats. Word or text processors can use these files. Files in this format present no challenges to TtS programs.
Rich Text Format	.rtf	Similar to a Word format file, but more compatible between computer systems. Word or text processors can use these files. Again, no challenges to TtS programs are presented.
Portable Digital Format	.pdf	This format captures all elements of a print document in a single, item-by-item result for each page. Color, layout, and graphic features are maintained as publisher intended. Traditionally, this format has presented accessibility challenges. TtS manufacturers have addressed these issues by creating separate, PDF-specific reading tools.
Extensible Mark-Up Language	.xml	A computer code used for structured documents and data that delineates the data but leaves the processing of it completely separate from the file itself. NIMAS filesets use XML format. NIMAS files are not student-ready versions of instructional materials, but must be converted and/or processed. Third-party conversion tools, such as Dolphin Easy Converter, can be used to produce TtS compatible files. TtS manufacturers are working to build conversion programs into their products.
Hypertext Mark-Up Language	.html	HTML often is used for creating web pages; it provides a means to describe the structure, layout, and formatting of a document. HTML is widely used and presents no issues for TtS programs.
DAISY	.dtb	DAISY is a file format standard for producing multimedia documents, namely digital talking books (DTBs), electronic textbooks, or a combination of synchronized audio and text books. Many TtS programs have a built-in DAISY conversion feature that allows playback of these files.
audio	.wav; mp3	These are two audio formats. The .wav format is used by Microsoft; mp3 format was created by the music industry. TtS programs are often compatible with both formats.

Stigma Issues and Student Support

After general training is provided, computers with TtS and scanners are deployed, AIM are obtained or produced, and policies that support implementation are in place—it is time to implement.

Unfortunately, implementation experience indicates that some students may resist using TtS and AIM if they feel it makes them appear "different" from their peers. This is not unusual, as students with disabilities have rejected other kinds of assistive technology for years, such as hearing aids, eyeglasses, etc. Experience with students utilizing laptops in schools has shown that students need to be able to carry their laptops in a bag or backpack that is "culturally accepted" by students in the school building. While this may seem like a trivial issue, it is not because it has been shown to be the difference between a student utilizing a TtS system or not. What is considered an acceptable bag or backpack varies from building to building and district to district. It is well worth the investment of time to identify something that will support student use. One district secured backpacks in their school colors, which greatly mitigated any stigma perceived by students.

If use of laptops is generally allowed in a school, there is less negative stigma attached to the use of TtS and AIM with one. However, in many schools, use of laptops is prohibited and this can make students using technology stand out. One pilot high school changed its overall policy on laptops after successful use of TtS and AIM on laptops for selected students with disabilities, allowing any student to use a laptop so long as its use was limited to school work. That change in policy, paired with "cool bags," created an environment in which students were asking to "get in" to the TtS/AIM project.

Schools might want to consider innovative ways to allow students using TtS/AIM to share their expertise and/or to receive ongoing training in use of chosen software in a common class time. Pilot schools with a "homeroom," a study skills class, a transition class, or other similar course reported benefit from assigning students using TtS/AIM to a common class period where they could receive ongoing training and share expertise peer-to-peer. Frequently, students become far more proficient users of chosen technology than any staff and can provide valuable supports to each other. A common class period also provides an efficient mechanism for following up with students on any issues that arise with hardware, software, obtaining accessible materials, file format issues, etc.

And finally, implementing schools reported decreased stigma associated with using TtS/AIM when they allowed students to use the laptops for some non-academic computer activities that were reinforcing for individual students. If a laptop becomes an integral part of a student's academic life and is also used during "down time," overall acceptance was greatly improved.

SECTION THREE:
POST-IMPLEMENTATION

- Progress Monitoring
- Standardized Testing Accommodations
- Data Analysis
- Sharing Results

III. POST-IMPLEMENTATION

Progress Monitoring

To determine outcomes and improve implementation, it is critical that data collection be performed at all stages of the project and that everyone involved understands project data collection expectations and timelines.

Post-intervention information should align with baseline data collected as follows:

Data Collection

Data Element	Educational Measurement	Timeline
Academic achievement	Achievement test scores	Baseline—Annually
	Grades for core academic classes	Baseline—Each semester
Educational competence	Self and teacher rating (self-confidence; competence)	Baseline—Annually
Attendance	Ratio of days attended to total days of school for year	Baseline—Each semester
Time in special education	Minutes per week in special education from IEP	Baseline—Annually
Amount of human assistance	Rating scale; identification of IEP accommodations	Baseline—Annually
Parent satisfaction	Rating scale or count of unsolicited positive contacts	Baseline—Annually
Transition goal	Identified from list	Baseline—Annually

Attendance and grade reports should be collected each semester, along with anecdotal information about changes observed in students' achievement, school engagement, independence, self-determination, self-advocacy, etc. Annually, some form of standardized academic achievement data should be collected and self-perception inventories should be administered. On an ongoing basis, work samples and other similar forms of outcome documentation should be collected to garner support for program expansion.

Data should be collected over multiple years, provided students can be followed and interventions remain in place. Accumulation of credits should be documented annually along with progression to graduation. With each IEP review/revision (at least annually), total time in

special education should be gathered, along with level of human assistance provided, to evaluate for positive changes in special education services needed and level of independence achieved. When a student completes their high school program, information should be collected on their transition outcomes (to employment; to post-secondary education, etc.).

Sample student data collection forms are included in Appendix B and can be adapted to meet unique school needs. Use of one set of data collection tools across schools is helpful to ensure consistency of data collection and to allow for valid data comparisons.

Standardized Testing Accommodations

Any discussion of data collection and analysis would be incomplete without some attempt to address the issue of standardized testing and the use of text-to-speech accommodations. Under the provisions of No Child Left Behind, standardized achievement assessments have become high-stakes testing with fairly rigid associated policies and procedures on the use of accommodations. Using text-to-speech or "read aloud" accommodations is allowed in some instances by some states and disallowed by other states in other situations. Even when allowed, use of text-to-speech technology can result in a score being "not reportable" or "invalid."

Most typically, policies that prohibit or impose conditions on the use of TtS apply only to those tests designed to assess receptive and expressive written language skills or reading and writing. The use of TtS with an accessible version of a test converts print (or written language) into oral/verbal language. Some argue that with this accommodation a test no longer assesses written language proficiency, but instead measures oral language proficiency, and invalidates the underlying construct the test is designed to measure.

Some states do allow a TtS accommodation to be used in parts of reading/writing tests. For example, a state may allow TtS to be used to read test questions associated with a test passage but prohibit using it to read a test passage itself in an assessment of reading comprehension. Or a state may allow TtS to be used to read proper nouns in reading passages. Since proper nouns do not contribute greatly to the meaning of a passage, hearing them read aloud does not invalidate the test.

Of course, provision of any text-to-speech accommodation is conditioned on availability of an accessible electronic version of a test. In some states, that is a problem that must be addressed before delivery of a TtS accommodation (other than a human reader) will be possible. The April, 2000 Issue 94 edition of the Family Center on Technology and Disability's News and Notes provides an excellent overview of computer-based testing accommo-

dations and universally designed assessments. It includes an interview with Dr. Michael Russell entitled Computer-Based Assessments and Accommodations: Has the Universal Design for Assessment Era Arrived? along with a comprehensive set of resource references including articles, guides, discussions, books, and identification of organizations actively working in the area of testing accommodations. The article can be found at the following URL: http://www.fctd.info/resources/newsletters/displayNewsletter.php?newsletterID=10071 (a copy is also included in Appendix D: References).

Each school should be familiar with and conform to their state requirements regarding accommodations for NCLB standardized assessments (see Appendix E). However, for locally administered tests, decisions about accommodations can be made based on district policies. If a student will be using TtS and AIM ubiquitously in a post-secondary setting, allowing use of TtS with accessible achievement tests will reflect the student's real performance with resources typically used in their educational setting. Since performance is independent (does not involve human assistance) and the technology can be used in college, at work, or in almost any post-secondary education setting, achievement testing with TtS and accessible test materials could be viewed as a more accurate measure of academic skills and proficiency than performance without them. It is to be hoped that local policy makers will give due consideration to allowing the use of TtS and accessible test materials as widely as possible in locally administered achievement testing.

Data Analysis

Most schools do not have extensive data analysis capacity. However, documenting outcomes of the use of TtS and AIM does not require use of in-depth or complicated statistical analysis. Schools are becoming more and more proficient with progress monitoring data analysis associated with Response to Intervention activities, and similar analyses can be used for post-intervention outcomes with TtS and AIM.

The most helpful data analysis will be "intra-student" or comparisons between pre- and post-intervention situations for each student. Increases in individual data elements (such grades, achievement scores, rating of self confidence, etc.) are directly observable positive outcomes. The degree of impact of each can be evaluated based on unique student situations.

A student survey was developed to measure changes in student perception of their own reading skills and overall educational competence. Survey data can be used to establish a baseline for participating students and then to assess changes in individual students, post-intervention. Schools may also want to ask a random sample of same-age students without disabilities to complete the survey to develop a comparison group data set. This would allow

for some overall comparisons of the group of participating students with general education students. While numbers would not be large enough for rigorous statistical data analysis, comparison of simple means (average scores) for each group can provide interesting data. Post-intervention survey data, collected after a year of TtS and AIM use, provides a good mechanism for documenting changes in student self-perception of reading skills and overall educational competence to supplement related anecdotal stories and/or teacher/parent/student reports. Scoring information for the student survey is provided in Appendix B along with suggestions for specific data comparisons.

Comparisons of work products pre- and post-intervention also can provide powerful evidence of changes in student achievement. Student written work may undergo dramatic change with use of TtS and AIM, and collection of such work samples are an effective way to document outcomes. Appendix B provides an example of a pre- and post-intervention written assignment with dramatic improvement shown in sentence content, complexity, and structure.

Sharing Results

Individual successes should be celebrated as they occur. Meeting regularly with involved staff and students is a good mechanism for collecting first-hand information about positive outcomes that can be shared with appropriate external audiences and stakeholders.

When quantitative, post-intervention data becomes available (usually a semester or two after implementation), develop summary tables of the data for sharing. With all of the current emphasis in special education on IDEA State Performance Plan indicators, highlight the connection between positive outcomes in achievement, transition goals, time in special education, etc., in any summary information. Connect outcomes of TtS and AIM use with any district Response to Intervention (RtI) initiatives underway to expand use to other groups of students.

The following is an example of a short summary of outcomes for the pilot project in Missouri that could be adapted for use with individual district data:

> Text-to-Speech (TtS) technology, along with accessible instructional materials (AIM), provides an accommodation for students with disabilities who struggle to read. A laptop converts electronic text into speech so students can hear and see on-screen print simultaneously. Use of this intervention with 20 students in Missouri who were all at risk for not graduating on time, resulted in 95% on-time graduation, 85% improvement of grades and achievement scores, and 100% success in transition to a post-secondary program or employment.

It is always good to pair quantitative data with anecdotal success stories and examples of student work changes in packages of information that can be broadly shared. Think about creative ways to share information beyond typical school stakeholders. Local communities need to hear about positive outcomes for students, especially those with disabilities, whenever possible. Telling an individual story about a student adds a human perspective and greatly strengthens the impact of data analysis. The following are examples of such individual student success stories:

Tiffany achieved a perfect score on an English Literature test on Frankenstein. The teacher reports she has never before had a student answer every question correctly.

Dan had a part-time paraprofessional who provided "oral reading" support in his academic classes. By his senior year, his school re-assigned his paraprofessional because he no longer needed that service once he had access to AIM and TtS.

Phil had athletic scholarship offers to Division I colleges, but turned them down due to his concern about the academic work load at such schools. With AIM and TtS, he now feels confident he can handle the work load at a major college.

Ryan's parents indicate he no longer dreads going to school now that he has access to AIM and TtS. He is able to complete his homework in a quarter of the time he used to spend and has a "fire in his belly" about learning for the first time in years.

Kimberly was going to drop out of high school until a teacher convinced her to stay for one more semester and try using TtS and AIM. Kimberly immediately saw benefits, began to steadily improve in her school work, and graduated on time. She is now doing well as a student at a four-year college—and is using TtS and AIM in that environment.

And lastly, consider asking parents and students to spread the word about the success of TtS and AIM. Parents who observe a significant change in their child's school performance and outlook on the future are frequently willing to share their stories with other parents and community groups. Some schools have found that older students who are effective TtS/AIM users are better able to communicate positive outcomes to younger students than are teachers or parents. Students and parents are also excellent ambassadors to pair with school staff when sharing information with policy-makers and potential funding sources. Nothing is quite as persuasive as hearing from students and parents directly about the changes they see from using TtS and AIM in the classroom.

APPENDIX A:
IMPLEMENTATION TOOLS

- Overview DVD
- Implementation Checklist
- Sample Participation Acceptance Letter
- Sample Technology Usage Agreement
- What is expected of the project coordinator?
- What is expected of administrators?
- What is expected of teachers and therapists?
- What is expected of IT staff?
- What is expected of staff responsible for obtaining textbooks?
- What is expected of students and parents?

Overview DVD

An overview DVD has been developed to garner support for implementation of text-to-speech (TtS) and accessible instructional materials (AIM) as a compensatory strategy at the secondary level. It includes interviews with school staff and students implementing a TtS/AIM project and highlights results from an initial pilot project. The DVD can be found in the inside back cover of this guide.

Implementation Checklist

- ☐ Review content of this guide; become familiar with accessible instructional materials and text-to-speech software; and undertstand rationale for their use to improve student outcomes.
- ☐ Establish project timeline, budget and anticipated outcomes.
- ☐ Provide overview and project orientation to critical stakeholders including:
  - ○ district administrators, in particular principals who will have the project in their building;
  - ○ teachers and therapists who provide instructional services and supports to the participating students;
  - ○ technology staff who will be responsible for software and hardware compatibility issues, network support, etc.;
  - ○ curriculum directors, department/subject chairperson, library/ media specialists or other similar staff who are responsible for selecting/obtaining instructional materials and for addressing copyright issues;
  - ○ central office administrators and school board members who will need to provide overall support for implementation resources
  - ○ parents and students who will be participating.
- ☐ Identify participating students and obtain parental agreement (may need information release forms if data will be shared).
- ☐ Determine student data collection elements (select from suggested data elements). Collect data on each participating student and have each complete the Student Survey. You may or may not want to have “average” students in the same grade(s) as the participating students complete the Student Survey (as a comparison group).
- ☐ Purchase hardware (computers, scanners and related peripherals) and TtS software.
- ☐ Identify initial materials to be converted into digital format, how they will be obtained (scanned, publishers, Bookshare, etc.) and plan for ongoing need for accessible materials (e.g. students will be trained and able to convert materials as needed themselves.)
- ☐ Identify responsible party(ies) for troubleshooting software and/or hardware issues.
- ☐ Install and test purchased hardware and software.
- ☐ Schedule and implement TtS and AIM training for project implementers and students.
- ☐ Implement TtS and AIM with students.
- ☐ Meet regularly with teacher and students
- ☐ Collect post-intervention data
- ☐ Review data for progress of individual students and overall outcomes
- ☐ Share successful outcomes

Our School
Address
Phone
Date

TtS

Student: _____ Grade: _____

Dear Student and Parents,

Congratulations! You have been selected to participate in Our High School's Text to Speech (TtS) program. This project is designed to help students develop independence in reading and writing activities in the general education curriculum, and to prepare students for post-secondary education/training. Through this program, each student will receive a personal laptop computer with carrying case, earbuds, external mouse, flashdrive, specialized software with text-to-speech capacity, and Microsoft Office software with Word, Excel, and Powerpoint. Students will be able to use this computer and software in all of their high school classes, as well as at home to complete class assignments. Training to use this technology will be provided for each student in the program. The equipment is to be respected as personal property. Any intentional mishandling of the equipment, software, or internet usage will result in appropriate disciplinary action.

Students and parents participating in this program should attend a brief informational meeting on [date and time] in the [location]. This form and the technology usage agreement form need to be signed before students attend their first training session, tentatively scheduled during school hours on [date].

Please complete the information below to acknowledge your receipt of this letter, and return to me on or before [date]. I'm looking forward to working with you in this innovative new program!

Sincerely,

Contact Person
Title

☐ We do want to participate in this program and will attend the meeting on [date]

☐ We do want to participate in this program but cannot attend the meeting on [date]. We can meet with you on _____ (must be prior to [date]).
Please suggest alternate date and time

☐ We are not interested in this program. Please choose another student to participate.

_____ _____
Parent Signature Student Signature

Our School
Address
Phone
Date

TtS

Technology Usage Agreement

Your computer belongs to the [ ] School District. Failure to comply with this technology agreement, or misuse of the computers in any way may result in disciplinary action.

The computer assigned to you is for your use only. Do not loan your computer to other students.

Keep your computer with you or in one of the Learning Center classrooms at all times. DO NOT LEAVE YOUR COMPUTER IN YOUR LOCKER OR IN ANY OTHER CLASSROOM FOR ANY REASON. Do not leave it unattended in the cafeteria at lunch!

If you have problems with your computer or any software programs, see [identify appropriate contact people] immediately.

Do not download any other software/programs onto your computer unless it has been approved by [appropriate approval person(s)].

A scanner has been purchased for you to scan any assignments we cannot download or obtain for you to load on the computer. You may use it with teacher permission in [location]. Your computers have been set up to print to the laser printer [location].

Fill out the information card with your name/address that has been included in your computer case.

Keep your computer charged by plugging it in every night at home or in one of the Learning Center classrooms.

Internet access is available . . . [provide specifics of district access process, etc.] Internet usage is strictly limited to educational purposes only. Internet usage is monitored and visiting any inappropriate internet sites is prohibited [reference district internet policies and/or attach].

I HAVE READ AND UNDERSTAND THIS AGREEMENT AND AGREE TO THE ABOVE TERMS AND PROVISIONS.

_____ _____
Parent Signature Date

_____ _____
Student Signature Date

Project Coordinator

What is expected of me as a Project Coordinator?

Participate in training to become the "in-house expert" on TtS technology and adopt best practices on utilizing TtS and AIM to achieve positive educational outcomes for students with print disabilities.

Be responsible for ensuring pre and post intervention data is gathered, analyzed and records maintained documenting outcomes.

Establish clearly defined, shared expectations on importance of implementing TtS.

Attend to and trouble-shoot problems with TtS systems and access appropriate resources as necessary to ensure effective operation.

Communicate regularly with staff involved and mediate issues and problems as they arise.

Monitor vendor sources for information and upgrades, enhancements, etc. and implement as appropriate.

Ensure students have access to the TtS system and AIM for all academic activities unless specifically prohibited by law/regulation/policy.

Respond to questions from parents as appropriate and refer to others when necessary.

Identify and ensure participation of staff critical to the project (e.g. IT staff, curriculum staff responsible for instructional materials procurement, etc.).

How can I make TtS/AIM intervention most successful?

Be a champion of TtS and AIM as a compensatory strategy – be able to articulate why it is not an "unfair advantage" for students with disabilities and communicate effective technology use to external audiences.

Support application of the same academic standards and expectations to students using the TtS and AIM.

Support general education teachers, curriculum directors and other staff efforts to proactively identify and obtain text and materials that exist in electronic format.

Support development of building level policies that allow students time and resources to scan materials when necessary.

Provide technical assistance to ensure conversion of materials into formats compatible with TtS system(s) used.

Develop a peer-to-peer student support network to expand student use of TtS features and build confidence.

Periodically review implementation plan and identify methods for streamlining and improving process for future expansion.

Administrators

What is expected of me as an administrator?

Be informed on, supportive of and understand roles and responsibilities of students, teachers, IT Staff and others involved in implementation of TtS and acquisition and/or production of AIM.

Become familiar with the TtS software, in particular its features, uses and supporting research.

Understand how TtS and AIM can enhance academic achievement of students.

Allocate human and monetary resources to ensure necessary technology, related peripherals, and accessible materials are in place and operational and staff time is sufficient to meet project expectations.

Align use of TtS and AIM with overall district goals related to student achievement and state standards.

Promote effective working relationships among parties involved in implementation and mediate any issues that arise.

Serve as an effective member of the leadership team.

How can I make TtS/AIM intervention most successful?

Support opportunities for teachers to participate in related professional development opportunities.

Develop a scheduling policy that facilitates regular interaction between staff implementing the project and student participants.

Recognize effective technology use (e.g. highlight student achievement at meetings, to board, etc.

Promote positive outcomes to the schools and community.

Teachers and Therapists

What is expected of me as a teacher or therapist?

Participate in training to become familiar with TtS/AIM and how it can be used as a compensation intervention for students with disabilities that impact reading.

Gather pre and post intervention data to document efficacy of the TtS/AIM intervention.

Analyze instructional activities and modify to accommodate, if necessary.

Report any problems with technology hardware or software to the appropriate district staff.

Allow students to use TtS/AIM for all academic activities unless specifically prohibited by law/regulation/policy.

Respond to questions from parents as appropriate and refer to others when necessary.

Include specific evidence about technology use when reporting student progress to parents.

How can I make TtS/AIM intervention most successful?

Be supportive of TtS/AIM as a compensatory strategy – not view it as an “unfair advantage” for students with disabilities.

Apply the same academic standards and expectations to students using the TtS/AIM technology.

Proactively identify and obtain text and materials that exist in electronic format.

Allow for sufficient lead time to convert materials into e-text or other accessible formats.

Be flexible with students’ time and movement if they need to scan materials outside of the classroom.

Promote and reinforce student independence.

Information Technology Staff

What is expected of me as IT staff?

Consult with TtS manufacturers to identify compatibility of products with district computers/ servers.

Assist in acquisition of TtS software and related hardware and peripherals.

Participate in training to become familiar with TtS technology and how it is used with AIM and different file formats.

Evaluate the impact of system security on accessibility. Employ security solutions that do not prevent users from being able to use TtS software.

Test the TtS software under the constraints posed by district security software verify compatibility and identify possible problems.

Monitor vendor sources for information and upgrades, enhancements, etc. and implement as needed.

Provide consultation, technical support (including repair and maintenance) and training on hardware and peripherals.

Serve as an effective member of the leadership team.

How can I make TtS/AIM intervention most successful?

Realize that the software and hardware are not convenience items, but critical components of the student's program for academic achievement.

Be responsive to requests for assistance from project coordinator.

Develop accessibility policies that assure access to information technology for students with disabilities. Adopt an accessibility policy to apply at the procurement level.

Integrate assistive technology into school's technology plan.

Staff Responsible for Obtaining Textbooks

What is expected of me as staff responsible for obtaining textbooks?

Identify and obtain text and materials that exist in electronic format.

Gain understanding of accessible instructional materials, issues related to copyright and procurement, and sources for obtaining text in electronic file formats including:

National Instructional Materials Accessibility Center (NIMAC), repository for National Instructional Materials Accessibility Standard (NIMAS) file sets,

Bookshare, respository for DAISY and Braille Refreshable files,

Recordings for the Blind and Dyslexic (RFB&D), repository for digital audio files, and

American Printing House for the Blind (APH), repository for hard copy Braille and Large Print materials.

Become familiar with the range of available electronic file formats and assistive technologies that the district uses to access such file formats.

How can I make TtS/AIM intervention most successful?

Be a champion of providing textbooks and related resources in formats to meet diverse student needs.

Develop relationships with publishers and identify those who personnel who can authorize and/or directly provide text in electronic formats.

Students and Parents

What is expected of me as a student or parent?

Students

Be motivated to achieve in school and view TtS and AIM as a tool to succeed.

Actively participate in introductory TtS and AIM training.

Understand, respect and adhere to district and home computer usage policies.

Use TtS and AIM actively throughout all learning activities and for completion of assignments.

Report problems in using software, hardware, peripherals and/or in accessing materials to appropriate district representatives in a timely manner.

Parents

Learn the basics of TtS technology and AIM, how their child is utilizing it to improve academic experience and expected outcomes.

Assure that school furnished computer and software are being used for academic purposes and that student is abiding by district computer usage policies.

In a timely manner, communicate problems and concerns to project coordinator.

How can I make TtS/AIM intervention most successful?

Students

Understand that TtS/AIM is a tool to improve academic and personal achievement.

Share with teachers, other students and parents examples of positive outcomes related to TtS/AIM usage.

Parents

Understand that schools teach in new and exciting ways that differ from when you were a student. While the path may be different, the end goal remains the same: academic achievement.

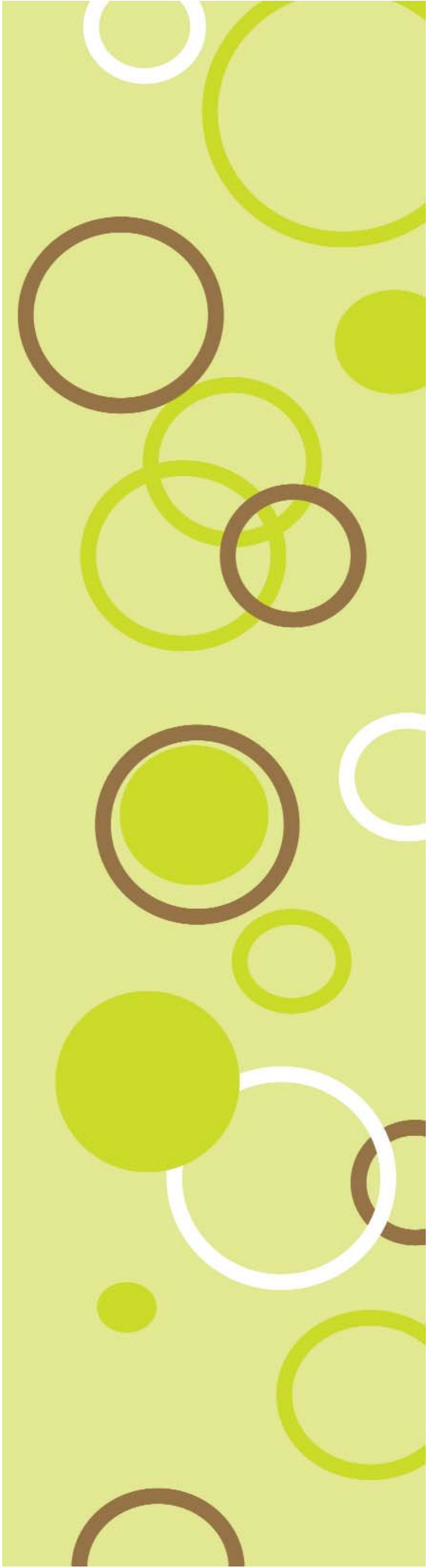
Be supportive of TtS/AIM as a compensatory strategy

Talk from time to time with your child about their experience in using TtS/AIM.

Share with project coordinator qualitative and anecdotal observations concerning improvement in student attitude toward school, academic achievement and self-perception.

APPENDIX B:
DATA COLLECTION TOOLS

- Initial Student Data Form
- Student Survey and Scoring Guide
- Post Intervention Student Data Form
- Work Product Example



INITIAL STUDENT DATA FORM

Student: _____ Building/District: _____

Demographics

Date of Birth (mm/dd/yy): _____

Current Grade Placement:

- ❑ 9th grade
- ❑ 10th grade
- ❑ 11th grade
- ❑ 12th grade

IDEA Disability (check primary disability reported on child count)

- ❑ Learning Disability
- ❑ Other Health Impairment
- ❑ Autism
- ❑ Orthopedic Impairment
- ❑ Traumatic Brain Injury
- ❑ Multiple Disabilities
- ❑ Cognitive Impairment
- ❑ Visual Impairment
- ❑ Speech/Language Impairment
- ❑ Hearing Impairment/Deafness
- ❑ Emotional Disturbance
- ❑ Deaf/Blind

Most recent full scale IQ score: _____ Date of administration: _____

Standard score (mean of 100, standard deviation of 15) on individual test of oral language such as PPVT, CELF, TOLD, etc. (It is understood these scores will not be very current.)

Test: _____ Standard Score: _____ Date of administration: _____
Test: _____ Standard Score: _____ Date of administration: _____
Test: _____ Standard Score: _____ Date of administration: _____

Recent standard score on reading achievement test other than MAP (e.g. PIAT, TORC, WJ, etc.)

Test: _____ Standard Score: _____ Date of administration: _____
Test: _____ Standard Score: _____ Date of administration: _____
Test: _____ Standard Score: _____ Date of administration: _____

Rate the degree to which oral reading accommodations positively impact achievement for this student--

- ❑ Significant – accommodations are critical to the student's academic success.
- ❑ Considerable – accommodations are important to the student's academic success.
- ❑ Some – accommodations support the student's academic success.
- ❑ Limited - accommodations support some aspects of the students academic success.
- ❑ None - accommodations are not necessary for the students academic success.

Describe the factors used to identify this student as "at risk" for dropping out of high school, not persisting to high school completion, or failing to accumulate sufficient credits to graduate in a timely manner:

Baseline Data

Standardized Achievement Test Scores

Communication Arts	_____	❑ Below Basic	❑ Basic	❑ Proficient	❑ Advanced
Math	_____	❑ Below Basic	❑ Basic	❑ Proficient	❑ Advanced
Science	_____	❑ Below Basic	❑ Basic	❑ Proficient	❑ Advanced

Prior Year Cumulative Grades for Core Academic Classes

Communication Arts	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Math	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Science	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Social Studies	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-

Prior Year Attendance Record

Days Absent _____ Days in School Year _____

Minutes per week in special education from the prior year IEP: _____

List all accommodations/modifications included in the prior year IEP with frequency information

_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly

How much individualized teacher/paraprofessional support was provided for this student in the prior school year (beyond general instruction):

❑ Every day or almost every day ❑ Once or twice a month
❑ Once or twice a week ❑ A few times during the year

Current Transition Goal: (check primary)

❑ Post-secondary education (college)
❑ Post-secondary training (technical)
❑ Employment

How many times did the parent/guardian of this student initiate contact with the school during the prior school year?

_____ To share positive comments
_____ To share concerns
_____ For inquiry

How much of the student's current instructional materials have been provided in accessible format, e.g. electronic, audio, etc.?

❑ Less than 5%	❑ 6% to 15%	❑ 16% to 25%
❑ 26% to 40%	❑ 41% to 60%	❑ 60% to 80%
❑ 81% to 90%	❑ 91% to 95%	❑ More than 95%

Name: _____

Student Survey

1. On a scale of 1–10, how good a reader do you think you are? (circle one)

1	2	3	4	5	6	7	8	9	10
Not a very good reader				Average reader				Excellent reader	

2. On a scale of 1–10, how good a student do you think you are in school? (circle one)

1	2	3	4	5	6	7	8	9	10
Not a very good student				Average student				Excellent student	

3. On a scale of 1–10, how much help do you need in completing your school work? (circle one)

1	2	3	4	5	6	7	8	9	10
Need lots of help				Need some help				Need almost no help	

4. Do you enjoy reading? (check one)

❑ Very much ❑ Somewhat ❑ Not very much ❑ Not at all

5. How often do you read outside of school? (check one)

❑ Every day or almost every day
❑ Once or twice a week
❑ Once or twice a month
❑ Never or almost never

6. What do you see yourself doing immediately after high school?

❑ College ❑ Trade School ❑ Employment ❑ Not sure

Below is a list of statements about general feelings about school work. Please circle the one response that best reflects your agreement or disagreement for each.

7. On the whole, I am satisfied with myself and my school work.

Strongly Agree Agree Disagree Strongly disagree

8. At times, I think I am no good at school work.

Strongly Agree Agree Disagree Strongly disagree

9. I feel that I have a number of good qualities as a student.

Strongly Agree Agree Disagree Strongly disagree

10. I am able to do school work as well as most other students.

Strongly Agree Agree Disagree Strongly disagree

11. I feel I do not have much school work to be proud of.

Strongly Agree Agree Disagree Strongly disagree

12. I certainly feel useless at school sometimes.

Strongly Agree Agree Disagree Strongly disagree

13. I feel that I'm a student of worth, at least on an equal plane with other students.

Strongly Agree Agree Disagree Strongly disagree

14. I wish I could have more respect for my school work.

Strongly Agree Agree Disagree Strongly disagree

15. All in all, I am inclined to feel that I am a failure at school.

Strongly Agree Agree Disagree Strongly disagree

16. I take a positive attitude toward myself and my school work.

Strongly Agree Agree Disagree Strongly disagree

Adapted from National Literacy Trust, survey of young people's self-perception of reading, January 2008; and Morris Rosenberg, Ph.D. Rosenberg, M. (1965). Society and The Adolescent Self-Image. Princeton, N.J.: Princeton University Press; and Developmental Assets, Search Institute, 1997.

Name: _____

Student Survey—Scoring Guide

1. On a scale of 1–10, how good a reader do you think you are? (circle one)

1	2	3	4	5	6	7	8	9	10
Not a very good reader				Average reader				Excellent reader	

2. On a scale of 1–10, how good a student do you think you are in school? (circle one)

1	2	3	4	5	6	7	8	9	10
Not a very good student				Average student				Excellent student	

3. On a scale of 1–10, how much help do you need in completing your school work? (circle one)

1	2	3	4	5	6	7	8	9	10
Need lots of help				Need some help				Need almost no help	

For questions 1–3, look for a change in rating (to a higher or a lower number) as compared to the baseline for each individual student. It is also possible to average all participating students' baseline and post-intervention scores and look for change in the group.

---

4. Do you enjoy reading? (check one)

❑ Very much ❑ Somewhat ❑ Not very much ❑ Not at all

5. How often do you read outside of school? (check one)

❑ Every day or almost every day ❑ Once or twice a week
❑ Once or twice a month ❑ Never or almost never

For questions 4–5, look for a change in rating and time estimate as compared to baseline for each individual student.

---

6. What do you see yourself doing immediately after high school?

❑ College ❑ Trade School ❑ Employment ❑ Not sure

For question 6, look for confirmation of a successful transition outcome.

Below is a list of statements about general feelings about school work. Please circle the one response that best reflects your agreement or disagreement for each.

For questions 7–16, each response should be scored as 1, 2, 3, or 4 as noted and totaled for a maximum score of 40. The higher a score, the greater the positive self perception. Look for a change from baseline for each individual student. It is also possible to average all participating students' baseline and post-intervention scores and look for change in the group. If survey responses were gathered from a random group of general education students as a comparison group, it is possible to average their scores as a group as well.

7. On the whole, I am satisfied with myself and my school work.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

8. At times, I think I am no good at school work.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

9. I feel that I have a number of good qualities as a student.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

10. I am able to do school work as well as most other students.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

11. I feel I do not have much school work to be proud of.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

12. I certainly feel useless at school sometimes.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

13. I feel that I'm a student of worth, at least on an equal plane with other students.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

14. I wish I could have more respect for my school work.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

15. All in all, I am inclined to feel that I am a failure at school.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

16. I take a positive attitude toward myself and my school work.

Strongly Agree	Agree	Disagree	Strongly disagree
4	3	2	1

Adapted from National Literacy Trust, survey of young people's self-perception of reading, January 2008; and Morris Rosenberg, Ph.D. Rosenberg, M. (1965). Society and The Adolescent Self-Image. Princeton, N.J.: Princeton University Press; and Developmental Assets, Search Institute, 1997.

POST-INTERVENTION STUDENT DATA FORM

Student: _____ Building/District: _____

Post-Intervention Achievement Scores

Communication Arts	_____	❑ Below Basic	❑ Basic	❑ Proficient	❑ Advanced
Math	_____	❑ Below Basic	❑ Basic	❑ Proficient	❑ Advanced
Science	_____	❑ Below Basic	❑ Basic	❑ Proficient	❑ Advanced

Post-Intervention Grades for Core Academic Classes

1st Semester

Communication Arts	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Math	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Science	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Social Studies	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-

2nd Semester

Communication Arts	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Math	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Science	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-
Social Studies	❑A	❑A-	❑B+	❑B	❑B-	❑C+	❑C	❑C-	❑D+	❑D	❑D-

Attendance Record	1st Semester	2nd Semester	Year Total
Days Absent	_____	_____	_____
Days in Semester	_____	_____	_____

Minutes per week in special education per IEP post-intervention: _____

Accommodations/modifications post-intervention:

_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly
_____	❑ Daily	❑ Weekly	❑ Monthly	❑ <Monthly

How much individualized teacher/paraprofessional support was provided post-intervention for this student (beyond general instruction)?

❑ Every day or almost every day
❑ Once or twice a week
❑ Once or twice a month
❑ A few times during the year

Current Transition Goal: (check primary)

❑ Employment
❑ Post-secondary education (college)
❑ Post-secondary training (technical)

How many times did a parent/guardian of this student initiate contact with the school post-intervention?

_____ To share positive comments
_____ To share concerns
_____ For inquiry/information

How often during the school day does this student typically use text-to-speech technology?

- ❑ Most of every school day
- ❑ Part of every school day
- ❑ A little bit every school day
- ❑ A few times a week

How much of this student's instructional materials were provided in accessible format (e.g., electronic, audio, etc.) post-intervention?

- ❑ Less than 5%
- ❑ 6% to 15%
- ❑ 16% to 25%
- ❑ 26% to 40%
- ❑ 41% to 60%
- ❑ 60% to 80%
- ❑ 81% to 90%
- ❑ 91% to 95%
- ❑ More than 95%

What changes have been observed in the student's—

Academic achievement?

Independence, self-determination, self-advocacy skills?

Self-concept and attitude toward school?

Other observations?

Please attach examples of student work that demonstrate changes post-intervention.

Work Product Pre-Intervention Example

44/50

STUDENT RESPONSE PACKET
GYMNASTICS

NAME [redacted]

DATE _____

WHAT TO DO

The following questions will help you to have a greater appreciation and understanding of gymnastics. Write your answers in the spaces below the questions. If there is not enough room, write on the backs of these sheets. Be neat, spell correctly, and write in complete sentences.

1. Why is gymnastics often considered to be the "purest" of all sports or athletic activities? The human body can perform movements that are exquisite to beh

2/ What are some of the physical benefits to be derived from participating in gymnastics? I d k

3/ What are the two types of gymnastics most commonly seen in competition and what is the difference between them? Turnverein modern

4. Which countries now dominate the international gymnastics scene and why?
Romania + Russia

5. What is an "axis"? a "felge"? an "Arab spring"?

imaginary line cartwheel

hanging upside down on the parallel bars

6. How would you execute a Hecht jump in a gymnastics competition?

Idk

7. Describe the vault exercise in women's Olympic competitions. What do the terms "first flight" and "second flight" have to do with this exercise?

Idk

8. What are the criteria for judging the men's floor exercises in men's competitions?

Idk

9. What is the balance beam exercise test and how is it performed?

Testing balance

10. Why must gymnasts begin to train at a very early age?

It takes years of practice to make perfect.

Work Product Post-Intervention Example

47/50

2-23-09

Physical Education

Packet #17

1. The physical benefits of track are stronger leg muscles, stronger arm muscles, and better hand-eye coordination.
2. The 5 traditional track events are the dash, the hurdle, relay racing, long distance running, and the steeplechase.
3. The starting position in the dash is so crucial because most races are lost at the starting line.
4. These factors are to know both the psychological and physical consideration.
5. The hurdle competition is where you run and jump over obstacles in your way and two types of hurdle races are 120- yard high hurdle, and the 440- yard intermediate hurdle.
6. The reason that the left leg is sometimes recommended to be used as the lead leg in hurdles is that it helps the runner maintain better balance.
7. Relay racing depends as much on teamwork as on the speed of the individual runners because it is very crucial.
8. The visual pass is one of 2 passes used in relay racing.
9. The blind pass is a pass used in relay racing.
10. The receiver should have his or her arm extended to receive the baton.

Work Product Student Letter

May 27, 2009

Dear Mr. David Baker,

I would like to thank you for making laptop computers available to students here at Jackson High School this year. It has given me independence in my classes with reading and writing assignments. I've always had to have stories read to me, but this has given me the ability to do it on my own and at my own speed. I've been able to keep up with the other students in class because of my computer. I've always had difficulty in writing assignments because I tend to circle my letters over and over. The computer eliminates that problem for me and increases my speed so that I'm able to turn in my paper in a timely manner. I've also been able to put my textbooks on it and also tests, making my school life a lot easier. Again, I would like to say thank you for offering our school the opportunity to have these computers available. It has definitely made a difference in my life and also in others here at the school.

Sincerely,

[redacted], student

Jackson High School

APPENDIX C:
PRODUCT OVERVIEW SHEETS

- BookSense
- ClassMate Reader
- Dolphin EasyConverter
- gh Player
- Key to Access
- KNFB Mobile Reader
- Kurzweil 3000
- PDF Access Products
- Read & Write Gold
- Read Outloud
- Scanners
- Victor Reader Stream
- WYNN

Product information current as of September 2009

BookSense

Target Audience	Blind or low vision users
Description	The BookSense plays audio books and music files, and does text-to-speech for education, information, and entertainment. Students can access school textbooks, newspapers, favorite novels and BookSense has a built-in digital voice recorder.
File Format Compatibility	DAISY, Bookshare, TXT, RTF, HTML, XML, BRL, BRF, MP3, MP4, OGG, WAV, WAX, M4A, and WMA
Size/Weight	4.25 x 1.85 x 0.73 / 4 oz.
Battery	Rechargeable (battery time 12 hours)
Storage Medium	Secure Digital
Price	$348
Vendor	GW Micro (http://www.gwmicro.com/BookSense)

ClassMate Reader

Target Audience	Students with learning disabilities
Description	The ClassMate Reader combines text & audio with an interactive touch screen, thus allowing users to listen to audio while reading highlighted text on-screen. Font type, size, color; line spacing, and other elements can be changed to user preferences. Using either a stylus or a fingertip, users can underline a passage, insert a bookmark, make a note in the text, or consult the built-in dictionary. Built-in speaking dictionary and voice recording features are also included.
File Format Compatibility	DAISY, MP3, NIMAS, TXT, HTML, XML
Size/Weight	3.5” x 6” x 1”/ 10 oz; touch-screen measures 2” x 3”
Battery	Replaceable rechargeable; 7 hours of use
Storage Medium	Removable SD card
Price	$479.00
Vendor	Don Johnston (www.donjohnston.com)

Dolphin EasyConverter

Target Audience	Anyone
Description	EasyConverter quickly creates large print, MP3, DAISY, and Braille format versions of otherwise inaccessible materials. Inputted items can be scanned from paper or converted from Word, PDF, HTML, or TXT files
File Format Compatibility	TXT, RTF, HTML, NIMAS, DAISY, MS Word, PDF.
System Requirements	CPU: Pentium III 700 MHz (Pentium IV 2Ghz for Vista) Memory: 256 MB Storage: 512 MB Browser: Microsoft Internet Explorer 6 Operating System: Microsoft Vista, XP, or 2000
Platforms	PC
Price	$1,400.00
Vendor	Dolphin USA (www.yourdolphin.com)

gh Player

Target Audience	Anyone
Description	Converts inaccessible content (PDF, Word, print, et al.) into a variety of traditional and electronic accessible formats (Braille, Large Print, Digital Talking Books, et al.). Built-in accessibility features include text-to-speech capability, digital magnification, contrast enhancement, and text highlighter.
File Format Compatibility	DAISY, TXT, HTML, NIMAS, RFB&D
System Requirements	CPU: Pentium II Memory: 128 MB RAM Storage: N/A Browser: Microsoft Internet Explorer Operating System: Microsoft Vista, XP, or 2000
Platforms	PC
Price	$250.00
Vendor	gh, LLC (www.gh-accessibility.com)

Key to Access

Target Audience	Students with learning disabilities
Description	The Key to Access device plugs directly into any USB port and can moved freely between computers. No software loads onto a computer's hard drive (functions run off the flash drive via the USB port). Features a floating toolbar with 10 accessibility features for reading and writing. Reading tools include E-Text Reader, Scan and Read Pro, Universal Reader Plus, Text-To-Audio, and PDF Equalizer ML.
File Format Compatibility	TXT, RTF, MS Word, HTML, PDF, WAV, MP3.
System Requirements	CPU: 1 GHz Memory: 128 MB Browser: Microsoft Internet Explorer 6.0 Operating System: Microsoft Vista or XP
Battery	1 AAA Alkaline
Storage Medium	2 GB USB flash drive
Price	$350.00
Vendor	Premier Assistive Technology (www.readingmadeeasy.com)

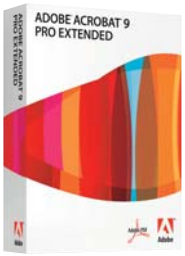
KNFB Mobile Reader

Target Audience	Blind or low vision users
Description	KNFB Mobile Reader runs on a multi-function cell phone and allows users to snap a picture of virtually any document. Proprietary document analysis technology recognizes words and reads them aloud.
File Format Compatibility	The KNFB Mobile Reader is a self-contained scanner and text-to-speech reader for use with print text. Files created with the Reader can be saved as TXT format documents and these can be transferred from the device.
Size/Weight	Depends on cell phone
Battery	Rechargeable
Storage Medium	SD Memory Card
Price	$2,000.00
Vendor	KNFB Reading Technology (www.knfbreader.com)

Kurzweil 3000

Target Audience	Students with learning disabilities
Description	A comprehensive reading, writing, and learning software solution for struggling readers.
File Format Compatibility	TXT, HTML, WAV, MP3, RTF, PDF, MS Word, DAISY
System Requirements	CPU: 1 GHz / G3 Memory: 512 MB / 256 MB Storage: 1.7 GHz / 200 MB Operating System: XP or Vista/ OS 10.4
Platforms	PC / MAC
Price	$1,495.00
Vendor	Kurzweil 3000 (www.kurzweiledu.com)

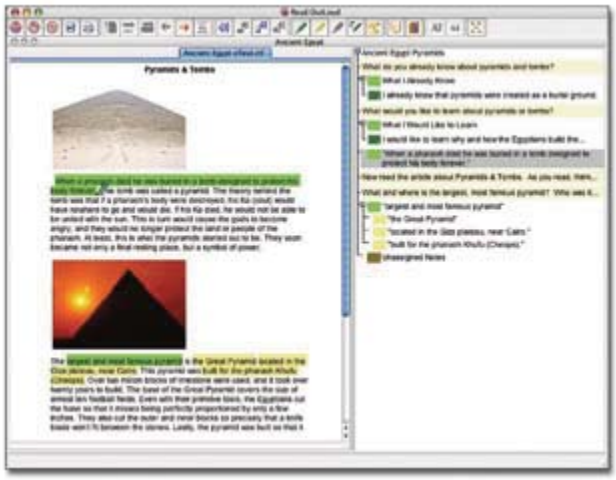
PDF Access Products

Target Audience	Anyone
Description	PDF format has become widely used yet unfortunately many PDF documents are inaccessible. Existing PDF documents may need to be converted into accessible formats. Several commercially available software programs are available for this purpose.
	Product: Adobe Acrobat 9, Pro, or Pro Extended Price: $100.00+ Operating Systems: PC / Mac Vendor: Adobe (www.adobe.com)
	Product: PDF Converter 5 Price: $100.00 Operating Systems: PC Vendor: Nuance (www.nuance.com)

Read & Write Gold

Target Audience	Students with learning disabilities
Description	Read&Write GOLD is a literacy software solution containing customizable reading, writing, research, and study tools. One feature is a floating toolbar that interfaces with other common software programs.
File Format Compatibility	DAISY, TXT, RTF, MS Word, HTML, PDF, WAV, MP3
System Requirements	CPU: Pentium IV / Core 2 Duo Memory: 512 MB / 1 GB Storage: 1.2 GB / 800 MB Operating System: 2000, XP, or Vista / 10.4
Platforms	PC / Mac
Price	$645.00
Vendor	TextHelp (www.texthelp.com)

Read Outloud



Target Audience	Students with learning disabilities
Description	Read:OutLoud is a text reader capable of importing and reading files of a variety of formats. Features include text-to-speech, highlighting, a built-in browser, templates, and a dictionary.
File Format Compatibility	NIMAS, PDF, XML, RTF, TXT, HTML, DAISY
System Requirements	CPU: Pentium III / G3 Memory: 512 MB / 256 MB Storage: 200 MB / 200 MB Operating System: Microsoft 2000, XP, Vista / 10.2
Platforms	PC / MAC
Price	$300.00
Vendor	Don Johnston (www.donjohnston.com)

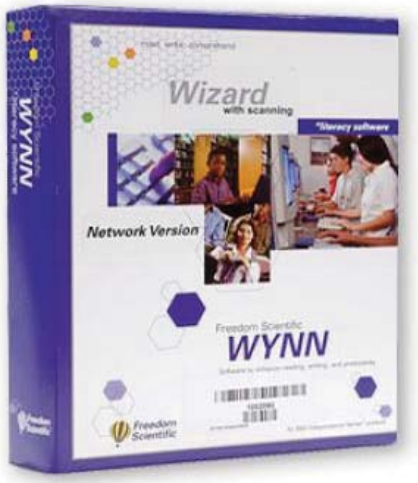
Scanners

Target Audience	Anyone
Description	Scanners come in several configurations: flatbed, with automatic document feeders, and all-in-one. Nearly all models are compatible with a wide variety of software products. Assistive technology manufacturers often list recommended scanners on their web sites.
Size/Weight	Various
Price	$150.00+
Vendors	Hewlett Packard (www.hp.com), Epson (www.epson.com), Canon (www.canon.com), Fujitsu (www.fujitsu.com)

Victor Reader Stream

Target Audience	Blind or low vision users
Description	A portable DAISY player, the Victor Reader Stream allows users to read and navigate through files of a variety of electronic formats.
File Format Compatibility	DAISY, MP3, RFB&D, NLS
Size/Weight	4.5” x 2.5” x1” / 6 oz.
Battery	Replaceable, rechargeable; 15 hours
Storage Medium	Removable SD card
Price	$350.00
Vendor	Humanware (www.humanware.com)

WYNN Wizard



Target Audience	Students with learning disabilities
Description	Intended to help improve reading, writing, and studying, WYNN Wizard features a four-color, rotating toolbar of learning aids including a dictionary, thesaurus, word prediction function, highlighter, outliner, and other tools. WYNN Wizard's text view feature provides an interface between alternative text and its other learning aids.
File Format Compatibility	DAISY, TXT, RTF, HTML, MS Word, PDF, WAV, MP3
System Requirements	CPU: 400 MHz or better Memory: 128 MB RAM Storage: 400 MB Operating System: Microsoft Vista, XP, 2000
Platforms	PC
Price	$995.00
Vendor	Freedom Scientific (www.freedomscientific.com)

APPENDIX D:
REFERENCES AND LINKS

- Research Trends: Reading Machines for Students with Learning Disabilities (2008)
- Iowa Text Reader Longitudinal Study (2006-07)
- Bright Students with Dyslexia (2009)
- Results are in! (2007)
- Computer-Based Assessments and Accommodations: Has the Universal Design for Assessment Era Arrived? (2009)

Links for Reference Articles

The following reference articles can be accessed via the website links provided, and may be added to this guide for additional documentation and/or support of the project.

Raskind, M. (2008.) *Research Trends: Reading Machines for Students with LD*. Great Schools Inc., **http://www.schwablearning.org/articles.aspx?r=984**.

Iowa Text Reader Longitudinal Study,
http://www.kurzweilaustin.com/K3000/Studies/Iowa_Text_Reader_Study.pdf

—. (2009.) *Bright Students with Dyslexia*. ADVANCE for Speech-Language Pathologists and Audiologists, pp. 7-9,
http://speech-language-pathology-audiology.advanceweb.com/ebook/magazine.aspx?EBK=SP061509#/1/.

—. (2007.) *Results are in!* Humanware Newsletter,
http://www.humanware.ca/web/en/Newsletter/15.html.

Russell, M. (2009.) *Computer-Based Assessments and Accommodations: Has the Universal Design for Assessment Era Arrived?* Family Center on Technology and Disability, Newsletter,
http://www.fctd.info/resources/newsletters/displayNewsletter.php?newsletterID=10071 or
http://www.fctd.info/resources/newsletters/upload/april09.pdf.

APPENDIX E:
POLICY RESOURCES

- NIMAS File Set Eligibility
- How to access AIM in my State (Missouri examples, narrative and flow-chart)
- Test Accommodation Policies in my State (Missouri example)

NIMAS Fileset Eligibility

Much confusion surrounds student eligibility for electronic filesets depending on the format and origin of the fileset and copyright provisions. The following reference material describes the IDEA eligibility provisions for National Instructional Materials Accessibility Standards (NIMAS) filesets placed in the National Instructional Materials Access Center (NIMAC) and materials derived from those filesets.

IDEA 2004 Section 674(e)(3)(A) includes a definition of students who may be provided with accessible textbooks created with NIMAS-conformant files from the NIMAC. That definition, used within the legislation, is "blind or other persons with print disabilities." "Blind or other persons with print disabilities" means children served under IDEA who may qualify in accordance with the act entitled, "An Act to provide books for the adult blind," approved March 31, 1931 **(2 U.S.C. 135a; 46 Stat. 1487)** to receive books and other publications produced in specialized formats. This is the National Library Service (NLS) statute.

NLS Statute (2 U.S. C. 135a) is cited in IDEA and defines qualified individuals as "certified by competent authority as unable to read normal printed material as a result of physical limitations, under regulations prescribed by the Librarian of Congress for this service." The regulations implementing this statute **(36 CFR 701.10)** establish four categories of individuals who are eligible:

> *"Blind persons whose visual acuity, as determined by competent authority, is 20/200 or less in the better eye with correcting glasses, or whose widest diameter of visual field subtends an angular distance no greater than 20 degrees."*
>
> *"Persons whose visual disability, with correction and regardless of optical measurement, is certified by competent authority as preventing the reading of standard printed material."*
>
> *"Persons certified by competent authority as unable to read or unable to use standard printed material as a result of physical limitations."*
>
> *"Persons certified by competent authority as having a reading disability resulting from organic dysfunction and of sufficient severity to prevent their reading printed material in a normal manner."*

National Accessible Media Producers (Bookshare and Recording For the Blind & Dyslexic [RFB&D]) To be eligible for accessible instructional materials created with NIMAS-conformant files from the NIMAC, students must meet the requirements of one of the four categories described above. This includes accessible instructional materials provided by Bookshare and RFB&D that are derived from NIMAS filesets. Each of those accessible media producers has procedures in place to assure students meet eligibility criteria (for Bookshare see **http://www.bookshare.org/about/membershipQualifications** and for RFB&D see **http://www.rfbd.org/faq/membership.htm#disability_certification**).

A factsheet on the Copyright Law Amendment of 1996 (PL 104-197) can be found on the National Library Service web site along with an FAQ on qualifications and an eligibility factsheet: see **http://www.loc.gov/nls/reference/factsheets/copyright.html**, **http://www.loc.gov/nls/faq.html**, and **http://www.loc.gov/nls/eligible.html**.

How to Access AIM in my State

Missouri Sample
AIM Process Steps for IDEA Students

Step 1. Local Education Agency (LEA) provides a signed Limitation-of-Use Agreement (LUA) along with a copy of purchase agreement language to Missouri Assistive Technology.

The district must sign a Limitation-of-Use Agreement (LUA) **http://at.mo.gov/docs/LEA_Agreement_9-07**.doc with Missouri Assistive Technology (MoAT) which ensures appropriate use of NIMAS filesets, confirms the district's agreement to coordinate with NIMAC as noted in their special education assurances under IDEA, and provides the name of the district contact/coordinator for AIM. The LUA need only be signed once and is kept on file at MoAT. If the AIM contact/coordinator for the district changes, the district should notify MoAT and the existing LUA will be amended with updated information.

The district must submit, with the LUA, a copy of the agreement language the LEA is using for purchase of instructional materials that obligate publishers to provide NIMAS filesets to NIMAC. The agreement language must be on LEA letterhead or otherwise note the school district's name within the document text. Sample purchasing agreement language is available for LEAs to adopt or adapt see **http://at.mo.gov/aim/sampleagreement.html**

Step 2. The district's accessible instructional materials designated contact/coordinator will be notified of students who need accessible instructional materials and will determine the best source(s) from which to obtain these materials.

(A) For students who are visually impaired and need hard copy Braille or large print format materials, districts should first contact Missouri School for the Blind to check student's eligibility for Federal Quota funds and the availability of existing Braille or large print materials, Braille format files (BRF), or other options for obtaining needed Braille or large print hard copy materials.

(B) In all other instances, and for students with disabilities other than visual impairment, the district should check the Bookshare repository for available DAISY and BRF format electronic files. Bookshare now offers free membership to schools and students who are documented as having print disabilities, making files available via their repository (see **www.bookshare.org/web/SupportOrgSignUpInfo**).

(C) If needed materials are not available through Bookshare, the district should check the NIMAC repository to ascertain if a title needed is available. To search the NIMAC repository, go to **http://nimac.privatereserve.com/**. Books can be searched by several methods, including title, edition, ISBN, publisher, copyright.

Step 3. The district AIM contact/coordinator initiates a request for AIM from an appropriate source.

(A) For students who are Quota eligible, the Quota manager will initiatie the AIM request to APH.

(B) If a Bookshare DAISY or BRF format fileset is to be used, the district will establish a member-

ship account with Bookshare and download the files from that source.

(C) If a NIMAS fileset is the source file to be used to provide AIM, the LEA must submit a Request Form (Appendix A to the LUA) to MoAT (see http://at.mo.gov/docs/LEA_Request_Form_PDF.pdf). A request form should be submitted for each student who needs AIM derived from a NIMAS fileset.

(D) If previously listed sources are not viable for needed AIM, MoAT will provide technical assistance for alternatives, including providing information about the use of assistive technology or other options that would meet student print access needs, such as—

- using electronic enlarging devices (e.g., CCTV's) with hard copy print materials
- scanning text and using enlarging software (e.g., ZoomText, MAGic, etc.) or producing hard copy large print
- scanning text and using text-to-speech software (e.g., WYNN, Read&Write Gold, etc.)
- scanning text and using screen-reading software (e.g., JAWS, WindowEyes, etc.), a refreshable Braille display, or producing hard copy with embosser.

Step 4. LEA delivers AIM to eligible student(s) in a timely manner.

(A) For students who are Quota eligible, AIM are provided by APH to the district for student use.

(B) If a Bookshare DAISY or BRF format is used, the LEA will download file(s) from the Bookshare repository and provide to the student with an appropriate interface system (reader, computer and software, etc.)*

(C) If a NIMAS fileset is used as a source file, MoAT will either—

(i) download fileset and provide it to the LEA for conversion into the appropriate specialized format(s), or

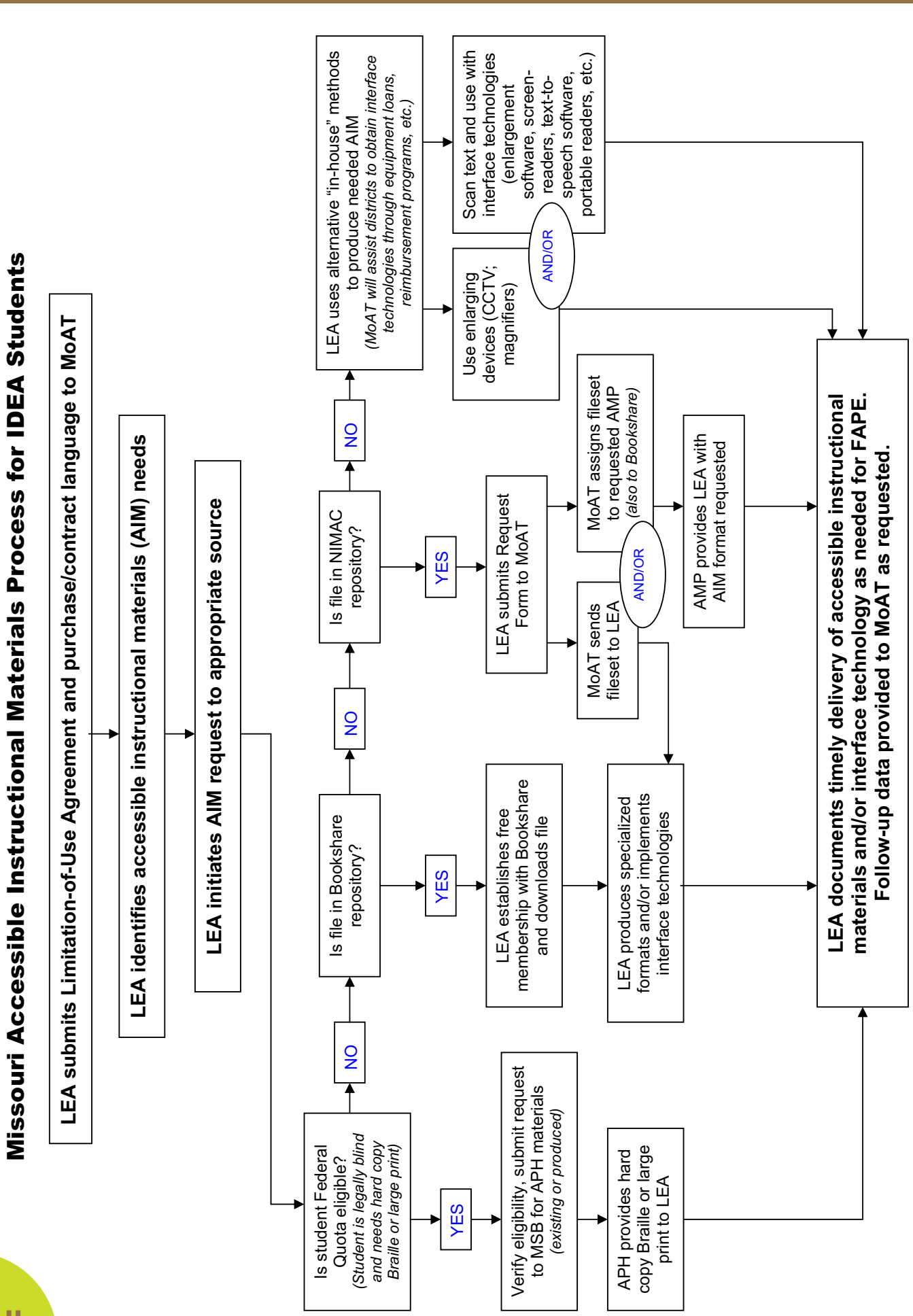
(ii) assign the fileset to an Accessible Media Producer (AMP) that can provide the conversion per LEA request.

MoAT will, by default, assign all downloaded NIMAS filesets to Bookshare so that files are converted into DAISY and BRF formats and are available for other Missouri schools to meet student needs for AIM in a timely manner.

(D) If other options are used to deliver AIM, MoAT will support these to the extent possible through its short-term assistive device loan program, assistive technology reimbursement program for schools, and other similar services.

Step 5. LEA provides follow-up data to MoAT regarding delivery of accessible instructional materials to student.

MoAT requires the collection of follow-up data to evaluate the timely delivery of accessible instructional materials for Missouri students whose materials were produced from NIMAS source files. Once a district requests a NIMAS download, MoAT will initiate follow-up procedures. Follow-up information collected includes what format(s) the fileset was converted into, timeframe for the conversion, timeliness of delivery to the student, and general satisfaction of district staff in regard to the process of accessing and receiving NIMAS filesets necessary to provide accessible instructional materials.


Missouri Accessible Instructional Materials Process for IDEA Students
LEA submits Limitation-of-Use Agreement and purchase/contract language to MoAT
LEA identifies accessible instructional materials (AIM) needs
LEA initiates AIM request to appropriate source
Is student Federal Quota eligible? (Student is legally blind and needs hard copy Braille or large print)
NO
YES
Is file in Bookshare repository?
NO
YES
Is file in NIMAC repository?
NO
YES
LEA uses alternative "in-house" methods to produce needed AIM (MoAT will assist districts to obtain interface technologies through equipment loans, reimbursement programs, etc.)
Use enlarging devices (CCTV; magnifiers)
AND/OR
Scan text and use with interface technologies (enlargement software, screen-readers, text-to-speech software, portable readers, etc.)
LEA submits Request Form to MoAT
MoAT sends fileset to LEA
AND/OR
MoAT assigns fileset to requested AMP (also to Bookshare)
AMP provides LEA with AIM format requested
Verify eligibility, submit request to MSB for APH materials (existing or produced)
LEA establishes free membership with Bookshare and downloads file
LEA produces specialized formats and/or implements interface technologies
APH provides hard copy Braille or large print to LEA
LEA documents timely delivery of accessible instructional materials and/or interface technology as needed for FAPE. Follow-up data provided to MoAT as requested.

SEPTEMBER 2008

FOCUS on… Issues in Special Education

GUIDANCE & TECHNICAL ASSISTANCE
From the Missouri Division of Special Education

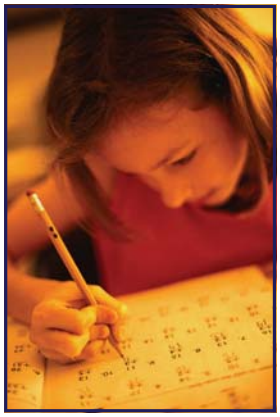
State & District-wide Assessments of School Achievement

PURPOSE OF THIS BULLETIN

This Technical Assistance Bulletin will provide IEP team members with the information they need to make decisions about each child's participation in these assessments.

What IEP Teams Need to Know...

Passage of the No Child Left Behind Act (NCLB) and the Individuals with Disabilities Education Act (IDEA) of 2004 has resulted in a greater focus on the accountability of educational services for students with disabilities. The Missouri School Improvement Program (MSIP) uses the performance of all students on the Missouri Assessment Program (MAP) subject area assessments and MAP-Alternates (MAP-A) in determining a district's performance level for district accreditation. The NCLB Act requires states to annually report on the performance of students with disabilities as measured by the MAP (which includes the MAP-A) as well as other subgroups of students. The Division of Special Education has identified the improved performance of students with disabilities on the MAP as one of its performance goals as required by IDEA. This focus on educational achievement and outcomes for students with disabilities is intended to direct attention to the accommodations and supports needed by students with disabilities to access and progress in the general education curriculum. Participation in state and district-wide assessments goes hand in hand with access to the general education curriculum.



1. Why are students with disabilities required to participate in the Missouri Assessment program and district-wide assessments of student achievement?

Participation of students with disabilities in state and district-wide assessments of student achievement is required by a number of state and federal laws and regulations. But more importantly, it sets the expectation that students with disabilities can achieve the standards that have been established for all students. Participation in these assessments should lead to improved teaching and learning. Participation of students with disabilities also will allow local administrators and boards of education to consider the needs of all students when they make instructional decisions and set policy (i.e., curriculum adoptions, staffing patterns, and professional development). It is important to expect students with disabilities to meet the high standards that have been set for all students. This may involve using the accommodations and supports provided by special education. It is also important to remember that the majority of students with disabilities identified under IDEA do not have significant cognitive disabilities which would inhibit their ability to participate and progress in the general education curriculum.

2. In general what decisions does the IEP team have to make regarding a student's involvement in state and district-wide assessments of student achievement?

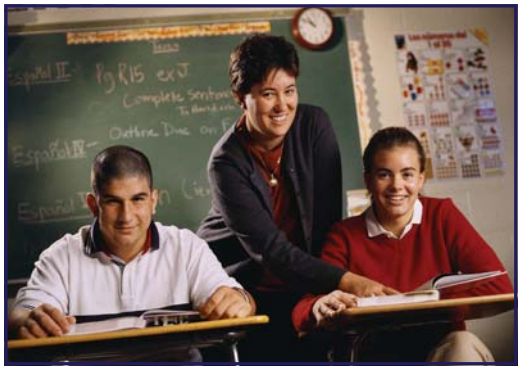
An Individualized Education Program (IEP) team must make decisions about how students with disabilities participate in assessment programs. These decisions include whether a student will participate in the subject area assessments of the regular MAP or the alternate assessments (MAP-A). When making the decision about participation in the MAP subject area assessments, the IEP team must also consider the student's need for accommodations. If they decide that the MAP subject area assessments are not appropriate for an individual student, even with the use of accommodations, then they can determine the student's eligibility for the MAP-A.

The IEP must address the same considerations for district-wide assessments of student achievement. If the IEP team determines that a child will not participate in a district-wide assessment (or a part of an assessment) even with accommodations, the IEP must state why the assessment is not appropriate and how the child will be assessed to measure the skill and/or knowledge being assessed by the district-wide assessment.

In making these decisions, the IEP team has the responsibility and authority to determine the individual accommodations that a student needs to ensure his or her participation in state and district-wide assessments of student achievement. The Department of Elementary and Secondary Education (DESE) or local school districts cannot limit the authority of an IEP team in the selection of accommodations.

If a specific accommodation is not on the list of accommodations in the Examiner's Manual, the accommodation can still be used. However, there are some accommodations that will invalidate a student's test results for accountability purposes. All assessment accommodation decisions made by the IEP team must be documented in the IEP. See questions 5 and 7 for further information on the documentation of accommodation decisions and accommodations that invalidate test results.

3. Do students with disabilities have to take all parts of the MAP?



Students with disabilities must take all of the MAP subject area assessments administered in their school district or the MAP-A assessments that are developed for their grade level. Students may not participate in some of the subject area assessments and the MAP-A. This policy is based on the Office of Special Education Programs' (OSEP) Memorandum #00-24, which is referenced at the end of this document.

The MAP-A has been developed to allow all students with disabilities to participate in the State Assessment Program. The MAP-A is designed for the student whose educational program is focused on Alternate Performance Indicators which are based upon Grade Level Expectations and the Show-Me Standards. The student's IEP team must agree that the student meets all five of the criteria outlined in the eligibility checklist for MAP-A. These criteria are listed in Table 1 on page 3. MAP-Alternate assessments in both Communication Arts and Math are required for eligible children in grades 3-8. In addition, the MAP-A Math assessment is required at grade 10 and the MAP-A Communication Arts assessment at grade 11. **Beginning in the Spring of 2008, MAP-A assessments will also be required for eligible students in Science at grades 5, 8, and 11.**

TABLE 1

Eligibility Criteria for MAP-A

The five criteria that a student with a disability must meet to be eligible for the MAP-A are:

1. The student has a demonstrated significant cognitive disability and adaptive behavioral skills. Therefore, the student has difficulty acquiring new skills, and skills must be taught in very small steps.
2. The student does not keep pace with peers, even with the majority of students in special education, with respect to the total number of skills acquired.
3. The student's educational program centers on the application of essential skills to the Missouri Show-Me Standards.

MAP-A Participation Eligibility Criteria Supplement

The statements below provide additional information for criterion number three: "The student's educational program centers on the application of essential skills to the Missouri Show-Me Standards." These statements may assist IEP teams in identifying students whose instructional focus is on the application of essential skills to the Missouri Show-Me Standards.

1. The student's reading ability is limited and, as such, the student acquires information primarily through other methods.
2. The student's ability to demonstrate knowledge by writing or speaking is limited; thus, the student must often use other methods to express ideas and share information.
3. The student requires significant supports to access the general education curriculum while demonstrating modest progress in that curriculum.
4. The student typically has difficulty solving problems or using newly acquired skills in differing situations.
5. The student's educational priorities primarily address essential skills that will be used in adult daily living.
6. The student's post-secondary outcomes will likely require supported or assisted living.
7. The student requires instruction in small groups or on a one-to-one basis, with frequent prompts and guidance from adults.

4. The IEP team, as documented in the IEP, does not recommend participation in the MAP subject area assessments or taking the MAP with accommodations.
5. The student's inability to participate in the MAP subject area assessments is not primarily the result of excessive absences; visual or auditory disabilities; or social, cultural, language, or economic differences.

4. What assessments must be considered at the district level?

District-wide assessments include those assessments that are part of the district assessment program used to determine levels of student achievement. Districts should provide IEP teams with a list of the district-wide assessments administered in their districts and the grades at which they are administered so the IEP team can make participation decisions. If an IEP team determines that a particular district-wide assessment (or a part of the assessment) is not appropriate for an individual student, the IEP team must document in the IEP why the assessment is not appropriate and how the student will be assessed.

When determining alternative assessment methods for district-wide assessment, the IEP team must ensure that the alternate method of assessment will be consistent with that purpose. In other words, if the purpose of the district-wide assessment is to assess reading ability, the alternative method must also result in an assessment of the student's reading ability. The MAP-A is not an alternate to a district-wide assessment of student achievement. Please note that effective the 2007-2008 school year there will be no voluntary Social Studies MAP assessment available for district use.

5. What do IEP teams need to know in order to make effective decisions about a student's participation and accommodations?

It is important that IEP teams know how the MAP subject assessments have been constructed and what skills students will need to take the test. MAP assessment items consist of a combination of multiple choice, constructed response, and performance event questions. Multiple choice questions require students to "bubble in" their answers. The constructed response and performance event items require written responses. Being familiar with the nature of the assessment items on the MAP and district-wide assessments will assist teams in making decisions about accommodations. DESE has a number of "released" assessment questions that IEP teams can review to assist them in making these decisions. More information can also be found at the following DESE web site: http://dese.mo.gov/divimprove/curriculum/releaseditems/index.htm.

Each IEP team must determine what accommodations, if any, the student needs in order to participate in the state or district-wide assessments. The purpose of an accommodation is to "level the playing field" so that a student with a disability can demonstrate what he knows and is able to do, not to provide the student with an advantage.

Typically, the accommodations needed by students with disabilities in a testing environment are also used by students in their instructional program. The accommodation can not be used solely on the MAP test, but must be needed in order for the student to learn in his/her school environment or to show what he/she has learned. For example, the test can be scribed for a student who requires scribing in the everyday school environment to show the content he/she has learned. However, scribing is not an appropriate accommodation for spelling or for poor handwriting, as students without disabilities also have poor handwriting and make spelling errors. The scoring procedures do not penalize students for spelling errors or poor handwriting. A second example would be reading the mathematics portion of the test to a student. It would be appropriate to consider reading the mathematics assessment to a student, depending on his/her individual reading difficulties, but it would not be fitting to read the mathematics assessment to a student who is capable of reading the material, but may be inattentive. IEP teams need to be sensitive to the use of accommodations and involve students, especially older students, in making accommodation decisions. Districts need to make every attempt to administer accommodations in a sensitive and discreet manner.

Accommodations determined necessary by the IEP team must be documented in the IEP. DESE has identified a list of common accommodations that might be needed by students with disabilities. Table 2 (see page 5) lists accommodations currently allowed on the MAP. IEP teams are encouraged to review and understand the accommodations and notes in Table 2, as many changes have been made to the accommodations list. If an IEP team determines the need for an accommodation that is not on this list, the accommodation must be identified in the IEP and coded as "other." Any accommodation used should allow students to demonstrate what they know and can do.

6. What scores are generated by the MAP subject assessments and what impact does the use of accommodations have on these scores?

The MAP subject area assessments generate several scores. Two are especially important to IEP team decision-making:

1. Achievement Level score
2. National Percentile score

There are 4 achievement levels for the MAP and the MAP-A :

1. Below Basic
2. Basic
3. Proficient
4. Advanced

The achievement level score for students who take the MAP-A are integrated into the building and district MAP scores for all students to determine Adequate Yearly Process.

The MAP subject area assessments also generate a score that is referred to as a National Percentile (NP). This score is based solely upon the student's performance on the Terra Nova Survey. **This NP score can be used to compare an individual student's performance with other students in the nation. However, in order to make such a comparison, the student must take this portion of the assessment under the conditions in which the Terra Nova Survey was normed.** For example, this portion of the assessment is timed. In order for a student to generate an NP that can be compared with other students, extended time cannot be used as an accommodation. However, if the IEP team determines that extended time is a needed accommodation for this portion of the test, then that extended time is permitted. **The IEP team mem-bers need to understand that the NP generated under these conditions cannot be interpreted as or compared with an NP generated under standard conditions.**

The district has the same obligation to identify those accommodations that will impact a student's score or results on district-wide assessments. IEP teams need to understand the implications of their decisions and how those decisions might impact individual students when considering accommodations for district-wide assessments.

7. What accommodations may invalidate a student's response?

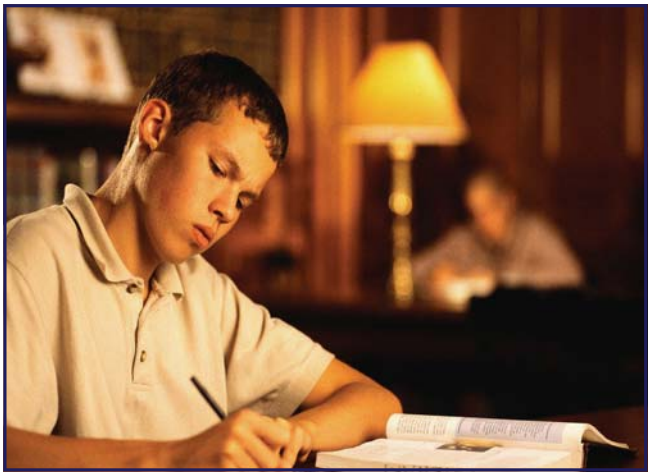
The following table lists several reasons why a MAP assessment will be invalidated. Some invalidation reasons apply specifically to Communication Arts. Other invalidation reasons affect all content areas.

Reasons for invalidating the test:

If...	Then...
an Examiner reads any part of the Communication Arts test to a student...	bubble in "04 Oral Reading – invalidates CA". This code applies to all sessions of the Communication Arts test.
an Examiner signs any part of the Communication Arts test to a student...	bubble in "05 Signing of assessment – invalidates CA". This code applies to all sessions of the Communication Arts test.
an Examiner paraphrases the test questions in any content area...	bubble in "06 Paraphrasing – invalidates all tests". This code applies to all content assessments.
an Examiner reads any part of the Communication Arts test to a student in the students native language...	bubble in "11 Oral reading in native language– invalidates CA". This code applies to all sessions of the Communication Arts test.
a student uses a bilingual dictionary for any part of the Communication Arts test...	bubble in "43 Use of bilingual dictionary – invalidates CA". This code applies to all sessions of the Communication Arts test.

8. Can teachers preview the MAP test prior to testing?

Special education teachers may preview a MAP test to preselect items for an IEP student to attempt. This procedure must be an accommodation addressed in a student's IEP and the review must be done under the supervision of the building test coordinator. The use of preselection of items as a testing accommodation should be carefully considered by the IEP team members and is not appropriate for all special education students who take the MAP assessment. These test items are privileged information and are not to be shared with other teachers. Other teachers are not to review the test prior to the first day of testing.



When preselecting items, the special education teacher must make sure that enough items are selected to constitute participation on the part of the student. If you select only the minimum number of items, the student could receive a level score of Below Basic due to the low number of items being considered. It is advisable to consider the individual student when selecting items and attempt to select enough items to get a higher level score if appropriate for the student.

2) When selecting items, do not automatically discard the constructed response items. Some students may perform better on constructed response items than on the multiple choice items on the test. Try to select a variety of response choice items.

9. Can parents request that their child not participate in the MAP or MAP-A? What about nonparticipation requests by parents for district-wide assessments?

All students enrolled in a public or charter school are expected to participate in the MAP. There is no procedure for a parent to request that their child not participate in the MAP. MAP includes both the subject area assessments and the alternate assessment.

If the district has a policy and procedure for parents to request that their children not participate in district-wide assessments, then that same procedure must be available to parents of children with disabilities. If no policy exists for parents to request nonparticipation for nondisabled students, then districts may not have a policy for students with disabilities.

10. Is out-of-grade-level testing allowed in the MAP?

No. In order to provide coherent information about school accountability, student achievement, and attainment of state standards at specific grade levels, students must be assessed in the grade level to which they are assigned.

Accommodations List for Students with Disabilities			
Code	**Invalidates**	**Administration Accommodations**	**Description**
01		Braille edition of assessment	Braille editions of the assessment require special processing. Consult your Braille edition test materials for specific instructions.
02		Large Print edition of assessment	Large Print editions of the assessment require special processing. Consult your Large Print test materials for specific instructions.
04	✓	Oral reading of assessment. See Note 1 (below).	The test examiner reads items verbatim to the student in an isolated setting so that other students will not benefit or be disturbed.
04		Oral reading of assessment to Blind/ Partial Sight students. See Note 1.	The test examiner reads items verbatim to the student who cannot read Braille in an isolated setting so that other students will not benefit or be disturbed.
05		Signing	A certified sign language interpreter or deaf education instructor signs the Mathematics and/or Science test (directions and test items are allowed) and/or the directions only of the Communication Arts test to the student.
06	✓	Paraphrasing See Note 2.	The test examiner paraphrases questions to help student understanding in an isolated setting. Terms may be defined as long as they: 1) are not the actual concept or content being assessed, 2) would not give clues, or 3) would not disclose the answer.
10		Other administration accommodations	
		Use of assistive devices	An assistive device, which permits a student to read and/or respond to the assessment, is used. Examples of assistive devices include computers that assist students with fine-motor problems, text enlargers that enable students to independently read and answer test questions, or augmentative communication devices.
		Use of visual aids: Specify	Visual aids include any type of optical or non-optical devices used to enhance visual capability. Examples of visual aids include bold-line felt-tip markers, lamps, filters, bold-lined paper, writing guides, or other adaptations that alter the visual environment by adjusting the space, illumination, color, contrast, or other physical features of the environment.
		Timing Accommodations	**Description**
20		Extend time allotted to complete TerraNova Survey. See Note 3.	Extended time to complete the TerraNova Survey is allowed for a student whose disability may cause him/her to be unable to meet time constraints.
21		Administer assessment using more than allotted periods	Students with disabilities may need to complete the assessments over more than one test period as a result of fatigue and/or loss of concentration. Some students may require additional breaks. Dates for taking the MAP must occur within the MAP testing window.
22		Other: Specify	Other timing accommodations
		Response Accommodations	**Description**
35		Use of scribe to record student response in test booklet	The student conveys verbally or signs responses to a scribe in an isolated, individual setting so that other students cannot benefit or be disturbed. The scribe cannot suggest ideas, words, or concepts. The scribe records the student's answers verbatim. The student should indicate capitalization and punctuation if language mechanics are being assessed.
		Student taped response	The student speaks responses into a tape recorder in an isolated setting so that other students cannot benefit or be disturbed. The test examiner must be present at all times.
		Signed response	The student uses sign language to convey responses. A certified sign language interpreter or deaf education instructor records responses.
		Pointing to respond	The student points to correct responses and the administrator records responses in the MAP test booklet.
		Oral response	The student provides oral responses to the test examiner.

Accommodations List for Students with Disabilities, continued on next page

Accommodations List for Students with Disabilities, continued from Previous page			
Code	**Invalidates**	**Response Accommodations.**	**Description**
		Use of a Brailler	A student records responses using a Brailler. Examples of a Brailler include a Braillewriter, a slate and stylus, or an electronic Brailler note taker.
		Use of a communication device	The student uses a communication device to provide responses to the test examiner.
		Use of a computer/ word processor/ typewriter to respond	The student uses a computer/word processor to write the responses. (Provide a non-networked computer to avoid inappropriate use of the computer to access answers.) The student uses a typewriter to write the responses.
39		Use of a calculator/ math table/ abacus	In sessions of the MAP where calculators are allowed, the accommodation code should not be marked. The use of a calculator represents an accommodation when it is used on a section of the assessment for which calculator use is not allowed. Students may use talking calculators, but only in an isolated setting. Students may use tables to assist in simple addition, subtraction, multiplication, and division facts using whole numbers. Students may use an abacus to perform mathematical computations by sliding beads along rods.
44		Other: Specify. See Note 4.	Other response accommodations
		Setting Accommodations	**Description**
50		Testing individually	The location should be free of noises, conversation, and distractions from adjoining rooms. Individual testing is appropriate when, for example, responses are given orally or questions are paraphrased.
51		Testing in small groups	The location should be free of noises, conversation, and distractions from adjoining rooms. Students may not interact with one another about questions or answers. The test examiner must be present at all times. Testing in small groups is not appropriate for students who give responses orally or require paraphrasing of questions.
53		Other: Specify	Other setting accommodations

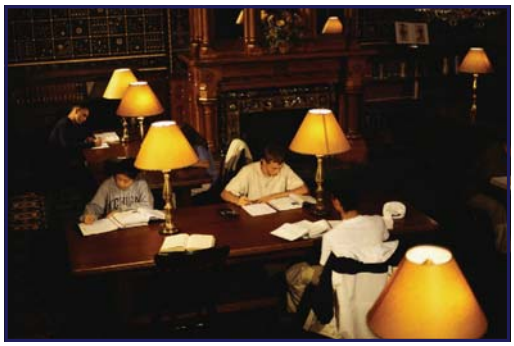
NOTES:

Note 1 *Oral reading of the Communication Arts test results in the LOSS (Lowest Obtainable Scale Score). Students identified as blind/visually impaired (who do not read Braille) may use the oral reading accommodation if it is their primary instructional method.*

Note 2 *Paraphrasing test questions invalidates all MAP assessment student scores for accountability purposes.*

Note 3 *If used, the student score cannot be compared with scores generated under standard conditions.*

Note 4 *Use of magnifying equipment, amplification equipment, graph paper, and testing with the teacher facing the student are not listed as accommodations because these are no longer required to be reported as accommodations for the MAP tests.*



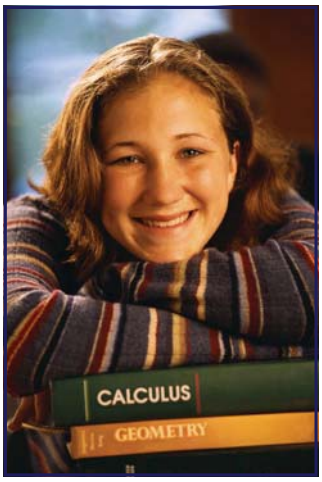
11. Are students who are receiving homebound services, enrolled in vocational schools or juvenile detention centers, or placed in approved private agencies or other out-of-district placements by local districts required to take the MAP district-wide assessments? What about home-schooled students?

All homebound students and students receiving services in other agencies must be included in the MAP testing. Depending on the student's situation, testing may have to occur off campus. If this occurs, test security measures should be cleared with the building test coordinator. If any of these students do not take the MAP, they should be recorded as absent and their achievement will be recorded as "Level Not Determined."

Home-schooled students fall into a different category. Honoring a parental request for a home-schooled student to be included in the MAP testing is a local district decision.

ADDITIONAL RESOURCES

OSEP Memorandum #00-24, Questions and Answers about Provisions in the Individuals with Disabilities Education Act Amendments of 1997 Related to Students with Disabilities and State and District-wide Assessments. [On-line]. Available: www.ed.gov/offices/OSERS/OSEP. http://www.dssc.org/frc/AssessmentQ&A.pdf



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Division of Special Education

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