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ASD and Assistive Technology: Organization



Objectives

- Gain understanding of the common organizational challenges for individuals with ASD.
- Gain understanding of features of technology that may support the common organizational challenges of ASD.
- Gain understanding of the need and process to feature match student needs to technology features.
- Become informed about assistive technology tools that may contain features to support organizational challenges in individuals with ASD.

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In the world beyond school...

At work?



What are the characteristics of a successful independent learner and productive citizen?

At home?



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Success in School

Top 10 skills as identified by a survey of 8,000 teachers

- Listen to others
- Follow the steps
- Follow the rules
- Ignore distractions
- Ask for help
- Get along with others
- Stay calm with others
- Be responsible for your bx
- Take turns when you talk Do nice things for others

(Elliot & Grisham, 2006)

Prepares Young People for Success in Adulthood

Common list of soft skills employers want:

- Social skills/interests/involvement
- Communication skills
- Interpersonal abilities
- Problem solving
- Teamwork
- Adaptability/flexibility



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In Brief: Executive Function: Skills for Life and Learning https://www.youtube.com/watch?v=efCq_vHUMqs

Executive Functioning Defined

- Cognitive processes that enable individuals to engage in goal-directed or problem-solving behavior (Council for Exceptional Children, 2011)
- Allow us to organize our behavior over time and override immediate demands in favor of longerterm goals (Dawson & Guare, 2010)
- "CEO of the brain," "orchestra conductor," "GPS system"

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Specific Executive Functions **Emotional Control** The ability to modulate emotional responses frequent mood changes, doesn't by bringing rational thought to bear on regulate emotion appropriately to situation The ability to stop one's own behavior at the Distractible or impulsive, cannot appropriate time, including stopping actions delay gratification, delay certain activities or responses for the sake and thoughts. The flip side of inhibition is of others impulsivity; if you have weak ability to stop yourself from acting on your impulses, you have lack of "impulsive control." The ability to manage current and future-Sets unrealistic goals, starts work Goal at last minute, fails to anticipate oriented task demands consequences, difficulty identifying steps to take for task /project completion The ability to impose order on work, play, and Scattered, disorganized approach Organize to solving problems, or managing storage spaces. materials, unable to establish order in a place or activity Initiate The ability to begin a task or activity and to Trouble getting started, may independently generate ideas, responses, or appear defiant problem-solving strategies.

Specific Executive Functions (cont'd) **Executive Function** Signs of Difficulty **Working Memory** The capacity to hold information in Forgets assignments, materials, classroom procedures, remembers mind for the purpose of only part of directions, difficulty completing a task following lengthy instructions, appears as if they do not pay attention Shift The ability to move freely from Difficulty coping with changes in routine, thinking "outside of the one situation to another and to box", smoothly transitioning from think flexibly in order to respond one task to another appropriately to the situation. The ability to shift is often called cognitive flexibility Self-Monitor The ability to monitor one's Doesn't notice how others react to behavior, asks for help rather than performance and to measure it trying first, avoids problem-solving against some standard of what is needed or expected (Gioia, Isquith, Guy, & Kenworthy; 2013; Cooper-Kahn, 2008)

Front Top view Back Red/yellow: Parts of brain less fully mature Sources: National Institute of Mental Health; Paul Thompson, Ph.D., UCLA Laboratory of Neuro Imaging Front Top View Blue/purple: Parts of brain more fully matured Thomas McKay | The Denver Post Neuro Imaging

Four Areas of Organization

- Self-management
- Time management
- Information management
- Materials management

WATI ASNAT Section 8 Organization

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Underlying Characteristics Checklists (UCC) Version Who

Version	Who
UCC-Early Intervention	3 – 72 months of age
UCC-Classic	Intended for those who are significantly below average cognitive functioning
UCC-High-Functioning	Intended for high-functioning individuals ages 6+
UCC-Self Report-Adolescent	12 – 18 years old
UCC-Self Report-Adult	Ages 18+
Dr. Ruth Aspy & Dr. Barry Grossman, 2007 http://www.aapr	cpublishing.net
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UCC Domains

- Social
- •Restricted Patterns of Behavior, Interests, and Activities
- Communication
- •Sensory Differences
- •Cognitive Differences
- Motor Differences
- •Emotional Vulnerability
- •Medical/Biological Factors

Including
Individual Strength and Skills Inventory (ISSI)

Cognitive Differ	rences and Impact on Organization
Area of Developmental Concern	Possible Effect on Organizational Skills
Self- Direction/Initiation	Initiating work/actions; Difficulty using work time efficiently
Comprehension Skills	Difficulty understanding sequences/steps; Difficulty understanding content in academic/vocational work
Problem Solving	Difficulty making decisions; Locating necessary materials/information or executing effective search strategies for lost materials; Difficulty with prioritization
Generalization of Skills	Generalization of info or targeted skill from one task to another; Difficulty applying effective organization strategies to novel tasks
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Cognitive Differe	ences and Impact on Organization
Area of Developmental Concern	Possible Effect on Organizational Skills
Central Coherence	Misses the broader categories- the "large" project and not just details; limited understanding of big picture to identify pieces/part
Attention	Using work time efficiently; sustaining attention to task; shifting attention
Working Memory	Difficulty recalling information; Forgets what they should be working on; Monitoring time
Planning	Delay in meeting timelines; Difficulty planning steps in assignment; Difficulty planning/organizing materials
Self-Monitoring	Evaluation of work; Identifying realistic goals; Adjusting actions/inhibiting inappropriate actions
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Social/Communication Difference Organization	·
Area of Developmental Concern	Possible Effect on Organizational Skills
Following Instructions	Misses out on important information; Difficulty understanding assignments/requests; Difficulty understanding written and verbal directions/steps/processes
Asking for Help or Information	Delay in completion of task; Prevents locating key information or materials; Impact initiating
Language Development	Understanding of ordinal labels; Categorical understanding of words; Difficulty with understanding spatial words (on, in, beside, etc.) Difficulty identifying relevant information from verbal information or social situations
Expressing Frustration and Emotions	Impacts self management; Impacts ability to move forward with activities/projects;
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Restrictive/Repetitive Behavior on Organization	and Sensory Differences Impact
Area of Developmental Concern	Possible Effect on Organizational Skills
Repetitive Motor Movements	Execution of actions/tasks; Difficulty remaining on task
Transitioning	Difficulty getting started or ending task; Difficulty moving from preferred activities to non-preferred/required activities; Delay in completing tasks
Need for Routine	Too routinized inhibits flexible thinking; Preferred routines can interfere with more effective organizational strategies
Activity Level (under or over)	Impacts focus
Sensory Differences	Difficulty regulating/filtering sensory input; Difficulty processing auditory information
Restricted Focus	Impacts big picture thinking; Difficulty creating and sticking to timeline; Difficulty shifting attention within, between or among tasks
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AT Services

- Functional evaluation in customary environment
- Purchasing, leasing, acquiring
- Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing
- Coordinating services, intervention, therapy.
- Training or technical assistance (parents, child professionals)

(Authority: 20 U.S.C. 1401(2))

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AT Definition

What: any item piece of equipment or

product system

How: acquired commercially off

the shelf, modified, or customized

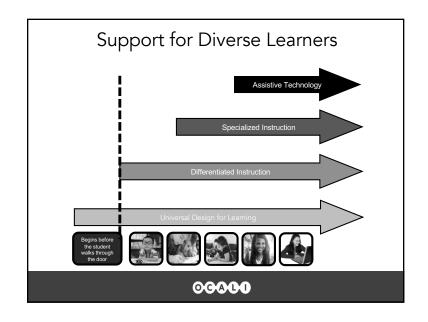
Why: to increase, maintain or

improve functional capabilities

Who: a child with a disability

(Authority: 20 U.S.C. 1401(1))

http://www.atinternetmodules.org/





Student



Environment

SETT =



Tasks

Tools

SETT Framework Publications http://www.joyzabala.com/Documents.htm

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Process for Including the Teaching of Organization Skills Using Assistive Technology

- •Find the champions of AT/ASD
- •Assess with SETT process and UCC
- Design plan to teach organization skills
- •Implement plan
- •Evaluate implementation of plan and re-vamp as needed

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Student 1: Materials Management

- Messy work and storage areas
- Lost papers and projects
- Can't find work tools such as book, scissors or markers quickly
- Difficulty keeping digital files organized

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STUDENT: DANIKA





Fifth grader, likes Disney princesses and Black Beauty, and very active imagination





STUDENT: DANIKA





Can be passive and shy, hesitant to make a mistake, easily distracted



STUDENT: DANIKA





Uses a laptop for select academic tasks, tends to lose materials or unable to locate materials, peers complain about her tools and materials in their workspace



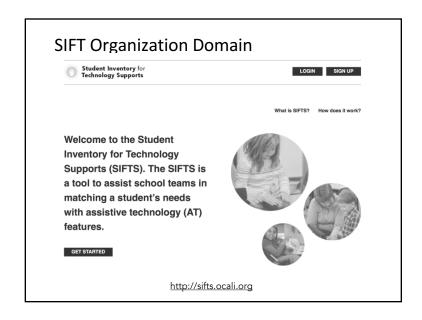
Environments



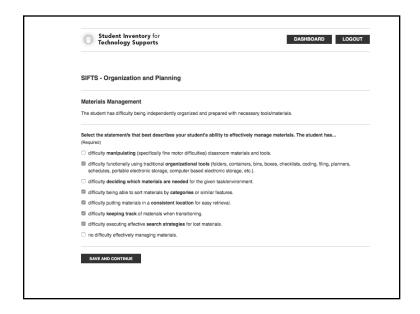
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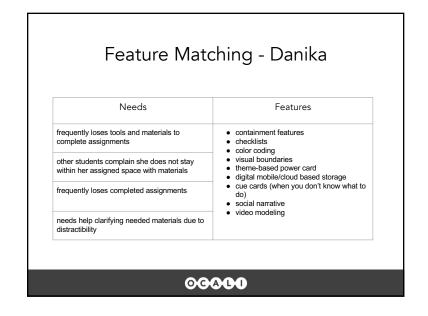
Tasks

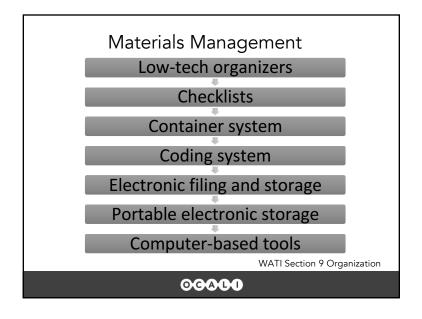
- Transition from one location to another with needed materials
- Sustain attention to tasks
- Ask for help when unsure of what materials to use for activity
- Prepared for class with all necessary materials
- Turn in homework, classroom work, etc. to appropriate area
- Keep personal space organized





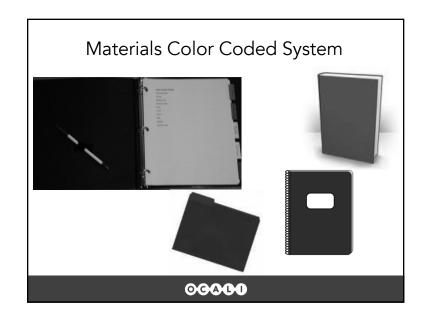


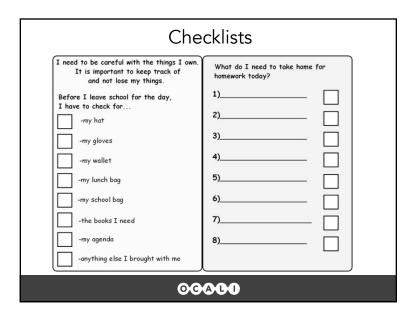


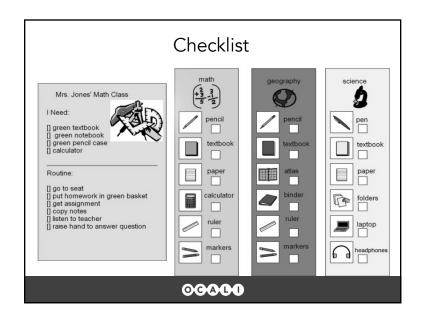


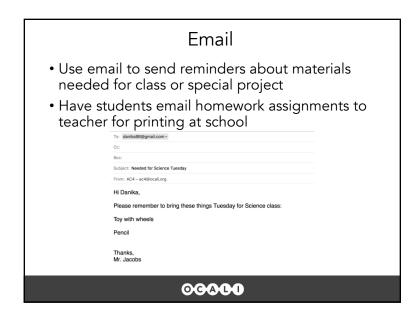














Learning Management Systems













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Approaching Self-Management: What's First?

- •All of these strategies **can't** be initiated at the same time.
- •Prioritize! Consider environments, tasks, support needed
- •Introduce one strategy, collect data and adjust as needed to increase positive outcomes

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Student 2: Information Management

- Breaking a large project into smaller steps
- Organizing notes or review items
- Completing multi-step tasks
- Initiating tasks
- Holding items in working memory

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STUDENT: CODY





Junior in high school, loves mobile devices, special interest in trains, enrolled in AP science and math courses



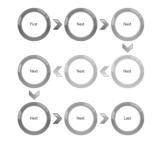


STUDENT: CODY



Difficulty with working memory, sequencing, planning, and accessing relevant text based information





STUDENT: CODY

Difficulty completing multi-step projects/assignments, struggles with research projects, unable to keep up with notetaking in class and record relevant information







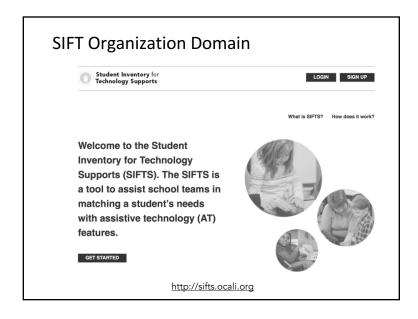
Environments



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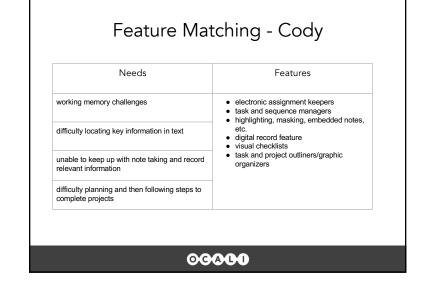
Tasks

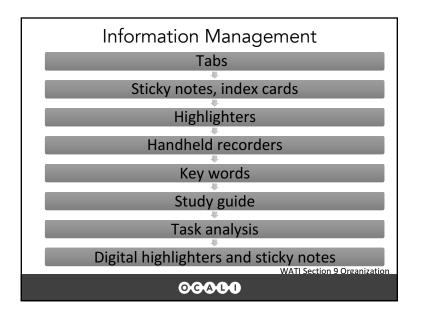
- Integrate and evaluate multiple sources of information presented in different media or formats (e.g. visually or quantitatively as well as in words)
- Conduct short as well as sustained research projects based on focused questions demonstrating understanding of the subject under investigation
- Draw evidence from literary or informational texts to support analysis, reflection, and research
- Take class notes identifying relevant information from the speakers content

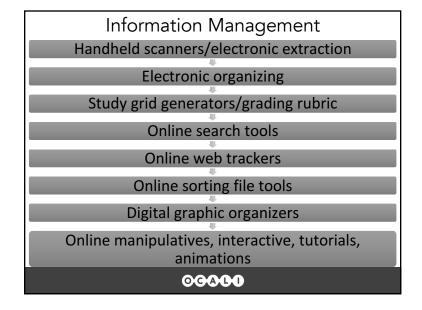


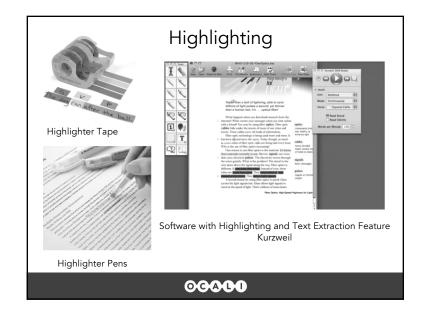


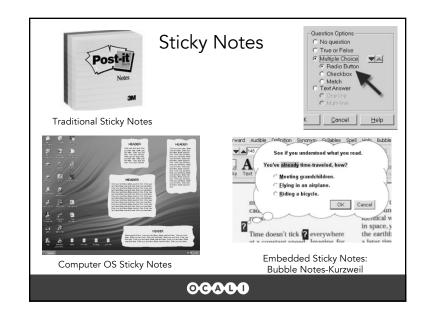


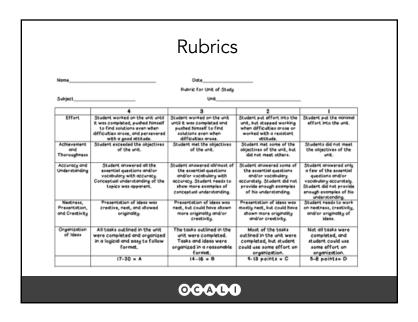


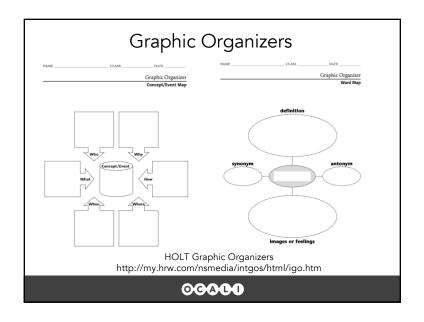












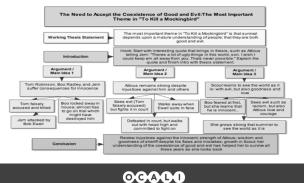
Rubrics

- iRubric http://www.rcampus.com/indexrubric.cfm
- Rubrics for Teachers http://www.rubrics4teachers.com/
- Teachers First Rubrics and Rubric Makers http://www.teachersfirst.com/single.cfm?id= 8602

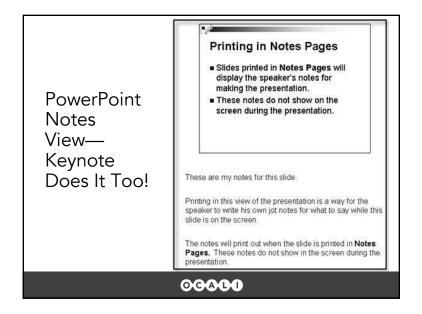
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Organizer Tools

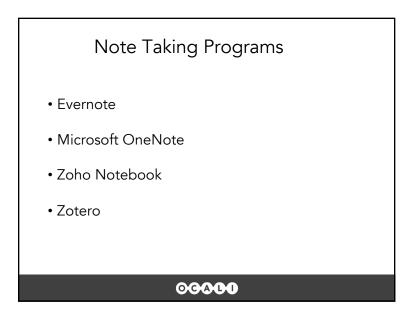
• List with links and descriptions for online tools http://cooltoolsforschools.wikispaces.com/Organiser+Tools

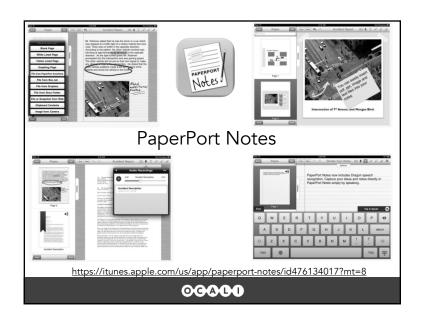


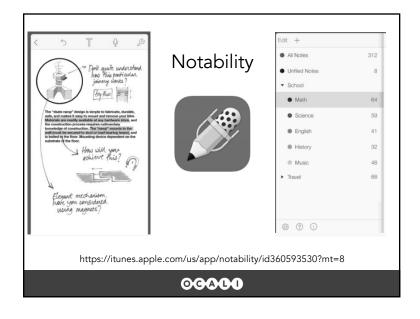
	Note Taking:	Cornell	Notes
CUES WRITTEN SOON AFTER CLASS ANTICIPATED EXAM QUESTIONS MAIN IDEAS OR PEOPLE VOCABULARY	NAME, DATE, TOPIC, CLASS NOTES TAKEN DURING CLASS * MAIN DOINTS * BULLAT PRINTS * DIAGRAM / CULATS * ABRREVIATE * PARA PRINCIP * LANE SPACE BETWEEN TOPICS	Chem Notes If ower was no clean increm this work, who grouppy the clean you haved unite operation of the you haved unite operation about which you haved Topic 180005 Operationary field thems Whitely Alle College A. Calculat Long and J. Specific Section Long and Long and Long and Long Long and Long and Long Long and Long and Long Long Long and Long Long Long Long Long Long Long Long	Nome Student A Clase US Pistery Period: 9 Date: 1/11 [83. Notes: A State of the State of Sta
WORDS USED FOR REVIEW & STUDY	CORNELL. NOTE - TAKING METHOD	Name the place wheel Lee surrelated to Grant. What is annesty? How many electrical voice were allosted to histe Up'k in 1216?	The definition of annosty 4 the general paralon by the government.
THE MAIN	SUMMARY FTER CLASS. BRIEF SUMMARY HIGHLIGHTING POINTS IN THE NOTES ON THIS PAGE. FIND INFO LATER.	Summer During Rece North in the South They were highing the war.	restruction fre people, who need from the to gain moved, where called despelledgiptes, to inductive munistative latter lastest altering
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Genes, Chromosomes, and Numbers **Guided Notes** Diploid and Haploid Cells - In every cell of our body, there are _ Key Concepts: Organisms produce gametes (_ from each of the pairs. • Teacher prepared o This type of cell is known as ____ type of chromosome) Homologous Chromosomes: handouts Outline lectures, audiovisual o The actual of the trait may be different The chromosome that is passed onto the child is _____ presentations or - Mitosis vields- two readings number and type of chromosomes. If mitosis was the only way to reproduce, then all the kids would get • Leave blank spaces - So, there must be some other way to reproduce- some other form of cell divisis for students to fill in chromosomes as the parents key concepts - Consists of doubling of genetic material and separate divisions Begin with 1 diploid cell, results in ___haploid cells (sex cells) OGADO



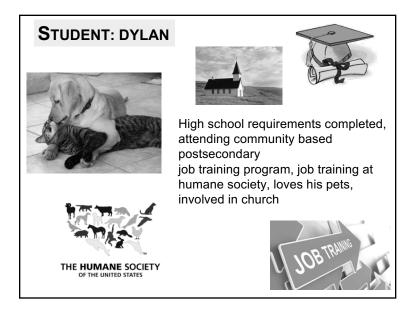


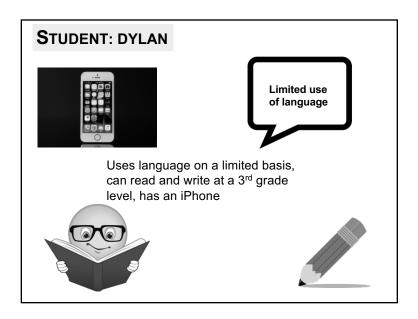


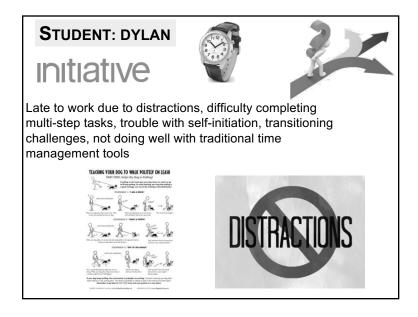


- Arrives late
- Misses deadlines
- Difficulty breaking tasks into smaller parts
- Difficulty following a sequence to complete a task
- Struggles determining the amount of time needed to complete a task





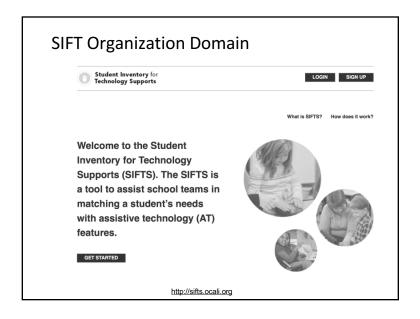


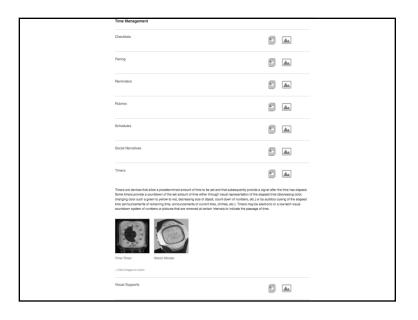




Tasks

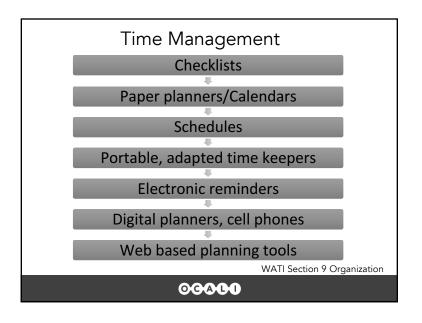
- Transition from one activity to another with ease
- Use work time efficiently
- Monitor work speed
- Follow schedule and work rules/routines
- · Sustain work for given amount of time
- Arrive and depart work on time





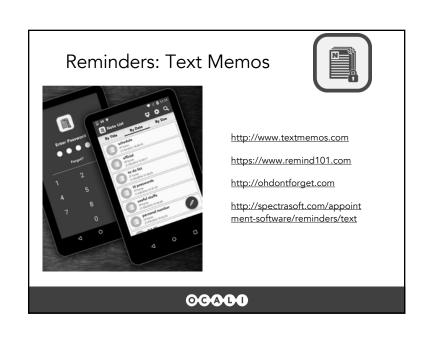
SIFTS - Organization and Planning Time Management The student has difficulty adhering to set time lines and/or transitioning between and during activities. Select the statement/s that best describes your student's ability to effectively manage time. The student has... (Required) difficulty understanding and using traditional time management tools (e.g. clocks, calendars, schedules, planners, etc.). difficulty arriving and/or departing on time (e.g. late to class, dressing for gym, stopping at locker). difficulty when changing from one task to another in a timely manner. difficulty developing timelines for a complex, multi-step job or assignment subtasks. difficulty predicting timelines during the completion of a project. difficulty using work time efficiently and/or difficulty estimating time left. difficulty monitoring and adjusting actions to reach the goal within a reasonable time frame. no difficulty with time management.

Needs	Features	
multiple environments	mobile solutions visual/auditory/tactile reminders with tim keeping functions	
frequently late	visual/auditory supported countdown timer visual task charts and schedules virtual video support	
difficulty sustaining work over time		
difficulty completing tasks, adhering to schedules, transitioning		
continues to need family member and job coach present to initiate tasks and activities		

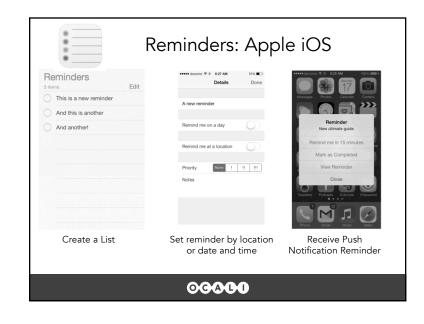


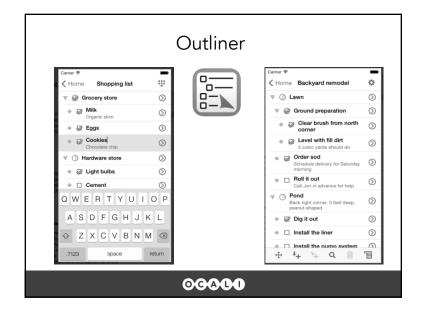


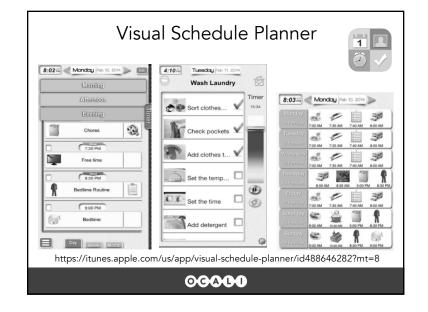






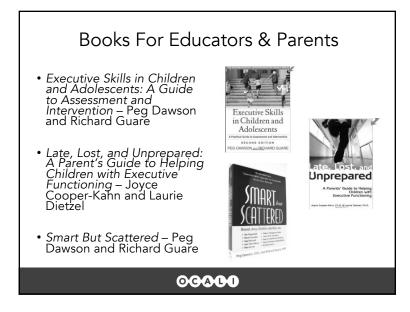


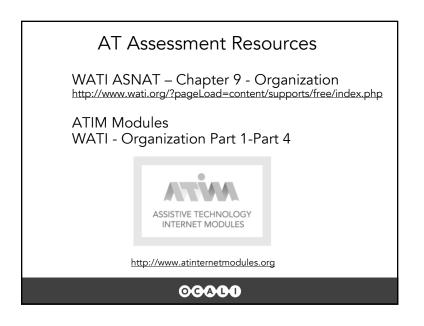












AIM Modules

- Cognitive DifferencesSocial NarrativesVisual Supports



http://www.autisminternetmodules.org



