

Improving AT Service Delivery in the Public Schools



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Description



Participants will be exposed to the Quality Indicators of Assistive Technology.

Using this tool to analyze your district AT services can help provide a road map for improving those services.

It is recommended that all members of the district AT team attend this training as a team where possible.

Learner Outcomes



Participants will:

- identify where to find the QIAT indicators and other documents shared in this webinar.
- be able to use the QIAT indicators to analyze their own AT model.
- learn how to use their scores to drive change in their environment.



Getting Started



- School Delivery Models
 - Expert Model
 - School Based Team
 - No team
- **System Supports**
 - Special Education
 - Regular Education
 - Technology Department

Quality Indicators



- www.qiat.org >> Indicators >> Top right side!
- [Indicators](#)
- [Matrix](#)
- [Pendergast Scoring Sheet](#)



Breaking it Down, QIATly

10:00



1. Look at the 8 indicators and identify your first choice for working on
2. Form groups by indicator
3. As a team, look at the questions, intent statements, and common errors
4. Problem solve solutions that you can implement

Consideration



- Intent – team consideration throughout the process
- Common Mistakes
 - Kids you can “see”
 - Subpar knowledge; expert only

Consideration



Possible Solutions

- [WATI AT Decision Making Guide](#)
- [GPAT](#)

Assessment



- Intent - capture problem solving that occurs when it is “bigger” than consideration during the IEP process
- Common Mistakes
 - Lack of procedures for getting Assessment
 - Lack of multidiscipline approach
 - Incompetent Staff
 - Lack of time
 - Poor communication
 - Lack of involvement of the client
 - Outside team (not the IEP team)

Assessment



Possible Solutions

- [ASNAT](#)

AT in the IEP



- Intent - What is AT doing in the IEP?
- Common Mistakes
 - AT needs and Services are left off IEP
 - AT use is not embedded/expected in the IEP
 - Jargon/Complicated language

AT in the IEP



Possible Solutions

- [Intro to AT on PESD website](#)
- The Stranger test

Implementation



- Intent - Delivery with Fidelity
- Common Mistakes
 - Generic Planning
 - Isolated Ownership of Implementation
 - Focus on Acquisition
 - Maintenance/Upkeep
 - Contingency

Implementation



Possible Solutions

- WATI AT Decision Making Guide

Evaluation of Effectiveness



- Intent - Is data showing that it is working?
- Common Mistakes
 - No observable/measurable target
 - Isolated responsibility
 - Environmental appropriateness
 - Review period

Evaluation of Effectiveness



Possible Solutions

Surveys

IEP goal data

WATI revisited

Transition



- Intent - Plan for and ensure seamless transition of equipment and services from one location/agency to another
- Common Mistakes
 - Low Self - Advocacy
 - Lack of Planning
 - Poor Communication
 - Funding gaps
 - Philosophical differences between settings

Transition



Possible Solutions

- [Hey Can I try that \(WATI\)](#)
- Temp Equipment Loan to receiving district
- Early Planning/Communication

Administrative Support



- Intent- Policies, procedures and administrative support for implementation
- Common Mistakes
 - Policies not communicated.
 - AT not recognized as FAPE.
 - AT teams without resources.
 - AT personnel provides all services.
 - Services never evaluated.

Administrative Support



- Possible Solutions
 - [AT Resource Guide for Teachers and Administrators](#)

Professional Development and Training



- Intent - Develop a comprehensive PD plan that addresses AT needs/issues in your district
- Common Mistakes
 - Failure to Plan
 - Irrelevant
 - No Direction
 - One size fits none
 - Tell me about the tools
 - Silo

Professional Development and Training



Possible Solutions

1. Staff Needs Assessment - Survey Monkey, etc
2. Intro/Advanced training
3. Competency Vs Attendance
4. Multiple Modalities for Training

Potential Drawbacks



- Validity of a Self Assessment
- Interrater reliability
- Just a number
- Internal team awareness

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Using the AT Decision-Making Guide

When the members of the team who have been assigned to gather information have completed their tasks, the team is ready to come together for the next step. The information gathering may have included reviewing the files, contacting previous service providers, completing a specific test that someone felt would provide important information, or observing. In decision making this information will be used to guide the direction and content of the decision.

Decision-making takes place at a meeting. The tool to be used is the AT Decision-Making Guide. This guide is a single page that leads the team through a five-step decision making process. Using an effective decision-making process requires team members to acquire and use a variety of skills that are separate from the technical skills they may have needed during the data gathering stage. These include communication skills and group process skills. The communication skills include, but are not limited to active listening, negotiation, providing non-threatening feedback, and accepting criticism without becoming defensive. The last skill area is group process. It includes following a schedule, reaching consensus, and a variety of tasks that become important when working as part of a team, one of the most important being the effective use of a formal group decision making process.

The key elements or steps of an effective decision making process include:

- 1. Problem Identification:** The identification and definition of a specific problem
- 2. Solution Generation:** The suggestion of possible solutions
- 3. Solution Selection:** The evaluation of suggestions and choosing of a solution to create an action plan
- 4. Implementation:** The carrying out of the plan
- 5. Follow up:** Meeting again to evaluate the solution

It may sound strange to suggest that various members of the team might be on different steps of the process. However, it is not unusual for team meetings to be conducted in an informal manner with information presented verbally and with little attention paid to focusing on the specific steps of the decision-making process. When this occurs, individual styles of thinking and communicating can lead to one team member seeking very specific and minute details of the problem. At the same time another team member may be thinking of great solutions and still another is wondering how soon the meeting will be over or what to serve for dinner that night. There are several very simple, but effective strategies for improving and formalizing the decision-making process being used by a team when making assistive technology decisions. The AT Planning Guide provides a structure for doing so.

Throughout the Decision Making Process:

Present information in written as well as spoken format where everyone on the team can see it.

This requires that the key facts be written on a board, flip chart, overhead projector or butcher paper in large print that is visible to all participants. Some team members may feel that this takes unnecessary effort to write every idea up on a board, but it is an extremely effective way to keep each person focused on which step the team is addressing. As information is shared, it is written on the board or chart visible to all. If one of the team members is distracted by something they have forgotten to do, or is called out

of the meeting for a telephone call, they can quickly “catch up” on what was said when they are able to refocus on the discussion. At the same time, if a group member contributes a solution before the team has finished contributing all the information necessary to identify the problem, the recorder can quickly note the “suggested solution” under **Solution Generation**, and redirect the entire group back to completing **Problem Identification**.

Create a shared group memory. Recording what is being said where it is visible to all adds visual memory to auditory memory and doubles the likelihood that everyone will remember in the same way the information that was discussed. This helps create a shared group memory, one that is very similar across all members of the group. It greatly increases the likelihood of follow through from team members.

Share roles and responsibilities. Team members may be hesitant to take a leadership role in conducting team meetings. Rotating roles from one meeting to the next is an effective way to share this responsibility. At each meeting one team member can serve as **facilitator**, while another is **recorder**, and still another acts as **timekeeper** to keep the group moving through the discussion. It is important that the team move at a pace that will allow the most time at the most important discussion points and keep the team from getting side tracked or bogged down (Fox & Williams, 1991). In addition, this rotation of roles helps insure that each team member recognizes and respects the contribution each of these participants makes to effective decision-making.

During Problem Identification:

Address not only the characteristics of the student, but also of the environments in which the student functions, and the tasks that need to be done. Many times when technology is abandoned, it is because only the physical, psychological, and social characteristics of the student are addressed, with little or no attention paid to the settings in which the device will be used or the specific tasks that the student really needs to address (Cook & Hussey, 1995). The SETT framework (Zabala, 1994) helps team members to focus on the **student** (their personal characteristics and interests), the **environment** (including physical characteristics of the setting as well as instructional activities and arrangements), and the **task** (which are the specific activities that the target student needs to be able to do in each environment). This focus is helpful in clearly identifying and defining the problem so that the team has a clear focus to guide them as they generate appropriate alternatives and solutions.

During Solution Generation:

When generating solutions, use brainstorming rules to create a climate of trust. An important factor in generating a variety of useful alternatives during Solution Generation is to create a climate of trust by following brainstorming rules. This means that all suggestions are written on the board or chart, no comments are allowed and no judgments are passed. The goal is to generate as many ideas as possible. As the flow of ideas slows, it is a good idea to persevere a little longer. Often the second wave of ideas is the most innovative. If everyone is feeling sluggish and suggestions are few, energy may be increased by putting a two-minute time limit in place to get things started. This short time limit combined with writing everything where it can be seen increases the creativity and allows the group to explore as many options as possible. Additional time can be added if the group agrees, but the short time period helps bring that creative, right side of the brain into action.

If the solutions generated by the team do not include assistive technology, or include only a very few items, the team may need to utilize additional resources. Additional resources can provide an overview of the types of assistive technology solutions that would be appropriate for the student and task for which they are problem solving. Resources may include a person, as mentioned earlier or print, digital, or online resources. In the next section **Using the AT Checklist and other Resources**; several resources that might be helpful are discussed.

During Solution Selection:

During Solution Selection, encourage combining, sequencing and prioritizing. As alternatives are discussed and evaluated, it may become apparent that some items are the same thing in different words or that others make an excellent sequence of steps. New suggestions may be added at any time. This is the place for the team to really discuss the value and relationship of the many suggestions. As individual suggestions are discussed, it is often helpful to group them into “Things we can do tomorrow,” “Things we can do in a month,” and “Things we may want to consider later.” The Action Plan is then created to include a timeline and persons responsible for each of the solutions or steps that were selected.

Obtain consensus from all participants before adjourning meeting. When several people work together to reach a decision, there will be many different ideas presented. In ideal situations, the Solution Selection will result in a unanimous agreement about what specific suggestions should be selected for the action plan. However, life is far from ideal. When unanimous agreement is not reached, it is critical that the team arrive at consensus about the action plan that will be implemented. In order to assure consensus, the facilitator must poll individual team members, asking them if they will support this plan even though they may have personally preferred another solution. When the facilitator fails to poll members for consensus, they may believe they have unanimous agreement, but actually have **majority rule** (a few team members dominating the discussion, while others strongly disagree, but do not speak up), **minority rule** (one team member dominating the discussion, while others disagree and do not speak up), or **authority rule** (no one questioning what the administrator suggested, even though they disagree). When one of these occurs, the chances of successful implementation are decreased.

During Implementation:

When implementation takes place, follow the plan completely. For that to happen, everyone on the team needs to be aware of the plan and his/her role in it (Prentice & Spencer, 1985). Unfortunately this does not always happen if teams do not utilize the strategy of writing down important information during each step of the process. Without that “group memory” important details and key responsibilities are easily forgotten or overlooked while meeting the myriad demands of work in school districts. Implementation is the step of the decision making process that tells us whether the solutions we selected are good ones.

One planning tool we have found useful is Joy Zabala’s *The SETT Framework Part II A* and *Part II B*. This is a guide that allows a team to compare the potential effectiveness of selected tools using the same criteria.



SETT SCAFFOLD for TOOLS SELECTION- Part II A

Develop Descriptors of an Assistive Technology Tool System that Addresses Needs and Identify Possible Tools

STUDENT: _____ AREA OF ESTABLISHED NEED (See SETT: Part I): _____

STEP 1: Based on S-E-T data, enter descriptors or functions needed by the student across the shaded top row - 1 descriptor per column
STEP 2: Enter promising tools in the shaded left column - 1 tool per row
STEP 3: For each tool, note matches with descriptors and functions to help guide discussion of devices and services
USE ADDITIONAL SHEETS IF NECESSARY

Descriptors									
Tools									

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SETT SCAFFOLD for TOOLS SELECTION-PART II B
Establishing Availability and Training Needs for Promising Tools

SHORT LIST OF TOOLS	TOOL AVAILABILITY			SERVICES (training, planning, coordination, etc) REQUIRED FOR EFFECTIVE USE		
	S	P	A	STUDENT	STAFF	FAMILY
JUSTIFY CHOICES WITH SETT DATA AND DESCRIPTOR MATCH						

KEY: S= Systemically available tools - Currently available to ALL students served by this system
 P= Programmatically available through special education services or other services for which identified student is qualified
 A= Additional tools that need to be acquired for this student.

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For Follow up:

Follow up on a planned schedule. At a set interval after implementation, follow-up or monitoring must take place. This is another area where school teams frequently fail. The school year can slip quickly by while one team member waits on another to do something; or bad weather, illnesses, and absenteeism take their toll. If monitoring does not take place according to the original plan, a variety of problems can crop up and be overlooked as each team member focuses on their own assignment, but does not have the opportunity to get the “big picture” that comes from a team discussion.

Using the AT Decision Making Guide will guide the team through the steps of the process. Following these simple, but effective steps can be extremely useful to teams in the schools as they strive to make appropriate and effective assistive technology decisions for the students they serve.

WATI Assistive Technology Decision Making Guide

Area of Concern _____

PROBLEM IDENTIFICATION-(SAMPLE)

Student's Abilities/Difficulties	Environmental Considerations	Tasks
<ul style="list-style-type: none"> • Writing/use of hands • Communication • Reading/academics • Mobility • Vision • Hearing • Behavior • Other 	<ul style="list-style-type: none"> • Classroom • Playground • Lunch room • Home, etc. <p>In each:</p> <ul style="list-style-type: none"> • Technology equipment available • Room arrangement, lighting • Sound • Activities, etc 	<ul style="list-style-type: none"> • Produce legible written material • Produce audible speech • Read text • Complete math problems • Participate in recreation/leisure • Move independently in the school environment
Sensory Considerations		Narrowing the Focus
Vision/Hearing/Tactile (hyper/hypo)		i.e. Specific task identified for solution generation
Solution Generation Tools & Strategies	Solution Selection Tools & Strategies	Implementation Plan
Brainstorming Only No Decision Review Checklist	Discuss & Select Idea from Solution Generation	AT Trials/Services Needed: Date Length Person Responsible
		Follow-Up Plan
		Who & When Set specific date now.

Important: It is intended that you use this as a guide. Each topic should be written in large print where everyone can see them, i.e. on a flip chart or board. Information should then be transferred to paper for distribution, file, and future reference.

Georgia Project for Assistive Technology Assistive Technology Consideration Process Guide

Student: _____ School: _____ Date: _____

The GPAT Assistive Technology Consideration Resource Guide is a companion document that will assist IEP teams in completing this form. Please refer to the Resource Guide for examples of instructional tasks and possible solutions to document within this Consideration Process Guide. Each column contains general examples for each area but is not considered all inclusive.

Directions for completing this Consideration Process Guide:

1. Using the student’s present levels of performance, in which general area(s) does the student experience difficulty completing instructional tasks?

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> Writing/Written Composition | <input type="checkbox"/> Spelling | <input type="checkbox"/> Reading | <input type="checkbox"/> Math |
| <input type="checkbox"/> Study/Organizational Skills | <input type="checkbox"/> Hearing/Listening | <input type="checkbox"/> Oral Communication/Language | <input type="checkbox"/> Seating / Positioning / Mobility |
| <input type="checkbox"/> Activities of Daily Living | <input type="checkbox"/> Recreation and Leisure | <input type="checkbox"/> Pre-vocational and Vocational | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> No areas are identified. No further consideration is required. | | | |

2. **Column A:** List one area with one instructional task per row, such as Writing/Copying notes from board. Check the location(s) where the student needs to complete the task.

Complete columns B-E on each row until it is determined that the student completes the task independently, then stop.

3. **Column B:** List the standard classroom material currently used by the student to complete the task.
 4. **Column C:** List the accommodations, modifications and/or strategies currently used by the student to complete the task.
 5. **Column D:** List the assistive technology solution(s) currently used by the student to complete the task.
 6. **Column E:** List other possible solutions the IEP team has identified (accommodations, modifications, strategies, AT devices and/or services).

A. Area and Instructional Task(s)	B. Standard Classroom Materials	C. Accommodations/ Modifications/Strategies	D. Assistive Technology Solutions	E. Other Possible Solutions (Accommodations, Strategies, Assistive Technology Devices and/or Services)
<input type="checkbox"/> School <input type="checkbox"/> Home/Community	If not independent, continue to C →	If not independent, continue to D →	If not independent, continue to E →	
<input type="checkbox"/> School <input type="checkbox"/> Home/Community	If not independent, continue to C →	If not independent, continue to D →	If not independent, continue to E →	
<input type="checkbox"/> School <input type="checkbox"/> Home/Community	If not independent, continue to C →	If not independent, continue to D →	If not independent, continue to E →	

Georgia Project for Assistive Technology Assistive Technology Consideration Process Guide

A. Area and Instructional Task(s)	B. Standard Classroom Materials	C. Accommodations/ Modifications/Strategies	D. Assistive Technology Solutions	E. Other Possible Solutions (Accommodations, Strategies, Assistive Technology Devices and/or Services)
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<input type="checkbox"/> School <input type="checkbox"/> Home/Community	If not independent, continue to C →	If not independent, continue to D →	If not independent, continue to E →	
<input type="checkbox"/> School <input type="checkbox"/> Home/Community	If not independent, continue to C →	If not independent, continue to D →	If not independent, continue to E →	

Consideration Outcomes:

- No, assistive technology is not required. The student independently accomplishes instructional tasks in all general areas using:**
- Classroom Materials
 - Accommodations
 - Modifications
- Yes, assistive technology (devices and/or services) is required.**
- AT is required and the IEP team knows the nature and extent of the AT devices and services needed.
 - IEP Team needs additional information (i.e., observation, trial use, consult with specialist, evaluation)

Specify any assistive technology services required by this student: _____

Completed by (include name and position):

Name	Position	Name	Position

Georgia Project for Assistive Technology
Assistive Technology Consideration Resource Guide

This is a companion document to the GPAT Assistive Technology Consideration Process Guide to assist IEP teams by providing examples of each area within the AT Consideration Process Guide. Each column contains general examples for each area but is not considered all inclusive. Remember that others who are not familiar with the student may refer to this document to provide supports.

Assistive Technology Services – applies to all instructional and/or access areas.

- Activities that help teams select, acquire and/or provide technical assistance in the use of assistive technology devices
 - Assistive Technology Evaluation of the student
 - Acquisition of AT - purchasing or leasing
 - Selecting, designing, fitting, customizing, adapting, applying, maintaining, replacing, and/or repairing AT devices
 - Coordinating and using other therapies, interventions or services with AT devices
 - Training or technical assistance for student or student’s family
 - Training or technical assistance for professionals, employees or others who are involved with the student

Useful Notes for Using this Resource Guide

Column A: Relates to basic instructional tasks which support the Common Core Georgia Performance Standards (CCGPS) and/or other tasks

Column B: Standard classroom materials available for student use (listed in alphabetical order)

Column C: Accommodations, modifications and/or strategies (listed in alphabetical order)

Column D: Potential Assistive Technology solutions (corresponds to Columns D and E on the GPAT Consideration Process Guide)

A. Area and Sample Instructional Tasks	B. Standard Classroom Materials	C. Accommodations/Modifications/Strategies	D. Assistive Technology Solutions
<p>Writing/Written Composition:</p> <ul style="list-style-type: none"> • Draw/illustrate • Write name • Copy information • Write letters/words/numbers • Align numbers and text • Write from dictation • Writes legibly • Complete written worksheets and/or tests • Outline/organize thoughts • Write sentences, paragraphs or narratives • Take notes • Graph • Use appropriate spelling, 	<ul style="list-style-type: none"> • Computer/tablet/word processor • Crayon/Marker • Dictionary, grammar and/or spell checker • Document camera • Interactive whiteboard • Letter and number strip • Paper/writing surface • Pen • Pencil 	<ul style="list-style-type: none"> • Change format or substitute alternatives for written assignments • Decrease assignment length • Decrease number of responses • Increase print size • Increase time • Optimal student seating <ul style="list-style-type: none"> ○ appropriate lighting (not facing glare or in shadows) ○ away from extraneous noises ○ close proximity to the teacher (distance) ○ individualized visual 	<ul style="list-style-type: none"> • Pencil grip or other alternative writing aids • Adapted paper <ul style="list-style-type: none"> ○ bold line ○ raised line ○ different spacing ○ colored ○ graph • Positioning Aids (slant board/clip board) • Non-slip material • Personal dry erase board • Slate and stylus • Timers • Device, software or app <ul style="list-style-type: none"> ○ spell and grammar checker ○ outlining/ graphic organizers

Georgia Project for Assistive Technology
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grammar, punctuation, and/or capitalization <ul style="list-style-type: none"> • Use digital tools to produce and publish writing • Writes within time frames 		proximity to educational environment/materials <ul style="list-style-type: none"> • Oral dictation • Peer note taker • Picture symbols to supplement written words • Pre-teach content specific vocabulary • Provide outline or copy of lecture notes • Use outline and/or webbing strategies • Word banks, sentence starters, and cloze format writing activities for supports 	<ul style="list-style-type: none"> ○ note taking ○ word prediction ○ word processor <ul style="list-style-type: none"> ▪ text-and-picture-based ▪ text-to-speech (talking) ▪ speech recognition ▪ portable ○ anti-glare screen ○ digital recorders/recording software ○ smartpen ○ onscreen keyboard ○ screen enlargement ○ document scanner ○ electronically scanned worksheets ○ online dictionaries ○ literacy suite software ○ advanced reading and writing aid software that includes: <ul style="list-style-type: none"> ▪ Optical Character Recognition ▪ text-to-speech with highlighting ▪ study tools ▪ dictionary ▪ word prediction ○ braille writer ○ braille note taker with refreshable display • Alternate access/accessibility features <ul style="list-style-type: none"> ○ adapted pointers ○ alternative mice ○ keyguards ○ alternative keyboards ○ switch access ○ screen readers ○ speech recognition ○ magnifiers

Georgia Project for Assistive Technology
Assistive Technology Consideration Resource Guide

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<p>Spelling:</p> <ul style="list-style-type: none"> • Identify correctly spelled word • Write spelling words from dictation • Spell words orally • Use correct homonyms • Look up words • Complete writing tasks with correct spelling 	<ul style="list-style-type: none"> • Alphabet strip • Computer/tablet/word processor • Dictionary, grammar and/or spell checker • Document camera • Flashcards • Interactive whiteboard 	<ul style="list-style-type: none"> • Peer/adult assistance • Personal dictionary • Preview of vocabulary • Use synonyms • Word wall/list 	<ul style="list-style-type: none"> • Phonics phone • Portable spell checker with or without auditory output • Device, software or app <ul style="list-style-type: none"> ○ spell and grammar checker ○ word prediction ○ word processor <ul style="list-style-type: none"> ▪ picture-based ▪ text-to-speech ▪ speech recognition ○ online dictionaries ○ advanced reading and writing aid software that includes: <ul style="list-style-type: none"> ▪ Optical Character Recognition ▪ text-to-speech with highlighting ▪ study tools ▪ dictionary ▪ word prediction
<p>Reading:</p> <ul style="list-style-type: none"> • Positioning reading material • Identify letters/numbers • Recognize/read name • Decodes words • Read common high-frequency words by sight • Read words, sentences and/or longer passages • Comprehend age/grade appropriate reading materials <ul style="list-style-type: none"> ○ Literal meaning ○ Inferential meaning ○ Main idea • Summarize key points • Retell stories with key details in correct sequence 	<ul style="list-style-type: none"> • Computer/tablet/word processor • Document camera • Electronic texts • Interactive whiteboard • Projected information • Supplemental texts • Tests • Textbooks • Whiteboard • Worksheets 	<ul style="list-style-type: none"> • Change complexity of material • Custom vocabulary list • Decrease assignment length • High interest, low reading level materials • Highlight to emphasize key points • Increase print size • Increase time • Optimal student seating <ul style="list-style-type: none"> ○ appropriate lighting (not facing glare or in shadows) ○ away from extraneous noises ○ close proximity to the teacher (distance) 	<ul style="list-style-type: none"> • Page fluffers • Positioning Aids (slant board/book holders for positioning books) • Colored paper, overlay filters or lens • Tracking aids • Portable dictionary with speech output • Handheld reading devices • Specialized format books <ul style="list-style-type: none"> ○ large print ○ audio ○ electronic (eBook) ○ braille • Adapted books • Device, software or app <ul style="list-style-type: none"> ○ variable color text/background combinations ○ word processor

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A. Area and Sample Instructional Tasks	B. Standard Classroom Materials	C. Accommodations/Modifications/Strategies	D. Assistive Technology Solutions
<ul style="list-style-type: none"> • Reads with fluency 		<ul style="list-style-type: none"> ○ individualized visual proximity to educational environment/materials • Peer/adult assistance • Pre-teach new vocabulary • Provide key points/details ahead of time • Provide picture symbols to supplement printed words • Provide questions ahead of time • Provide two sets of textbooks • Read text aloud • Supplement print with audio 	<ul style="list-style-type: none"> ▪ picture-based ▪ text-to-speech ○ eBook Readers ○ literacy suite software ○ document scanner ○ advanced reading and writing aid software that includes: <ul style="list-style-type: none"> ▪ Optical Character Recognition ▪ text-to-speech with highlighting ▪ study tools ▪ dictionary ▪ word prediction ○ braille note taker with refreshable display • Alternate access/accessibility features <ul style="list-style-type: none"> ○ adapted pointers ○ alternative mice ○ keyguards ○ alternative keyboards ○ switch access ○ screen readers ○ magnifiers
<p>Math:</p> <ul style="list-style-type: none"> • Identify numbers • Use number concepts • Complete basic calculations • Complete complex calculations • Complete math word problems • Use time concepts • Use money concepts • Use measurement concepts • Use geometric concepts • Use fractions and decimals • Use and interpret data • Explain knowledge of mathematical process 	<ul style="list-style-type: none"> • Calculator • Computer/tablet/word processor • Document camera • Formula sheet • Graph paper • Interactive whiteboard • Manipulatives • Math chart • Math drawing tools • Math fact sheet • Number line 	<ul style="list-style-type: none"> • Change assignment format • Change complexity of material • Color-code operation symbols and/or text • Decrease assignment length • Dictionary of math terms • Group similar problems together • Have students verbalize the process • Increase print size • Increased time • Peer/adult assistance • Provide additional spacing between problems 	<ul style="list-style-type: none"> • Adapted paper • Tactile graphics • Calculator • Alternative calculators <ul style="list-style-type: none"> ○ talking ○ on-Screen ○ braille ○ money • Talking watch/clock • Device, Software or App <ul style="list-style-type: none"> ○ equation editors ○ math translator ○ document scanner ○ electronic math worksheets

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Assistive Technology Consideration Resource Guide

A. Area and Sample Instructional Tasks	B. Standard Classroom Materials	C. Accommodations/Modifications/Strategies	D. Assistive Technology Solutions
		<ul style="list-style-type: none"> • Re-phrase vocabulary in word problems • Turn lined paper vertically for ready-made columns 	<ul style="list-style-type: none"> ○ graphing ○ color identifier ○ money identifier • Adapted measuring devices <ul style="list-style-type: none"> ○ measuring cups ○ talking tape measures ○ rulers ○ compasses or protractors ○ thermometers
<p>Study Organizational Skills:</p> <ul style="list-style-type: none"> • Maintain dedicated study time • Maintain 'to do' list • Follow organizational system • Keep track of assignments • Follow steps to complete assignments • Complete assigned task within designated timelines • Request teacher/peer assistance when needed • Have appropriate materials/supplies • Identify important points • Compile and organize information from various sources 	<ul style="list-style-type: none"> • Agendas • Calendars • Classroom reminders • Computer/tablet/word processor • Document camera • Interactive whiteboard • Notebooks • Parent/student portals • Rubrics • Social learning networks • Study guides • Syllabuses 	<ul style="list-style-type: none"> • Additional spacing between desks • Assignment sheet • Color coding • Daily planner book • Dedicated study time • Highlighters/sticky notes • Optimal student seating <ul style="list-style-type: none"> ○ appropriate lighting (not facing glare or in shadows) ○ away from extraneous noises ○ close proximity to the teacher (distance) ○ individualized visual proximity to educational environment/materials • Outline of key points • Peer/adult assistance • Provide extra supplies of classroom materials • Provide long-term assignment timelines • Provide oral and printed directions 	<ul style="list-style-type: none"> • Digital recorder • Device, software or app <ul style="list-style-type: none"> ○ auditory reminders ○ speech prompting ○ daily planners ○ outlining/graphic organizers ○ advanced reading and writing aid software that includes: <ul style="list-style-type: none"> ▪ Optical Character Recognition ▪ text-to-speech with highlighting ▪ study tools ▪ dictionary ▪ word prediction ○ braille note taker with refreshable display • Timers • Specialized tote for students with visual impairments

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		<ul style="list-style-type: none"> • Provide portable electronic storage file system <ul style="list-style-type: none"> ○ cloud technology ○ portable hard drive ○ USB flash drive • Provide print copies of ordered steps in a task • Sensory supports <ul style="list-style-type: none"> ○ auditory ○ tactile ○ visual • Show a model of the end product • Student checklist • Study carrel 	
<p>Hearing/Listening:</p> <ul style="list-style-type: none"> • Follow verbal directions • Listen to stories and answer questions • Listen to classroom discussion and apply information • Listen to teacher lecture and apply information • Listen to verbally presented information and retell with correct sequencing and facts • Listen to videos to gather information about current instructional topics • Respond to environmental stimuli appropriately (someone knocking on classroom door, bell ringing, fire alarm) • Paraphrase information heard • Focus on/understand verbal responses by classroom peers 	<ul style="list-style-type: none"> • Closed captioning access to caption ready television and video presentations • Computer/tablet/word processor • Digital recorder/player • Headphones for clarity of sound and blocking of extraneous noises • Document camera • Interactive whiteboard • Projection system/overhead projector • Television • Video player 	<ul style="list-style-type: none"> • Audio-tape verbally presented information for repeated presentation • Break directions into smaller steps/segments • Have student verbally summarize directions • Optimal student seating <ul style="list-style-type: none"> ○ appropriate lighting (not facing glare or in shadows) ○ away from extraneous noises ○ close proximity to the teacher (distance) ○ individualized visual proximity to educational environment/materials • Peer note-taker • Pre-teach vocabulary and/or components of the lesson 	<ul style="list-style-type: none"> • Amplification systems <ul style="list-style-type: none"> ○ soundfield system ○ assistive listening devices • Alerting devices • Telecommunication devices • Digital recorder with indexing capability • Device, software or app <ul style="list-style-type: none"> ○ audiobooks ○ note taking ○ smartpen ○ speech recognition for converting teacher lecture to text and/or sign • Closed captioning • Translation services

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<ul style="list-style-type: none"> • Understand auditory information presented via instructional media 		<ul style="list-style-type: none"> • Provide a written outline of lecture • Provide organizer in advance • Provide print copy of script in videotapes • Provide sign language/oral interpreter • Provide unobstructed view of the teacher • Reduce distractions • Use gestures • Use verbal prompts • Use visual supports (picture symbols, diagrams, maps) 	
<p>Oral Communication/Language:</p> <ul style="list-style-type: none"> • Gain attention of peers/adults within environment • Express wants/needs • Request assistance as needed • Provide appropriate greetings • Inform others • Request clarification • Participate in collaborative conversations • Terminate conversation • Ask and answer questions • Retell stories • Describe • Define • Sequence • Explain • Summarize • Compare and contrast • Persuade • Give oral presentations 	<ul style="list-style-type: none"> • Books • Computer/tablet/word processor • Document camera • Interactive Whiteboard • Manipulatives • Non-verbal communication (gestures and body language) • Verbal communication • Writing materials 	<ul style="list-style-type: none"> • Accept alternative responses (i.e. shortened, single word, less grammatically correct) • Accept descriptive responses • Additional response time • Aided language stimulation • Engineering the environment • Interpreter • Model use of communication device • Provide questions ahead of time • Repetition of spoken answers • Teacher modeling • Use 'Total Communication' • Verbal prompts • Video modeling • Visual supports 	<ul style="list-style-type: none"> • Speech amplification systems • Communication representation (objects, pictures, symbols, tactile, letters, words) • Augmentative & Alternative Communication (AAC) solutions <ul style="list-style-type: none"> ○ sign language / gestures ○ communication books/boards/wallets/vests ○ Picture Exchange Communication Systems ○ voice Output Communication Aids <ul style="list-style-type: none"> ▪ digitized / synthesized ▪ multi-level ▪ static / dynamic display ▪ computer/tablet app-based • Device, Software or App <ul style="list-style-type: none"> ○ computer ○ tablet • Alternate access/accessibility features <ul style="list-style-type: none"> ○ adapted pointers ○ alternative mice ○ alternative keyboards ○ switch access

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			<ul style="list-style-type: none"> ○ screen readers ○ magnifiers ● Graphic organizers ● Digital recorders
<p>Activities of Daily Living:</p> <ul style="list-style-type: none"> ● Feeding self ● Prepare snack & meals ● Dressing self ● Perform personal hygiene and grooming tasks ● Perform medically necessary procedures ● Perform simple household chores ● Transferring self ● Toileting self 	<ul style="list-style-type: none"> ● ADA compliant accessibility features ● Cleaning materials and appliances ● Computer/tablet/word processor ● Document camera ● Eating and cooking utensils ● Personal hygiene tools ● Safety Rails ● Ramps 	<ul style="list-style-type: none"> ● Change complexity of task ● Increased time ● Modeling appropriate skills ● Needed items within reach ● Stabilization strategies ● Use visual supports ● Verbal and/or visual cues 	<ul style="list-style-type: none"> ● Adapted eating utensils ● Adapted dressing aids ● Adapted cooking and food preparation aids ● Adapted personal hygiene aids ● Adapted household cleaning tools and appliances ● Adapted toileting equipment ● Picture cues ● Environmental control units ● Power control units ● Slant board/book holders for positioning ● Transfer boards ● Switches
<p>Recreation and Leisure:</p> <ul style="list-style-type: none"> ● Participate in games and play activities ● Participate in art activities ● Participate in sports and exercise activities ● Listen to music ● Read a book ● Watch TV/Movie ● Play with toys ● Participate in social media/online communities ● Use the computer/internet 	<ul style="list-style-type: none"> ● Art materials ● Books and magazines ● Games ● Computer/tablet/word processor ● Document camera ● Music (e.g. musical instruments, digital player, CD player, etc.) ● Puzzles ● Sports and exercise equipment ● Toys 	<ul style="list-style-type: none"> ● Adjust workspace for easier access ● Adult/peer assistance ● Change complexity of task ● Model appropriate skills ● Modify games and activities ● Sensory supports <ul style="list-style-type: none"> ○ auditory ○ tactile ○ visual ● Use readily available materials to provide modifications ● Verbal and/or visual cues 	<ul style="list-style-type: none"> ● Puzzles with knobs ● Switch adapted spinners ● Oversized dice ● Adapted utensil holders (i.e. crayons, paint brush, stamps) ● Raised line coloring sheets ● Adapted scissors ● Card holders ● Adaptive sports equipment ● Adapted games ● Adapted books ● Specialized format books ● Adapted music with symbols ● Adapted instruments ● Non-skid surface ● Switch accessible toys/devices ● Environmental control devices ● Power control units and battery adapters

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<p>Pre-vocational and Vocational:</p> <ul style="list-style-type: none"> • Completes assigned tasks within designated timelines • Utilize tools and/or equipment to complete tasks • Completes single and multiple step tasks • Stays on task until work is complete • Stays on task without supervision • Self-advocates to get needs met • Procurement of accessible instructional materials (AIMs) • Contacts post-secondary service providers to obtain assistance • Manages finances • Safely navigates community and local environments • Completes steps to obtain a job 	<ul style="list-style-type: none"> • Computer/tablet/word processor • Document camera • Office equipment • Pencil and paper • Sorting and assembling materials • Timers and watches 	<ul style="list-style-type: none"> • Break tasks into smaller steps/segments • Cooperative participation with peers and adults • Daily planner book • Determine and teach regularly traveled routes to students with visual impairments • Follow a picture task analysis • Individualized task and material modifications to meet student needs • Location identifiers • Modification of task length and complexity • Orientation to unfamiliar environments • Sensory supports <ul style="list-style-type: none"> ○ auditory ○ tactile ○ visual • Show a model of the end product • Sighted guide for visually impaired • Student self-monitoring sheets • Teacher modeling • Verbal and/or visual cues 	<ul style="list-style-type: none"> • Watches and timers • Electronically scanned application • Device, Software or App <ul style="list-style-type: none"> ○ auditory reminders ○ speech prompting ○ daily planners ○ outlining/graphic organizers ○ financial management software ○ screen enlargement ○ document scanner ○ OCR scanning software ○ braille translation software ○ braille note taker with refreshable display ○ braille embosser ○ digital recorder/player ○ long white cane ○ GPS for students with visual impairments ○ smart phone with appropriate apps • Augmentative & Alternative Communication (AAC) solutions • Alternate access/accessibility features <ul style="list-style-type: none"> ○ adapted pointers ○ alternative mice ○ alternative keyboards ○ switch access ○ screen readers ○ magnifiers

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		<ul style="list-style-type: none"> • Video modeling • Work checklist 	
<p>Seating, Positioning, and Mobility:</p> <ul style="list-style-type: none"> • Moves about/ambulates around the classroom, school, and/or community • Manipulates educational materials as required in assigned activities • Maintains appropriate seating/position for participation in relevant activities 	<ul style="list-style-type: none"> • Chairs, desks and tables • Computer workstations 	<ul style="list-style-type: none"> • Adult assistance • Modification of requirements based upon student's daily energy level and the task to be completed • Modifications to standard chairs, tables, desks • Provide ergonomic seating and positioning • Provide multiple seating and positioning options throughout the day • Wheelchair friendly classroom set-up 	<ul style="list-style-type: none"> • Positioning Aids (e.g., prone and supine standers, side lyers) • Adapted Classroom Equipment (e.g., tables, chairs and desks) • Hospital beds • Reacher/Grabber • Lifts for transfers • Mounting systems • Bookstand • Walkers • Crutches/canes • Wheelchairs (manual/electric) <ul style="list-style-type: none"> ○ supports ○ accessories

The assistive technology solutions referenced in this document are included to provide general categories of different types of devices and services used by students with disabilities. The document does not include all assistive technology device and/or service categories.