

Assistive Technology for Adults

KATC Summer Conference
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Background: 16 years experience; interdisciplinary team; variety of work settings; assistive technology practitioner; personal experience

Research interests: assistive technology (AAC); AAC and ASD

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Some sources cite that roughly 80 percent of those individuals with autism are under the age of 22.

Here is one of the 20% older than 22.

MY GUY



WHY WE'RE TALKING ABOUT AT!

According to a state-wide study conducted in Florida in 2008 by The Center for Autism and Related Disabilities (CARD), approximately 67% of the 200 families of 18-22 year olds with autism surveyed did not have knowledge of transition services; 73% indicated they needed help with their job; 63% need help with daily living; 78% do not know of agencies or professionals who can help them find work; and while 74% want to work, only 19% were currently working.

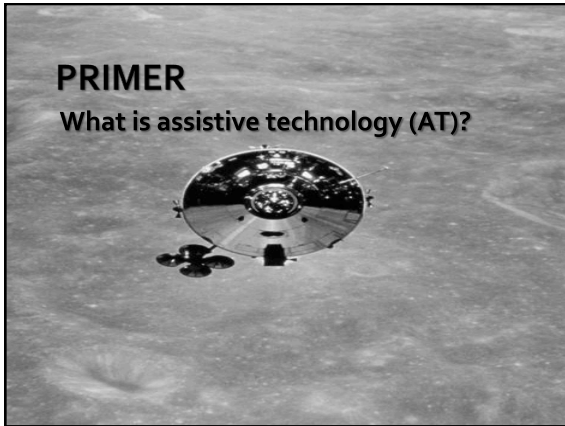
(ADD YOUR OWN REACTION HERE...)

This Morning

- **Primer - assistive technology (AT)**
- **Planning - the school years**
- **Problem Solving the Process - transition**
- **Prevailing - now what?**

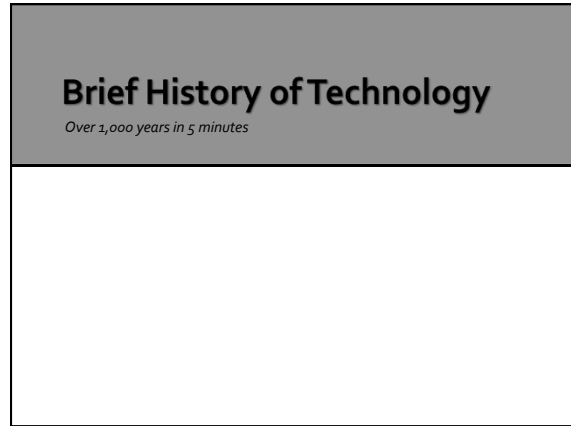
Goals

- For participants to gain an understanding of what a plan can/ should contain along with an identification of support resources.
- For participants to gain an understanding of what can go wrong in the transition to adulthood and how to problem solve through barriers.
- For participants to gain an understanding of what resources are currently available for adults.



PRIMER

What is assistive technology (AT)?




Brief History of Technology

Over 1,000 years in 5 minutes

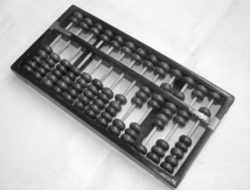
Ishango bone ~20,000BC

- ▶ Might be an early example of a **Tally Stick**.
- ▶ An ancient memory aid device to record and document numbers, quantities, or even messages.
- ▶ Historical reference is made by
 - ▶ Pliny the Elder (23-79AD) about the best wood to use for tallies
 - ▶ Marco Polo (1254-1324) who mentions the use of the tally in China.



Abacus ~2500BC


Country	Era
Mesopotamia	2700-2300 BC
Persia	~600 BC
Greece	~500 BC
Romans	1 BC
China	~200 BC
India	~ 500 AD
Japan	~ 1600 AD
Korea	~ 1400 AD



- ▶ Also called a **counting frame**
- ▶ A calculating tool for performing arithmetic processes.
- ▶ The user of an abacus is called an abacist.

Antikythera Mechanism ~150-100BC

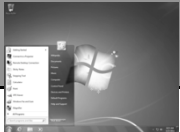
- ▶ An ancient mechanical computer designed to calculate astronomical positions.
- ▶ It was recovered in 1900-01 from the Antikythera wreck, but its complexity and significance were not understood until decades later.



Computers – Not So Long Ago

- **1962** Steve Russell & MIT -**Spacewar Computer Game** The first computer game invented.
- **1964** Douglas Engelbart -**Computer Mouse & Windows** Nicknamed the mouse because the tail came out the end.
- **1969** **ARPAnet** The original Internet.
- **1974/75** **Scelbi & Mark-8 Altair & IBM 5100 Computers** The first consumer computers.
- **1976/77** **Apple I, II & TRS-80 & Commodore Pet Computers** More first consumer computers.


Computers -



- **1981 IBM The IBM PC - Home Computer** From an "Acorn" grows a personal computer revolution
- **1981 Microsoft MS-DOS Computer Operating System** From "Quick And Dirty" comes the operating system of the century.
- **1983 Apple Lisa Computer** The first home computer with a GUI, graphical user interface.
- **1984 Apple Macintosh Computer** The more affordable home computer with a GUI.
- **1985 Microsoft Windows**

Today – What comes to mind?

- **Corning's Willow Glass Moves Ahead of the Curve**
 June 05, 2012
 Corning unveiled a new flexible glass -- called "Willow Glass" -- at the Society for Information Display's Boston Display Week on Monday. It's about as thick and flexible as a piece of paper, while having the strength, durability and other qualities of existing glass. Willow Glass can be made as thin as 0.05mm, which is far thinner than the current 0.2mm or 0.5mm display glass.
 - <http://www.technewsworld.com/story/75292.html>
 - *In other words – thinner than a strand of hair or sheet of paper*



(view...)

- **Leap Aims to Put a Whole New World in Your Hands**
 May 22, 2012
 Leap Motion released its new Leap motion control system for pre-order on Monday, with shipment promised in early 2013. The \$69.99 Leap is 200 times more sensitive than any similar existing technology and allows for a variety of natural and intuitive 3D motion controls. Leap Motion is shipping out developer kits as well, and the technology could soon be incorporated in a variety of gaming, graphic design, robotics and other software and computing systems.
 - <http://www.technewsworld.com/story/75179.html>

(view...)

http://cnettv.cnet.com/60-minutes-braingate-movement-controlled-mind/9742-3_53-50004319.html

- **Paralyzed Woman Takes Sip of Joe Using Mind-Powered Robo Arm**
 May 17, 2012
 Researchers have developed a robotic arm that has enabled a paralyzed woman to drink a cup of coffee -- by directly controlling it with her mind. The development has raised the question of whether this approach could perhaps restore some mobility to similarly affected people in the future.
 - <http://www.technewsworld.com/story/75146.html>

BACK @ U!	
<p>Tell a neighbor something you used today...</p>	

What is Assistive Technology

How is it different than 'just' technology?

- **Definition**
- **Range**

Simplified definition

Any **item, service or strategy** that an individual with disabilities uses to help them be more **successful or more independent** at work, at home, at school, or in the community.



Important terms...

- **AT Device**
- **AT Service**
- **Instructional Technology**
- **Adaptations/ Accommodations**

AT Device

IDEA 2004: Any item, piece of equipment or product system, whether acquired commercially off the shelf, modified or customized that is used to increase, maintain, or improve the **functional** capabilities of a child with a disability (Section 602[1])

www.fctd.info

Functional ability:

- How well a person can perform activities of daily living without help from someone else constitutes a measure of their functioning.



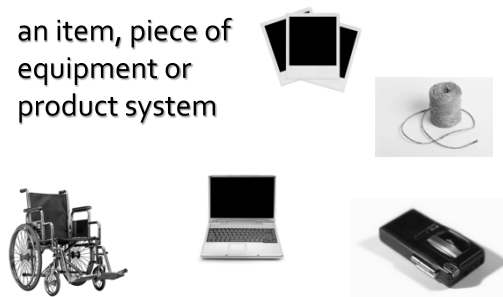
AT Device – 3 key parts

- ❖ What it is
- ❖ How it is made
- ❖ How it is used



AT Device - What it is

an item, piece of equipment or product system



AT – Device - How it is made

'as is',
modified or
customized



AT Device - How it is used

enhance/ maintain or
prevent worsening

- Positioning
- Mobility
- Augmentative and alternative communication
- Computer access
- Play
- Aids to Daily Living
- Instructional aids



<http://www.youtube.com/watch?v=5G412p8M8w4>

AT Device - Summary

- **What it is** – an item, piece of equipment or product system
- **How it is made** – 'as is', modified or customized
- **How it is used** – enhance/ maintain or prevent worsening
 - Positioning
 - Mobility
 - Augmentative and alternative communication
 - Computer access
 - Play
 - Aids to Daily Living
 - Instructional aids

AT Service

'IDEA 2004 (Section 602[1]) (2) any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. Such term includes'

- **Evaluation**
 - Purchasing, leasing or otherwise **providing for the acquisition** of AT
- **Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing or replacing AT**
- Coordinating and using other **therapies, interventions or services** with AT devices
- Training or technical assistance for such **child or family**
- Training or technical assistance for **professionals, employers or other individuals** who are involved with this child.

Instructional Technology

Any technology that is used as part of the education of an individual.



Adaptations/ Accomodations

Alterations that are made so that a person who does not possess the requisite abilities needed for task completion can accomplish a task

- **Remedial** - skill building
- **Compensatory** – support **functional** limitations



CAVIOT!

AT does NOT eliminate/ FIX the individual's cognitive/ intellectual/ etc. disability.

AT does NOT remove ALL barriers to task completion

It does help them be more successful, & independent
It does encourage/ support growth, helps overcome barriers...

BUT

- Needs to match levels
- Takes effort to train/ use



Back@U!



Discuss with the person next to you:

- One new aspect of AT you've learned about so far.
- Has your thinking about AT changed already?

Range of AT

NOTE! The range exists across all aspects of AT

FOUR Levels of AT

- **No Tech.**
- **Low Tech.**
- **Medium Tech.**
- **High Tech.**

No Tech

Involves the use of:

- Procedures / Strategies
- Services
- Environmental Conditions

NO

Low Tech.

Consists of:

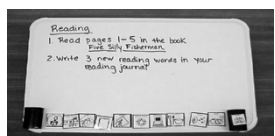
- Existing /conventional products that have been **modified/adapted**.
- Commercially designed specialty/ traditional items that are **not electronic**.
- Visual support strategies which do not involve any type of electronic or battery operated device - typically low cost, and easy to use equipment.
 - Example: dry erase boards, clipboards, 3-ring binders, manila file folders, photo albums, laminated PCS/ photographs, highlight tape, etc.



VISUAL SUPPORTS

Increasing comprehension of tasks/activities/situations is essential in addressing skill areas such as organization, attending, self help, following directions, following rules and modifying behavior.

Otherwise known as **COGNITIVE AIDES**.



VISUAL SUPPORTS

As a result, the child becomes more independent. The following "low" tech visual support strategies can be created and used to assist the child in increasing his comprehension skills and thus decreasing the occurrence of challenging behaviors

Visual supports

- Visual schedule
- Object schedule
- First/Then schedule
- Calendars
- Visual organizers
- Note taking
- Self-monitoring checklist
- Visual reminders
- Visual directions
- Wait card
- Help card
- Break cards
- Choice cards
- All done cards
- NO
- Topic ring/ wallet
- Social story
- Social script
- Comic strip conversations
- Turn taking
- Social rule card
- Relating past events

Medium (Mid/ Light) Tech. devices

- *Battery operated devices or "simple" electronic devices requiring limited advancements in technology.*
 - *Examples: tape recorder, Language Master, overhead projector, timers, calculators, and simple voice output devices.*
- Are mechanical in nature.
- Can be complex machines.



High Tech

- Sophisticated
- Electronic
- Frequently Expensive
- Sometimes complicated to program / maintain.
- Often computer based
- **Not always the best choice.**

High Tech options

- **Computer access – built into the computer system (Windows/ Mac)**
 - Keyboard and alternative access
 - Speech Recognition – built in
- Literally **thousands** of software options
 - Commercial
 - Free or shareware –OATS (<http://www.oatsoft.org/>)
- Popular apps...

OATS (open source assistive technology software)

Types of Software that you can find

- [On Screen Keyboard Projects](#)
- [Symbol Library](#)
- [Text to Speech](#)
- [Computer Automation](#)
- [Switch Input Software](#)
- [Alternative and Augmentative Communication](#)
- [Environmental Control](#)
- [Educational and Learning](#)

The APPLE of my iPad...

- [APPTic](#) - Great site with over 1300 reviews done by Apple Distinguished Educators. These apps have been tested in different grade levels with different instructional strategies.
- [Mind Leap](#) - Excellent site with reviews built on a five-star scale. Reviews are done on a wide range of subjects and offers a nice breakdown of statistics such as educational quality, engagement factor, and shelf life.
- [Best Kids Apps](#) - Site with great reviews on iPhone, iPad, and Android apps. These reviews have a basic age rating and a nice image to go along too.
- [Mac App Store](#) - Probably the most comprehensive list of apps around. This application from Apple is the ideal place to find and purchase apps. Works on Snow Leopard OS and above.
- [Fun Educational Apps](#) - Ideal place to find reviews of apps for the iPod, iPhone, and iPad. This is one of my favorite sites to find in-depth reviews with lots of pictures of the app.

The APPLE of my iPad...

- [Smart Apps for Kids](#) - Designed by a dad on a journey to find the best iPhone & iPad apps. These apps are reviewed on a four-star scale and offer a nice "bottom line" for those who don't want to read the whole review.
- [Best Apps for Kids](#) - Wonderful site that does a great breakdown of an educational app, with reviews done on a scale of one through five. Offers readers advice on whether they should purchase the app or not.
- [Teachers with Apps](#) - Great site with reviews of apps that include videos and images. Ideal for teachers looking to find that perfect app for the classroom.
- [Apps in Education](#) - Nice collection of iPad apps that are reviewed by subject. These reviews are brief and to the point.
- [I Education Apps Review](#) - Designed as a community effort of reviews posted by a variety of users. There are even student reviews to give a unique perspective on the use of an app.
- [Teach with your iPad](#) - Wonderful wiki that lists a ton of apps by subject, type, and grade level. A must see!

The APPLE of my iPad...

- [Apps for Children with Special Needs - http://a4cwsn.com/](#)
- [I Education App Reviews - http://www.lear.org/lear/tag/special-education](#)
- [iPhone, iPad and iPod Touch Apps for \(Special\) Education - http://www.seomraranga.com/2012/03/iphone-ipad-and-ipod-touch-apps-for-special-education/](#)

How to review:

<http://learninhand.com/how-to-evaluate-educational-apps.html>

Educational App Evaluation Checklist

App Name: _____

Purpose for App: _____

- Use of app is relevant to the purpose and student needs
- Help or tutorial is available in the app
- Content is appropriate for the student
- Information is error free, factual, and reliable
- Content can be exported, copied, or printed
- App's settings and/or content can be customized
- Customized content can be transferred to other devices
- History is kept of student use of the app
- Design of app is functional and visually stimulating
- Student can exit app at any time without losing progress
- Works with accessibility options like VoiceOver and Speak Selection
- App is free of charge
- No in-app purchases are necessary for intended use of app
- App loads quickly and does not crash
- App contains no advertising
- App has been updated in the last 6 months
- App promotes creativity and imagination
- App provides opportunities to use higher order thinking skills
- App promotes collaboration and idea sharing
- App promotes useful feedback

Total #: _____ The more checks, the better the app is for education.

Educational App Evaluation Checklist

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Tasks

- reading
- writing
- spelling / grammar
- communication
- worksheet completion
- math
- mapping
- non-reading
- organization / planning
- learning another language

Needs

- basic work
- legible, understandable work
- organization
- work with a computer
- math
- math / graphic / auditory presentation
- independent work
- fast pace practice
- sharing of knowledge
- correct grammar / spelling

Environments

- classroom
- resource / study hall
- library
- home
- community

Low Tech Tools

- specialized pens / pencils / crayons / markers / grips
- specialized erasers, correction tapes
- raised line paper, grid paper, colored paper
- highlighters, highlighter tapes
- color coding
- Pack 3 sets, flag, arrows
- colored filters, page overlays (Star acetate sheets)
- 3x5 paper
- mailing / writing pads
- slanted surfaces, 3-ring, copy holder
- white board, markers, eraser
- magnetic letters, tactile letters
- magnifiers
- softly litting, blinds
- specialized accounting and cutting tools

Mid Tech Tools

- app recorders
- digital recorders
- calculators
- spell checker, dictionary / thesaurus (textlog)
- document word processor
- electronic organizer
- audio books
- music tapes / CDs
- electronic eraser, eraser
- state-book lights
- switch operated toys and appliances

High Tech Tools

- alternative keyboard / alternative cursor control
- word processing
- word prediction
- word processor
- brainwriting, graphic organization
- spell checker, grammar checker
- word banks (on-screen, overhead)
- text readers
- on-screen math, computer calculators
- communication devices / software
- Internet access
- CD software (tag, onyx, hyperdash)
- CAI
- environmental control devices

Back @ U

What level of AT does your child/ do your children use?

- *{raise your hand when your level is called out}*



PLANNING



- **Consideration**
- **Assessment**
- **Implementation**

**THIS IS USEFUL TO THINK THROUGH/
REVISIT FOR AN ADULT AS WELL!!**

Assistive Technology in the Classroom

Adapted from: Family Center on Technology and Disability

"Technology has great potential in providing access for all learners. Through the use of a variety of assistive technologies, students with disabilities can have the ability to access the general curriculum. When assistive technology is appropriately integrated into the regular classroom, students are provided with multiple means to complete their work."

— Janet Jendron
University of South Carolina Assistive Technology Project
"The Power of Assistive Technology"

www.ftcd.info

AT Benefits ALL Students

15-20% of the **general population** is in need of some type of "cognitive task assistance."

A large population of "at risk" students need assistance, but because they don't easily fit into a diagnostic profile, they do not receive assistance; if AT is available to everyone, these students can benefit.

AT aids in all of the subject areas in school.

www.ftcd.info

WHAT IS UNIVERSAL DESIGN FOR LEARNING?

A set of principles for curriculum development that give all individuals equal opportunities to learn.

Videos –

-Introduction to UDL

- UDL at a Glance

The term **UNIVERSAL DESIGN FOR LEARNING** means a scientifically valid framework for guiding educational practice that:

- (A) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and
- (B) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient.

A CONCISE DEFINITION OF UNIVERSAL DESIGN FOR LEARNING WAS PROVIDED BY THE HIGHER EDUCATION OPPORTUNITY ACT OF 2008 (HEOA), WHICH STATED:
FROM THE HIGHER EDUCATION OPPORTUNITY ACT OF 2008

Universal Design for Learning extends universal design in two key ways.

1. First, it applies the idea of built-in flexibility to the educational curriculum.
2. Second, it pushes universal design one step further by supporting not only improved access to information within classrooms, but also improved access to learning.

[HTTP://WWW.CAST.ORG/TEACHINGEVERYSTUDENT/IDEAS/TES/CHAPTER4_2.CEM](http://www.cast.org/teachingeverystudent/ideas/tes/chapter4_2.cem)

AT Fosters Inclusion

- **Inclusion:** The practice of educating all or most children in the same classroom, including children with physical, mental, and developmental disabilities. (Association for Supervision and Curriculum Development)
- AT helps students who have disabilities learn the material in a way that they can understand it
- AT helps eliminate barriers students may face that prevent them from being at the same level as their classmates

www.ftcd.info

Why is AT important?

- Assistive technology **increases** a student's **opportunities** for education, social interactions, and potential for meaningful employment.
- It also **supports** a student's **participation** in learning experiences in the least restrictive environment.
- Assistive technology is a **tool** to help the student benefit from the general education curriculum, and access extracurricular activities in home, school, and work environments.

http://nichcy.org/technology/implementation/special-factors/considering_at_v10/0000


A Student's AT Needs Change Over Time

As a student's schoolwork gets more advanced, their technology needs may change or increase.

New technology may become available that will better meet the needs of the student.


During a regularly scheduled evaluation, the IEP team or another professional may decide that another piece of technology will be better for the student.

www.ftcd.info

IEP Meeting	
CONSIDERATION	

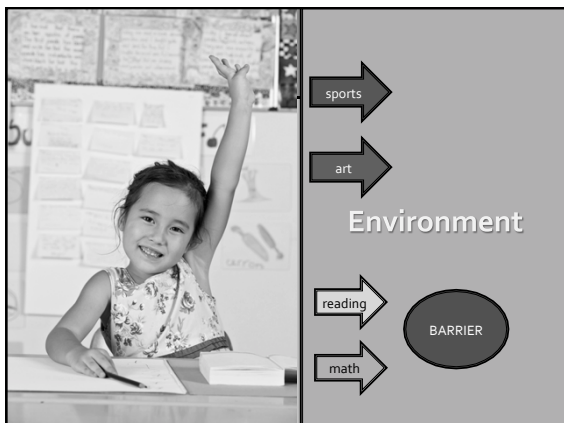
IEPs and AT
<ul style="list-style-type: none"> ▪ IEPs play a big role in the AT services a student receives. ▪ IEP (Individualized Education Program): <ul style="list-style-type: none"> ▪ Written legal document that describes a student with a disability's educational plan ▪ It discusses <ul style="list-style-type: none"> ▪ the disability, ▪ goals for the student, ▪ various things that need to be done throughout the school year, ▪ what services the school will provide, ▪ where the student will learn. ▪ Students receive AT through their IEP.
www.fctd.info

Understanding the Law and AT Continued... Individualized Education Programs (IEP)
<p>Federal law requires that public schools develop IEPs for each eligible child with a disability.</p> <p>IEPs are developed by a team of knowledgeable persons and must be reviewed once a year.</p> <p>The team may include: child's teacher, parents, the child, a qualified school system representative, parent advocate, translator</p> <p>When AT is included in an IEP, the school must make sure it is provided.</p> <p>If parents disagree with the proposed IEP, they can request mediation or, ultimately, a due process hearing from the state educational agency if applicable in that state.</p>
www.fctd.info

Understanding the Law and AT Individuals with Disabilities Education Act (IDEA)
<p>Your child's AT needs must be considered.</p> <p>"Assistive technology" may not be identified as such, but may be included as "accommodations."</p> <p>AT devices and/or services must be provided by the school system if identified in the child's IEP.</p> <p>Training of teachers, aides, and the student may be listed in the IEP as "AT Services."</p>

www.fctd.info

Understanding the Law and AT Continued... Section 504 of the Rehabilitation Act
<p>Prohibits discrimination against individuals with disabilities</p> <p>Applies to all programs that receive federal funds, including the public school system</p> <ul style="list-style-type: none"> ▪ Students with disabilities must be given the same opportunities to participate in educational programs and activities as their classmates, and the use of AT may be considered as an accommodation. ▪ If a child does not qualify for special education services, they may be able to acquire AT through a 504 plan.
www.fctd.info

CONSIDERATION
<ul style="list-style-type: none"> ▪ Must be completed at every IEP meeting per IDEA! ▪ The team needs to consider carefully what environments the student accesses now, what are the tasks the student is required to accomplish, and what challenges does the student have in accomplishing the tasks. ▪ This will show us what the current educational need (s) are of the student. ▪ Then ask the question—<i>Would assistive technology of some kind enable the student to meet the goal?</i> <p style="font-size: small;">• http://litnichy.org/schoolage/iep/meetings/special-factors/considering-at-1/01/2012</p>



Areas to consider include, but are not necessarily limited to:

- | | |
|---|---|
| <input type="checkbox"/> Handwriting | <input type="checkbox"/> Mobility |
| <input type="checkbox"/> Spelling | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Reading | <input type="checkbox"/> Seating/positioning |
| <input type="checkbox"/> Math | <input type="checkbox"/> Seeing |
| <input type="checkbox"/> Written expression | <input type="checkbox"/> Self-care |
| <input type="checkbox"/> Daily organization | <input type="checkbox"/> Levels of independence |
| <input type="checkbox"/> Communication | <input type="checkbox"/> Cognitive processing |

http://nichcy.org/schoolage/iep/meetings/special_factors/considering_at

IEP Team Key Ideas to Consider for AT Selection

Bryant & Bryant - Table 2.2, pg. 34

1. Identify information about the **needs and strengths** of the individual and how these relate to AT device options
2. Identify how the AT device can promote a free, appropriate education (FAPE)
3. Identify the areas in which an AT device could **promote independence, access and success** in the **general education** classroom
4. Identify **how** it will be determined whether the individual **is benefiting** from using the device
5. Identify individuals and **training** that are necessary to ensure that the user of the AT device will be supported in various environments (e.g., school, home, work)

Applying this to CONSIDERATION

A child's need for assistive technology must be determined on a **case-by-case basis** within the context of assessing other educational needs.

Consideration is a dynamic, ongoing process of information gathering and decision-making and it should be a part of lifelong planning.

• http://nichcy.org/schoolage/iep/meetings/special_factors/considering_at/1/1/2012


4 Outcomes 4 Consideration

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ No AT – Doing well ▪ No AT – Needs further consideration <ul style="list-style-type: none"> ▪ We know (tried and proven) – no further assessment ▪ We don't know - assessment | <ul style="list-style-type: none"> ▪ Yes AT – Working well ▪ Yes AT – Needs change <ul style="list-style-type: none"> ▪ We know (tried and proven) – no assessment ▪ We don't know - assessment |
|---|--|

Other Assistive Technology Considerations:

- A district **must provide** a device for use at home if necessary for FAPE. Decisions regarding the use of the assistive technology device or service in other settings outside school must be made on an individual basis.
 - A school **may access alternative funding sources** to defray costs of assistive technology devices and services. Schools may not compel parents to file an insurance claim and may not condition provision of equipment or services on filing or approval of a claim.
- http://nichcy.org/schoolage/iep/meetings/special_factors/considering_at/1/1/2012


BACK @ U



What aspects of consideration is the individual you are working with needing?

NOW WHAT???

- **Assessment**
 - SETT
 - QIAT
 - Ecological
- **Implementation**



SETT

http://www.doe.virginia.gov/special_ed/ep_instruct_eyc/assistive_technology/framework_assistive_technology.pdf

SETT

Student, Environment, Tasks, Tools (SETT) Framework (Zabala, 2002) is considered to be one of the two leading resources for assistive technology assessment.

The *SETT Framework* is built on the premise that in order to develop an appropriate system of assistive technology devices and services, teams must first gather information about the student, the customary environments in which the student spends his time, and the tasks that are required for the student to be an active participant in the teaching/learning processes.

The *SETT Framework* simplifies the task of making assistive technology decisions by providing a tool for organization of the information gathered and questions to lead the decision-making process.

The SETT Framework
A Collaborative Planning and Decision Making Tool

	Date _____			
	Student	Environment	Tasks	Tools
What We Know				
What We Need to Know				

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QIAT

http://natri.uky.edu/assoc_projects/qiat/qualityindicators.html

Quality Indicators

The mission of QIAT is to guide the provision of quality AT services to improve educational achievement of students with disabilities.

QIAT includes quality indicators, intent statements, and common errors for eight areas important to the development and delivery of assistive technology services. It is the intent of the QIAT Consortium that each area be fully explored because the areas are complementary in nature.

Quality Indicators

Areas important to the development and delivery of assistive technology services

- Consideration of AT Needs
- Assessment of AT Needs
- AT in the IEP
- AT Implementation
- Evaluation of Effectiveness of AT
- AT in Transition
- Administrative Support for AT
- AT Professional Development

Quality Indicators for Assistive Technology address:

- **Consideration of the need for assistive technology during the IEP meeting**
- **Assessment of the need for assistive technology**
- **Including assistive technology in the IEP**
- **Implementing the use of assistive technology**
- **Evaluating the effectiveness of assistive technology use**
- **Transitioning with assistive technology**
- **Administrative support for assistive technology services**
- **Professional development and training in assistive technology**

http://main.oly.edu/ssoc_projects/qiat/qualityindicators.html

Quality Indicators for Assessment of Assistive Technology Needs

Quality Indicator	Variations				PROMISING PRACTICES
	UNACCEPTABLE	1	2	3	
1. Procedures for all aspects of AT assessment are clearly defined and consistently applied.	1 No procedures are defined.	2 Some assessment procedures are defined, but not generally used.	3 Procedures are defined and used only by specialized personnel.	4 Procedures are clearly defined and generally used in both special and general education.	5 Clearly defined procedures are used by everyone involved in the assessment process.
2. AT assessments are conducted by a team with the collective knowledge and skill needed to determine possible AT solutions that address the needs and abilities of the student, demands of the customary environment, educational goals, and related activities.	1 A designated individual with no prior knowledge of the student's needs or technology conducts assessments.	2 A designated person or group of individuals who have knowledge of technology, but not of the student's needs, environments, or tasks conducts assessments.	3 A designated team with knowledge of AT conducts assessments with limited input from individuals who have knowledge of the student's needs, environments, and tasks.	4 A team whose members have direct knowledge of the student's needs, environments, tasks, and knowledge of AT generally conducts assessments.	5 Flexible teams formed on the basis of knowledge of the individual student's needs, environments, tasks, and expertise in AT consistently conduct assessments.
3. All AT assessments include a functional assessment in the student's customary environments, such as the classroom, lunchroom, playground, home, community setting, or work place.	1 No component of the AT assessment is conducted in any of the student's customary environments.	2 No component of the AT assessment is conducted in any of the student's customary environments, however, data about the customary environments are sought.	3 Functional components of AT assessments are sometimes conducted in the student's customary environments.	4 Functional components of AT assessments are generally conducted in the student's customary environments.	5 Functional components of AT assessments are consistently conducted in the student's customary environments.

4. AT assessments, including needed trials, are completed within reasonable timelines.	1 AT assessments are frequently out of agency timelines.	2 AT assessments are completed within agency timelines.	3 AT assessments are completed within a reasonable timeline and may or may not include initial trials.	4 AT assessments are completed within a reasonable timeline and include at least initial trials.	5 AT assessments are conducted in a timely manner and include a plan for ongoing assessment and trials in customary environments.
Recommendations from AT assessments are based on data about the student, environments and tasks.	1 Recommendations are not data based.	2 Recommendations are based on incomplete data from limited sources.	3 Recommendations are sometimes based on data about student performance on typical tasks in customary environments.	4 Recommendations are generally based on data about student performance on typical tasks in customary environments.	5 Recommendations are consistently based on data about student performance on typical tasks in customary environments.
6. The assessment provides the IEP team with clearly documented recommendations that guide decisions about the selection, acquisition, and use of AT devices and services.	1 Recommendations are not documented.	2 Documented recommendations include only devices. Recommendations about services are not documented.	3 Documented recommendations may or may not include sufficient information about devices and services to guide decision-making and program development.	4 Documented recommendations generally include sufficient information about devices and services to guide decision-making and program development.	5 Documented recommendations consistently include sufficient information about devices and services to guide decision-making and program development.
7. AT needs are reassessed any time changes in the student, the environments and/or the tasks result in the student's needs not being met with current devices and/or services.	1 AT needs are not reassessed.	2 AT needs are only reassessed when requested. Reassessment is done formally and an ongoing AT assessment takes place.	3 AT needs are reassessed on an annual basis or upon request. Reassessment may include some ongoing and formal assessment strategies.	4 AT use is frequently monitored. AT needs are generally reassessed if current tools and strategies are ineffective. Reassessment generally includes ongoing assessment strategies and includes formal assessment, if indicated.	5 AT use is frequently monitored. AT needs are generally reassessed if current tools and strategies are ineffective. Reassessment generally includes ongoing assessment strategies and includes formal assessment, if indicated.

Summary:

- Conduct the assessment with a skilled multidisciplinary team in natural settings -- home, school, community - - using specific procedures.
- Obtain information to complete the present level of performance area, the adaptations/modifications section, and/or the special education and related services section.
- plan for meaningful follow through by all team members.
- match device features to student capabilities, interests, and needs.
- Reassess as needed

<http://nichcy.org/schoolage/iep/meetings/special-factors/considering-at>

Ecological Assessment

Ecological assessment McCormick 2003, 2006

- List daily activities and routines(task analysis)
 - List major developmental expectations
 - Identify what the child can do or needs to learn
 - Formulate goals and objectives
 - Plan instruction
 - Plan data collection
- (Ecological assessment McCormick 2003, 2006)

AT: Other Things to Consider

- Person, Task, Environment
- Training Needs
- Maintenance Plans
- Warranty
- Future growth of position and ability of the AT to adapt to that growth

Barriers to Assistive Technology

- Lack of information and knowledge about appropriate AT
- Lack of funding
- Lack of professionals to perform AT evaluations
- Wading through red tape of public programs and insurance companies
- Lack of maintenance and support

National Council on Disability, 2000

What happens if the IEP Team cannot determine what AT devices and services are best for my child?

A second, independent AT evaluation may be needed.

The evaluation should be performed by a qualified professional either in the school system or by an independent organization at the district's expense.

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Disagreeing with the School About AT

You have the right to disagree with the school's decision concerning AT

Common reasons for disagreement:

- You disagree with the writing in the IEP
- You believe your child is not receiving appropriate AT devices and/or services
- You think additional services are needed

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Steps to resolve disagreements

Discuss the situation informally with school representatives

Take formal action, which may include:

- Mediation
- A due process hearing
- The filing of a formal complaint with the state


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BACK@U	
<p>Raise your hand to vote:</p> <p>I would use</p> <ul style="list-style-type: none"> • SETT • QIAT • Ecological 	




Funding for Assistive Technology

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Funding AT	
<p>Funding sources can be organized according to their criteria, which may include:</p> <ul style="list-style-type: none"> ▪ The individual's purpose for using the technology ▪ The nature of the equipment ▪ The individual's age ▪ Location – many foundations focus on specific states, cities, and communities ▪ Financial circumstances 	<p style="text-align: right;"><small>www.fctd.info</small></p>

Government Funding for AT
<ul style="list-style-type: none"> ▪ Special education, vocational rehabilitation, and Medicaid are the three largest government programs that fund assistive technology. ▪ Funding can only be granted to those who meet the specific program's eligibility requirements. ▪ Many funding programs use "means testing" <ul style="list-style-type: none"> ▪ <u>Means testing</u>: a way of determining eligibility for a program or service based upon income, resources, or other measures of individual or family economic status
<p style="text-align: right;"><small>www.fctd.info</small></p>

Medicaid vs. Medicare		
<p>Medicaid</p> <ul style="list-style-type: none"> ▪ Established under Title 19 of the Social Security Act ▪ Administered by state agencies ▪ Provides medical assistance for individuals "whose income and resources are insufficient to meet the costs of necessary medical services" ▪ Will purchase, rent, or lease various types of AT if they are considered medically necessary 	<p>Medicare</p> <ul style="list-style-type: none"> ▪ Provides insurance to many children and adults with severe disabilities ▪ Part B of Medicare describes that they may pay for all or a portion of your child's AT devices if they qualify as "durable medical equipment" ▪ An AT device must be considered medically necessary – the child's doctor must prescribe a specific device and it must be supplied by a Medicare-approved provider 	<p style="text-align: right;"><small>www.fctd.info</small></p>

Other AT Funding Sources
<p>Community Service Organizations</p> <ul style="list-style-type: none"> ▪ In many communities service, religious, or fraternal organizations provide equipment directly to individuals in particular circumstance. <p>Foundation Support</p> <ul style="list-style-type: none"> ▪ Many foundations address disability-related needs on an ongoing basis. ▪ Are more likely to give grants or loans to organizations. <p>Commercial Loan</p> <ul style="list-style-type: none"> ▪ Commercial credit is becoming more widely available for purchases of AT. ▪ Loans may be available through traditional lending organizations. ▪ 14 states have received federal funding to establish financial loan programs for individuals with disabilities to purchase AT. <p>Private Insurance</p>
<p style="text-align: right;"><small>www.fctd.info</small></p>

Developing a Funding Strategy

Research technology and funding options on the Internet or at a local information center

Make a list of opportunities that you want to pursue first, second, and third

Make a budget of all of your family's expenses.

- Helps you determine what funds you can put toward the purchase of a device
- Helps you make the strongest possible case for funding



Implementation

Making it work!



UDL - 3 Principles

Principle 1:

To support recognition learning, provide multiple, flexible methods of **presentation**

Principle 2:

To support strategic learning, provide multiple, flexible methods of **expression and apprenticeship**.

Principle 3:

To support affective learning, provide multiple, flexible options for **engagement**.

CAVIOT

- **It is important to note that technology should not be considered to be the only way to implement UDL.**
- **Effective teachers should be creative and resourceful in designing flexible learning environments that address the variability of learners using a range of high-tech and low-tech solutions.**
- **The goal of UDL is to create environments in which everyone will have the opportunity to become expert learners, and the means to get there, be it tech or non-tech, should be flexible.**

CAVIOT

It is also important to point out that simply using technology in the classroom should not be considered implementation of UDL.

Using technology does not necessarily enhance learning, and many technologies have the same accessibility problems that non-tech options might have.

Technology needs to be carefully planned into the curriculum as a way to achieve the goals.

General Technology

General technology in the classroom can benefit students with and without disabilities.

- Computers, calculators, projectors, smart boards, tape recorders, software, and handheld devices are examples of general technology increasingly used in classrooms.
- Research shows that technology aids in enhancing content and skill acquisition by students with a wide range of learning styles.
- Even if you do not have a designated student with special needs in your classroom, use technology supports, as they may help students with "invisible" learning disabilities who have not received formal diagnoses.

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Tips for Teachers

- Use technology!
- Learn how to use the AT devices that will be present in the classroom.
- Familiarize the whole class with the AT and why a certain student needs to use it; it aids in inclusion.
- Incorporate AT into the regular school day.
- Ask for help if you need it.
- Sit in on IEP meetings if possible.
- Work with the parents and the special education team or other professionals working with the student.

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Types of AT in the Classroom

Computer Access	If a student cannot access the computer in its standard form and they need it to perform academic tasks	<ul style="list-style-type: none"> • Word prediction • Switches • Alternate keyboards • Pointing options • Word completion, Macros, Abbreviation expansion to reduce keystrokes • Keyguard • Alternate mouse • Voice recognition software and hardware • Alternative mouse
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www.ftcd.info

Types of AT in the Classroom

Writing	If a student is having difficulty with writing or with composing written pieces	<ul style="list-style-type: none"> • Writing templates • Word cards/books/wall • Spelling/Grammar Checker • Software/Word cards, word book, word wall • Pocket dictionary, thesaurus • Electronic dictionary/spell check • Word processor with word prediction • Multimedia software for production of ideas • Voice recognition software • Mechanics of writing • Pencil/pen with adapted grip • Adapted paper • Slantboard • Typewriter • Portable word processor • Computer
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Types of AT in the Classroom

Augmentative/ Alternative Communication	If a student shows a documented difference between comprehension of language and ability to express it, demonstrates delayed expressive language, or if their speech is not understandable to those around them	<ul style="list-style-type: none"> • Communication board • Eye gaze board/frame • Voice output device • Device with speech synthesis • Device allowing for printing • Device allowing for email/texting
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Types of AT in the Classroom

Reading	If a student is having trouble understanding what they are reading or paying attention to the reading assigned	<ul style="list-style-type: none"> • Predictable texts • Book adapted for page turning • Electronic books • Single word scanners • Talking electronic devices/software • Changes in text size/space/color/background color • Book adapted for page turning • Use of pictures with text • Scanner with OCR and talking word processor
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www.ftcd.info

Types of AT in the Classroom

Learning/Studying	If a student is struggling to get their work done in a timely fashion or if they are having trouble understanding the various lessons	<ul style="list-style-type: none"> • Highlighters • Recorded material • Hand-held scanners • Electronic organizers • Print and picture schedules • Low-tech aids to find materials • Voice output reminders for tasks, assignments, steps to tasks • Software for manipulation of objects/concept development • Software for organization of ideas and studying
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Types of AT in the Classroom

Math	If a student is finding it difficult to keep up with the majority of the class on math lessons	<ul style="list-style-type: none"> • Number line • Enlarged worksheets • Talking clocks • Voice Output measuring device • Abacus, math line • Calculator/Talking Calculator/Calculator with large keys/On-screen calculator • Software with cueing for math computations • Tactile/voice output measuring devices
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Types of AT in the Classroom

AT Category	Why Student Would Need	Examples
Vision	If a student demonstrated trouble seeing or cannot see at all	<ul style="list-style-type: none"> • Eyeglasses • Magnifier • Large print books • CCTV
Hearing	When the student demonstrates trouble hearing or cannot hear at all	<ul style="list-style-type: none"> • Pen and paper • TTD/TTY for phone access • Signaling devices • Closed captioning • Hearing aids

Adapted from:
 "A Resource Guide for Teachers and Administrators about Assistive Technology"
 Penny R. Reed, Ph.D.
 Elizabeth A. Loken, Ph.D.
 Wisconsin Assistive Technology Initiative
 January, 2005

Aids for Daily Living

<ul style="list-style-type: none"> ▪ Eating <ul style="list-style-type: none"> ▪ Adapted utensils/plates ▪ Arm support ▪ Automated feeding ▪ Home Living <ul style="list-style-type: none"> ▪ Switch ▪ Battery Interrupter ▪ Control Unit ▪ Infrared sender/receiver ▪ X-10 unit and peripherals 	<ul style="list-style-type: none"> ▪ Recreation & Leisure <ul style="list-style-type: none"> ▪ Adapted toys and games ▪ Battery interrupters and switches ▪ Adapted sporting equipment ▪ Universal cuff to hold crayons, markers, paint brush ▪ Modified utensils ▪ Computer programs ▪ Dressing <ul style="list-style-type: none"> ▪ Velcro Fasteners ▪ Button hook ▪ Dressing aids
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Teachers Can Make their Classrooms More Conducive to AT

- Have certain computers in the classroom that are set up for the use of the students with disabilities - ones that have necessary software on them.
- Include AT in lessons.
- Familiarize the other students with the AT that other students may be using in the classroom and make sure they understand why this AT is being used.
- Use AT even if it is not necessary; enlarge fonts, use amplification devices, use computers, have calculators available, etc. It will benefit all of the students!

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BACK@U

How does this apply to an adult?



PROBLEM SOLVING THROUGH THE PROCESS

TRANSITION



Transition

- Time to dream...
 - Careers
 - Post-secondary education
 - Career and Technical Education
 - Independent living
 - Community inclusion

Transition Definition

- Transition is a term used for the systematic passage or "bridge" between one phase of life to another.
- Often, this term is used for when people with disabilities leave an institution for the community or school for adult life.
- Schools are required by federal law, especially the Individuals With Disabilities Education Act (IDEA), to provide transition planning and services.
- According to IDEA, by age 14 (age may vary by state), a student's individual education plan (IEP) should describe needed transition services and detail how the school will provide instruction, community experiences, the development of the IEP and other postschool adult activities

IDEA '97

§300.29 Transition services.

- (a) As used in this part, **transition services** means a coordinated set of activities for a student with a disability that-
- (1) Is designed within an outcome-oriented process, that promotes movement from school to post-school activities, including postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation;
 - (2) Is based on the individual student's needs, taking into account the student's preferences and interests; and
 - (3) Includes-
 - (i) Instruction;
 - (ii) Related services;
 - (iii) Community experiences;
 - (iv) The development of employment and other post-school adult living objectives; and
 - (v) If appropriate, acquisition of daily living skills and functional vocational evaluation.
 - (b) Transition services for students with disabilities may be special education, if provided as specially designed instruction, or related services, if required to assist a student with a disability to benefit from special education.
- (Authority: 20 U.S.C. 1401(30))

Assistive Technology Act of 2004

- Created uniformity of services across Tech Act Projects
 - Device reutilization, equipment loan, alternative financing projects, product demonstrations, and protection and advocacy services
- 2 populations
 - Students receiving transition services
 - Adults with disabilities

AT Act of 2004, 29 U.S.C. § 301 et seq.

Barriers to Transferring Technology to Post-Secondary Environments

- Lack of involvement of vocational rehabilitation counselors
- Restrictions placed on school districts regarding the disposition of equipment
- COMMUNICATION!!!

Barriers to Transferring Technology to Post-Secondary Environments

- Absence of an established "buy-out" program to allow vocational rehabilitation agencies to purchase assistive technology from school districts
- No strong relationship between educational facilities and adult services programs.
- COMMUNICATION!!!

Knowing your AT needs

- Students should be included in discussion of AT and accommodation needs
- Ensure familiarity of which AT devices, services, and accommodations facilitate completion of class work and higher academic achievement
- Easier for the student to express those needs after they leave K-12 environment

Other hidden needs...

Also teach appropriate

- **Self-Advocacy** or advocating on one's own behalf.
- **Self-Determination** or people having the degree of control they desire over those aspects of life that are important to them.

TYING IT TOGETHER...

THINK BACK ON AT SUPPORTS DISCUSSED!

(hint: types of AT in the classroom, UDL, etc.)



Transition

Work/School to Work Aids and Adaptations

- Scheduling aids (calendars, reminders, task analysis)
- Switch/device
- Adapted keyboard
- Communication aid
- Keyboard emulator
- Adaptive seating/positioning
- Electronic communication
- Electronic organizer
- Adapted computer input
- Environmental control unit



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Quick AT Transition Tips



Communicate Effectively with Your Child's School

Keep in touch with your child's teacher.

Attend all meetings concerning your child's education and be an active participant.

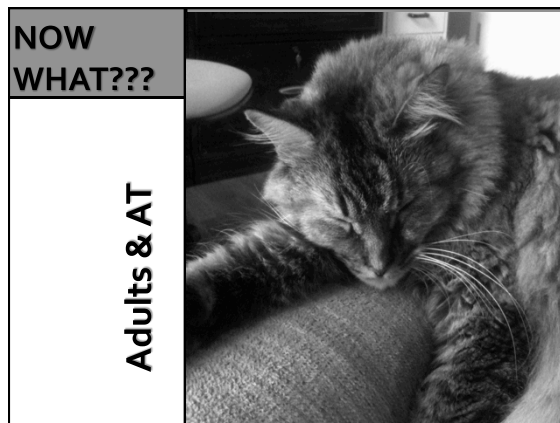
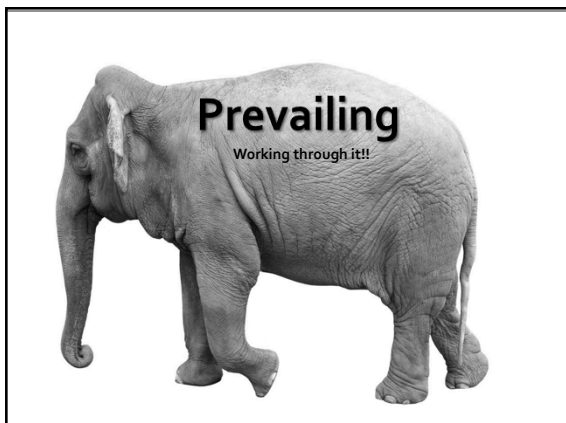
- Frequent telephone calls
- Notes
- Personal Visits

Be a good listener.

- Encourage the staff to keep you informed about your child's progress, social interactions, and any problems or concerns that have arisen
- Listen to their professional opinions about your child

When differences of opinion arise, talk about them and look for possible solutions to help your child the most.

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Quality of Life Domains (Rusch & Chadsey, 1998, p.44)

- Physical and Material Well Being
 - Physical and mental health
 - Food, clothes, lodging
 - Safety
- Personal Fulfillment
 - Happiness
 - Satisfaction
 - Sense of general well-being
- Performance of Adult Roles
 - Mobility/ community access
 - Vocation
 - Leisure and recreation
 - Personal relationships
 - Spiritual fulfillment
 - Citizenship
 - Social responsibility

BACK@U - Reflection

▪ How do you think and feel about AT for the adult population with disabilities?

Differences

- Focus
- Funding
- Barriers

Focus

- Independent Living
- Work Place
- Recreation

Identify Level of Support

- Natural Supports – informal arrangements/ communication
- Formalized hiring arrangements – care assistant,
- Established policies, practices and procedures (Callahan & Garner, 1997 p. 43)

Independent Living

- What is independent living? Essentially, it is living, working and playing just like everyone else--having opportunities to make decisions that affect one's life, able to pursue activities of one's own choosing--limited only in the same ways that one's neighbors who are not disabled are limited.

It is ...

"Control over one's life based on the choice of acceptable options that minimize reliance on others in making decisions and in performing everyday activities" (B & B, pg. 182)

Independent Living

There are, of course, individuals who have certain mental impairments which may affect their abilities to make complicated decisions or pursue complex activities.

For those individuals, independent living means having every opportunity to be as self-sufficient as possible (practicing self-determination).

Living options

- **Assisted living residences/assisted living facilities (ALFs)** - need help in managing certain basic daily living activities such as cooking meals, bathing or dressing themselves, doing laundry, or taking medications without assistance.
- **Supported living:** Central to the concept of supported living is the goal of a supportive environment, living in one's home, and being included in the community. Many states use the Medicaid HCBS waiver to finance supported living.
- **Independent Living Centers (ILC's)**
- **Adult Day Programs**
- **Respite**
- **Community Living**

Adult Individuals Receiving Medicaid

Report - Persons with ID/DD Receiving Services While Living with Family Members as a Percentage of All Persons with ID/DD Receiving Services on June 30 of 2009:	KY	31.7%
	Estimated US Total	57.5%

ID/ DD With family	2009
KY	1,904
Estimated US Total	602,457
ID/ DD Not with family	2009
KY	4,097
Estimated US Total	443,134

BOTTOM LINE

Who is responsible for AT??



Document and follow-up!

Supports – current status

- Although Social Security and Medicare provide a system of income and health support, our nation lacks a system in respect to long-term care not necessarily of a medical nature such as help with activities of daily living, a crucial need as our population ages.
- Issues to consider include the population served, the whole age spectrum, location of the services provided or received, integration of public and private financing, commonality of issues or needs of population served not by age or disability, personal choice over time in models, delivery system mechanisms, the role of centers for independent living in delivery, coordination of support services and housing settings, and coordination of support services within a geographic area.¹

Research and Training Center on Community Living <http://rtc.umn.edu/main/>

Research and Training Center on Community Living

- Access to health care and work supports has become extremely complex for many potential users, negatively impacting their health and well-being.
- The system needs to change in order to promote maximum employment and productive community involvement for citizens with disabilities.
- Our recommendation is to: **Transform current Social Security, state and private disability income insurance, health care and long-term services programs into a universal work insurance model created by and for all U.S. citizens. Work and work re-entry, early intervention, disability competence training, vocational training, health care, community-based long-term services, benefits program planning, and other supports are presumed and inherent, and available as needed.**
Research and Training Center on Community Living <http://rtc.umn.edu/main/>



STATS

- In 2009 the percentage of young adults with ASD was half that of individuals with other disabilities – 33% versus 59%

NLSY Wave 5 (2008) Parent/Young Adult Survey
Employment of Young Adult (Combined YOUNG ADULT AND PARENT Items) Table 218
Estimates

Types accommodations young adult received at current or most recent job
(multiple response item ng214q_14a2)
Overall and by Primary disability category

	Total	Learning Disability	Speech Impairment	Mental Retardation	Emotional Disturbance	Hearing Impairment	Visual Impairment	Orthopedic Impairment	Other Health Impairment	Traumatic Brain Injury	Multiple Disabilities	Deaf/Blindness
(1) No accommodations received	28.8%	0.0%	0.0%	0.0%	0.0%	14.9%	88.4%	32.4%	0.0%	11.7%	0.0%	18.8%
(2) Material/technical adaptations	12.4%	0.0%	0.0%	13.7%	0.0%	20.1%	70.8%	33.0%	0.0%	9.1%	0.0%	19.0%
(3) Human aides	44.8%	0.0%	0.0%	83.3%	0.0%	57.8%	20.3%	55.8%	0.0%	50.2%	0.0%	55.5%
(4) Assignment/supervision accommodations	48.0%	0.0%	0.0%	53.2%	0.0%	53.8%	39.5%	52.8%	0.0%	53.2%	0.0%	58.5%
(5) Scheduling accommodations	42.8%	0.0%	0.0%	38.8%	0.0%	20.4%	52.8%	50.8%	0.0%	48.0%	0.0%	37.4%
(6) Received other accommodations or supports	24.8%	0.0%	0.0%	21.4%	0.0%	31.8%	35.7%	52.3%	0.0%	28.4%	0.0%	35.8%

Note: Small numbers can round to 0. Statistics with too few to reliably report are excluded (fewer than 1 in a cell and 30 in a column).

Transition

Work/School to Work Aids and Adaptations

- Scheduling aids (calendars, reminders, task analysis)
- Switch/device
- Adapted keyboard
- Communication aid
- Keyboard emulator
- Adaptive seating/positioning
- Electronic communication
- Electronic organizer
- Adapted computer input
- Environmental control unit

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Issues

- Many of the same issues as school but shift from Universal Design for Learning to Universal Design and the ADA/ Tech Act
- Transportation - Access to safe, reliable, affordable means to go where you want when you want

Supported employment:

- The Rehabilitation Act of 1993 defines supported employment under Title VI Part C as competitive work in integrated work settings. It is for persons with severe disabilities who need support to find and hold a job. Supported employment includes pay for real work, working with nondisabled coworkers, ongoing support for job retention (for assistance, a job coach), and interagency cooperation and funding of these services.

Voc Rehab and Other Supports

- **Adult Autism and Employment: A Guide for Vocational Rehabilitation Professionals**
<http://www.dps.missouri.edu/Autism.html?cmpGAS>
- **KY Voc Rehab** <http://ovr.ky.gov/>
- **Comprehensive One-Stop Career Centers**
<http://www.servicelocator.org/search/etasearchoffice.asp?zip=&city=&state=ky>
- **Disability.Gov**
<https://www.disability.gov/employment>

Person-Centered Approach

Gather Information:

Develop a history or personal life story.
Describe quality of the life

Plan a meeting

- Reviewing the personal profile
- Identify ongoing events that are likely to affect the focus person's life.
- Share visions for the future to increase opportunities.
- Identify obstacles and opportunities. Things that make the vision a reality.
- Identify strategies. Action steps for implementing the visions.
- Getting started. Identifying action steps that can be completed within a short time.
- Identify the need for service delivery to be more responsive to individual needs.

Follow-up

Secondary Education

Table 1. Accommodations and modifications provided to students with autism

Accommodation	Percent
Any type of accommodation or support ^a	91
Additional time to complete assignments	52
More time in taking tests	52
Alternative tests or assessments	49
Slower-paced instruction	41
Shorter or different assignments	38
Modified tests	33
Modified grading standards	30
Tests read to student	25
Modifications to physical aspects of the classroom	16

^a This includes receipt of any of the accommodations and other learning supports listed here and in tables 2 and 3. Students may receive more than one kind of accommodation, support, or learning aid.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 student's school program survey, 2002.

BOTTOM LINE

Who is responsible for AT??



Document and follow-up!

Recreation



Moving for Improving

- Physical activity improves health status (Bodde, Seo & Frey, 2009)
- Social and motor deficiencies were normalized (Sowa & Meulenbroek, 2012)
- Improved social skills (Sowa & Meulenbroek, 2012)
- Other benefits: experiencing enjoyment, building friendships/ social interaction, increasing autonomy and independence, improving self-confidence/ self-esteem and allowing for self-expression (McNaughton & Beukelman, 2010)

Barriers and Challenges



- Opportunities
- Access

(McNaughton & Beukelman, 2010)

Funding



Medicare:

- KY State Health Insurance Assistance Program (SHIP)**
- The Kentucky State Health Insurance Assistance Program (SHIP) provides information, counseling and assistance to seniors and disabled individuals, their family members and caregivers. This service is provided at **no charge** by local, well-trained counselors.
 - The program seeks to educate the general public and Medicare beneficiaries so they are better able to make informed decisions about their health care.
 - SHIP provides the following services:
 - One-on-one counseling by telephone or in person;
 - Presentations to community groups;
 - Printed educational and informational materials; and
 - Referrals (connections to other agencies).

Home and Community Based Services Waiver Program:

- In 1981, legislation was passed to fund the HCBS program, which allows states to use Medicaid funds to pay for home and community services for Medicaid-eligible individuals who have disabilities.
- States must show that these individuals are at risk of being placed or remaining in institutions without these waiver-provided services.
- Additional legislation has provided Community Supported Living Arrangements for Medicaid-eligible persons with mental retardation and/or developmental disabilities that does not require the person to be at risk of institutionalization.

KY Waiver Information

- **KY Waiver comparison chart**
<http://dbhdid.ky.gov/ddid/files/WaiverCompChart.pdf>
- **Amended SCL Waiver**
- **Michelle P. Waiver**
- **Acquired Brain Injury Waiver Services**
- **Acquired Brain Injury Long Term Care Waiver**
- **Home and Community Based Wavier Services**
- **Model II Waiver Services**

KY Waiver Comparison Chart

CDO Service Name	Waivers	HCPCS Code	Service Unit	Includes these Traditional Services
Community Day Supports	SCL, MPW, ABI long term	T2019	15 minute unit	Adult Day Training and Supported Employment
Home and Community Supports	HCB, SCL, MPW, ABI acute and long term	S5108	15 minute unit	Respite, Community Living Supports, Homemaker, Personal Care, Attendant Care, and Companion
Goods and Services	HCB, SCL, MPW, ABI acute and long term	T1999	One item shall equal one unit	Environmental and home modifications Incontinence and other specialized supplies/equipment
Support Broker Services	HCB, SCL, MPW, ABI acute and long term	T2022 (with HI modifier)	One unit per member, per month	N/A
Financial Management Administrative Services	HCB, SCL, MPW, ABI acute and long term	T3940	15 minute unit, limited to eight (8) units per member, per month	N/A

Supports for Community Living (SCL)

is a home and community-based waiver under the Kentucky Medicaid program developed as an alternative to institutional care for individuals with intellectual or developmental disabilities. SCL allows individuals to remain in or return to the community in the least restrictive setting.

Supports for Community Living (SCL)

- **Adult Day Training**
- **Behavior Supports**
- **Case Management**
- **Community Living Supports**
- **Occupational Therapy**
- **Physical Therapy**
- **Psychological Services**
- **Residential Supports**
- **Respite**
- **Speech Therapy**
- **Supported Employment**

Social Security Disability Insurance:

- Monthly benefits are provided to disabled workers and their dependents through this plan funded by Social Security.
- Participants must have accrued sufficient quarter-years of employment and payment into the system to qualify for benefits.

Supplemental Security Income:

- The federal government provides income support to people 65 and over, adults and children with blindness or disabilities who have little or no financial resources.
- To be considered, an adult must not be able to participate in gainful activities because of physical or medical impairment that will result in death or at least 12 months.

Barriers

This will look familiar!



Barriers to Assistive Technology

- Lack of information and knowledge about appropriate AT
- Lack of funding
- Lack of professionals to perform AT evaluations
- Wading through red tape of public programs and insurance companies
- Lack of maintenance and support
- Health care access - Issue for adults with disabilities!

National Council on Disability, 2000

Research and Training Center on Community Living

<http://rtc.uconn.edu/main/>

Historically, people with disabilities have been served by a fragmented system that increases their risk for poor health and results in higher health care costs and lower quality of life. Civil rights must include health promotion as an essential life skill. All should have access to quality health care integrated as a system, informed by medical need, inclusive of trained medical personnel responsive to people with disabilities, and funded adequately. Also, the health care system must include improved transitional health promotion and access for young adults with disabilities through mentoring, better trained providers, a seamless system, and open communication.

Our recommendation is to:

Create an empirically-tested, cost-effective, reimbursable consumer controlled, community-based program that integrates systems (such as health care, personal assistance services, transportation) to promote improved health across ages and across disabilities.

Baxter, Enderby, Evans and Judge

- Review and qualitative synthesis of 2883 articles – 27 included
- Following themes:
 - Ease of use
 - Reliability
 - Technical support
 - Voice/ language
 - Decision-making process
 - Family perceptions and support
 - Staff training
 - Speech of generating a message
 - Communication partner responses
 - Services delivery issues (staff training/ access to services)

Baxter and facilitators to the use of high technology augmentation and alternative communication devices, a systematic review and qualitative synthesis
International Journal of Language & Communication Disorders
March/April 2002 47: 2, 105-129

Reliability of devices

- Reliability of Speech Generating Devices: A 5 –Year Review
 - Mean time to first failure 42.7 weeks
 - 40% required repairs within the first year
 - Possible negative consequences for SGD use
- Shepherd, Campbell, Renzoni & Sloan (2009, AAC, 25(3), 145 – 153)

How Do I Overcome These Barriers?

- Lack of information and knowledge about appropriate AT –You've taken the first step
- Lack of funding - Look at your options and review the information I've provided!
- Lack of professionals to perform AT evaluations – Advocate for more & network!
- Wading through red tape of public programs and insurance companies – Ask for help!! Don't let pride stand in the way of services.
- Lack of maintenance and support – **Be the squeaky wheel** and help your provider improve the quality of what they are doing; network!

The Big Picture

- Start preparing for you child's future AT needs in advance.
- Talk with other children and adults who use AT to gain user perspectives.
- Participate in parent groups to help you build your advocacy skills while also having access to a lot of informational resources.
- The Internet is a good tool for learning about AT and locating funding resources.
- Keep up with new technology developments by exploring local resources, such as the Internet, conferences and workshops, and AT Listservs.
- Acquiring AT is an ongoing process as your child's needs will change and their technology needs will as well.
- No AT is perfect, but it does open doors to inclusions and independence and is worth the effort.

www.fctd.info

Advocate Effectively for Your Child

- Know your rights
- Make notes on telephone conversations and meetings
- Date and save all notes, report cards, IEPs and notices from the school regarding your child's education and progress
- Jot down questions you want to ask or information you want to share before you attend meetings
- Put all requests in writing and keep copies
- Ask your child for information
- Help your child become a self-advocate
- Look to other parents for support (local ASD support group)

www.fctd.info

Where do I look for more help?

- Louisville AAC Providers - <https://sites.google.com/site/louisvilleaacproviders/>
- AAC at U of L - <https://sites.google.com/site/aacatuofl/>
- Facebook AAC at U of L – <https://www.facebook.com/AACatUofL>
- KATS Network - <http://www.katsnet.org/>
- Hospitals
- Talk to your PCP (primary care physician) or insurance company
- Ask who provides AT for the schools, and get to know them (pick their brain)
- Ask who teaches AT at the local University and chat with them (we're nice people).
- Educate yourself using resources at your fingertips – focus on national/ university or research based organizations!

Final Thoughts... QUESTIONS??



Additional Resources

Have fun with further knowledge!

Additional Resources: Organizations

US Department of Education: <http://www.ed.gov>
 Family Center on Technology and Disability: <http://www.fctd.info>
 Alliance for Technology Access Resource Centers: <http://www.ataccess.org>
 State Technology Act Projects: <http://www.ataporg.org/stateatprojects.asp>
 National Dissemination Center for Children with Disabilities (NICHCY) <http://www.nichcy.org>
 Parent Training and Information Centers: <http://www.taalliance.org>
 PACER Center: <http://www.pacer.org>
 ABLEDATA: <http://www.abledata.com>
 Assistivetech.net: <http://www.assistivetech.net>
 AT Online Training Project: <http://www.atto.buffalo.edu>
 Infinitec: <http://www.infinitec.org>
 Council for Exceptional Children: <http://www.cec.sped.org>

www.fctd.info

Additional Resources

Family Center on Technology and Disability
<http://www.fctd.info/>
 National Dissemination Center for Children with Disabilities
<http://www.nichcy.org>
 Center for Implementing Technology in Education
<http://www.cited.org/index.aspx>
 Wisconsin Assistive Technology Initiative <http://www.wati.org/>
 Office of Special Education Programs
<http://www.ed.gov/about/offices/list/osep/index.html>
 Closing the Gap <http://www.closingthegap.com/>
 ABLEDATA <http://www.abledata.com/>
 Job Accommodation Network (SOAR) <http://www.jan.wvu.edu/>
 USA Tech Guide <http://www.usatechguide.org/techguide.php>

www.fctd.info

Additional Resources

National AT Technical Assistance Partnership
<http://www.resna.org/taproject/index.html>
 Alliance for Technology Access
<http://www.resna.org/taproject/index.html>
 Quality Indicators for Assistive Technology
http://natri.uky.edu/assoc_projects/qiat/
 Industry Profile on Education Technology
<http://t2rerc.buffalo.edu/pubs/ip/index.htm>

Additional Resources Books and Articles

Low Tech - Books

- Visual strategies for Improving communication: Practical Supports for School and Home, Linda Hodgdon
- Solving Behavior Problems in Autism: Improving Communication with Visual Strategies, Linda Hodgdon
- How to Reach and Teach Children with Challenging Behavior: Practical, Ready-to-Use Interventions That Work (Google eBook)
- Visual Supports for People with Autism
- Outsmarting Explosive Behavior - A Visual System of Support and Intervention for Individuals with Autism Spectrum Disorders [Book] by Judy Endow, Brenda Smith Myles, Ph.D. (FRW) in Books
- Making Visual Supports Work in the Home and Community: Strategies for Individuals with Autism and Asperger Syndrome

Additional Resources: Low Tech

- WATI Initiative (1997). Designing environments for successful kids: A resource manual. WATI: Amherst, WI. <http://www.wati.org/>
- High & Low Tech Tools for People with Learning Disabilities. Richard Wanderman's Tips: http://www.ldonline.org/bulletin_boards/techtalk/rwanderman.html
- Lee Products - <http://www.leeproducts.com>
- University of Buffalo's Assistive Technology Training Online Project (ATTO) <http://atto.buffalo.edu/registered/ATBasics/Populations/LowTech/reading.php>
- The Lottie Kit is a collection of low and mid tech tools designed for teachers, classroom aides, and support professionals to use with students (grades K-12) who have special needs. Examples: colored adhesive dots, Coin-u-lator, keyboard lowercase labels, plastic writing guide, laminated math tables, raised line paper, colored plastic filters for reading and copying, page-Up copy holder. <http://onionmountaintech.com/>

Additional Resources: AT Consideration

The Georgia Project for Assistive Technology has many excellent resources on its website, including an Assistive Technology Resource guide that provides a continuum of solutions from standard tools to assistive technology. It also includes potential modifications and accommodations for a variety of tasks. Choose Resources from the navigation menu on the left side of the screen, then on the new screen choose AT Consideration, finally on the next screen choose AT Resource Guide. If you chose the MS Word or PDF format it will automatically be downloaded to your computer. If you choose the video linked version you will have access to videos of much of the AT that is mentioned.

Prekindergarten Resource Instruction Module for Exceptional Education (PRIME Time). This website is a wealth of information and useful tools. It was developed by the Miami-Dade County Public Schools in Florida. Click on Resources in the navigation menu on the left. Then choose Pre-K ESE Assistive Technology Implementation Plan. This form will guide your team through an excellent discussion that will help you determine if AT is needed and facilitate the development of an implementation plan. It is designed for young children with disabilities.

The Texas Assistive Technology Network has excellent training modules including one on Considering AT in the IEP Process that can be downloaded. It includes PowerPoint slides and other useful materials for training others.

Assistive Technology Training Online (ATTO) Project, AT Decision making Module, <http://atto.buffalo.edu/registered/decisionmaking/>

Georgia Project for Assistive Technology, Assistive Technology Consideration Checklist, Assistive Technology Resource Guide, <http://www.gpat.org/GPAT%20Forms.htm>, Assistive Technology Resource Guide with videos of AT Solutions: http://coefaculty.valdosta.edu/spe/ATRB/AT_considerati_resource.htm

Additional Resources: AT Consideration

Oregon Technology Access Program, AT Consideration Guide, <http://www.oregon-oregon.org/index.cfm>

Quality Indicators for Assistive Technology (QIAT) Website, <http://www.qiat.org>

Texas Assistive Technology Network, Considering AT in the IEP, <http://www.texasat.net>

University of Kentucky Assistive Technology Project, UKAT Toolkit, <http://edsrc.uky.edu/www/ukati/toolkit/index.html>

Valdosta State University and Georgia Project for Assistive Technology (GPAT), Teacher Resource Bank (<http://www.teacherresourcebank.com>), video resources: <http://coefaculty.valdosta.edu/spe/ATRB/Educators.htm>, GPAT Assistive Technology Resource Guide with videos of AT Solutions: http://coefaculty.valdosta.edu/spe/ATRB/AT_considerati_resource.htm

Wisconsin Assistive Technology Initiative: WATI Consideration Guide, <http://www.wati.org>

Zabala, J. and Denham, A. AT Consideration Guide for IEP Teams. <http://www.joyzabala.com>

AT Consideration: Commercially Available Materials

Bowser, G. and Reed, P.: Assistive Technology Pointers for Parents, <http://www.edtechpoints.org>

Bowser, G. and Reed, P.: Education Tech Points: A Framework for Assistive Technology Planning, <http://www.edtechpoints.org>

Reed, P. Bowser, G. and Korsten. How Do You Know It? How Can You Show It?, (chapters 2 and 6) Attainment Company, <http://www.attainmentcompany.com>

Technology and Media Division of CEC, AT Consideration Quick Wheel, <http://www.tamcec.org>

Additional Resources: Articles

- Blackhurst, Edward A. (2001), *What is Assistive Technology?* Retrieved September 17, 2007 from <http://natri.uky.edu/resources/fundamentals/defined.html#demands>
- *What is Assistive Technology?* (© 2001) was prepared for the National Assistive Technology Research Institute by A. Edward Blackhurst, Professor Emeritus, Department of Special Education and Rehabilitation Counseling, University of Kentucky. It may be duplicated and circulated for non-commercial purposes, provided this credit is included.
- Blackhurst, Edward A. *A Functional Approach to the Delivery of Assistive Technology Services* (© 2001), Retrieved September 17, 2007 from <http://natri.uky.edu/resources/reports/function.html>
- *Functional Approach to the Delivery of Assistive Technology Services* (© 2001) was prepared for the National Assistive Technology Research Institute by A. Edward Blackhurst, Professor Emeritus, Department of Special Education and Rehabilitation Counseling, University of Kentucky. It may be duplicated and circulated for non-commercial purposes, provided this credit is included.

Additional Resource: Work

Association for Persons in Supported Employment: APSE: The Network on Employment is a membership organization formed in 1988 as the Association for Persons in Supported Employment to improve and expand integrated employment opportunities, services, and outcomes for persons experiencing disabilities.
www.apse.org

Association of University Centers on Disabilities: AUUCD is a network of interdisciplinary centers advancing policy and practice for and with individuals with developmental and other disabilities, their families, and communities.
www.auccd.org/template

Council of State Administrators of Vocational Rehabilitation: CSAVR exists to maintain and enhance a strong, effective and efficient national program of public vocational rehabilitation services which empowers individuals with disabilities to achieve employment, economic self-sufficiency, independence, and inclusion and integration into our communities.
www.rehabnetwork.org

Disability Info: Disabilityinfo.gov provides quick and easy access to comprehensive information about disability programs, services, laws and benefits. You can begin your search by visiting any of the nine subject areas at the top of this page. To find disability resources in your state just click on the *Find State and Local Resources* map located in each of these subject areas.
www.disabilityinfo.gov/digov-public/public/DisplayPage.do?parentFolderId=500

Including Talents of Young People with Disabilities: The Office of Disability Employment Policy (ODEP) provides national leadership on disability employment policy by developing and influencing the use of evidence-based disability employment policies and practices, building collaborative partnerships, and delivering authoritative and credible data on employment of people with disabilities.
www.dol.gov/odep/documents/shaping_tomorrows_workforce.pdf