# Technology and Cognitive Support

## Strategies and Tools for Task Completion and Routines

AbleNet University Webinar
April 11,2013

**Presenter:**
**Gayl Bowser, gaylbowser@aol.com**

# Participants will learn about:

- Strategies for task analysis that can be applied to decisions about where and when technology can support task and daily routine completion.
- At least two commonly available tools to support task completion and daily routines.
- At least two specialized tools that are designed to support task completion and daily routines.

# Learned Helplessness

- Continuous exposure to failure
- Withdrawn and passive affect
- Unwilling to approach a new task
- Lack of persistence

***Arnold***

# Task Completion and Daily Routines

- Initiating
- Sequencing
- Follow-through
- Problem solving

# What are the supports that your student uses?

- What are “people-dependent” supports now?
- What are the low tech or high tech supports that make them independent?
- What do you use now?
- What do you use without prompting?

# What aspects of the student's performance will change?

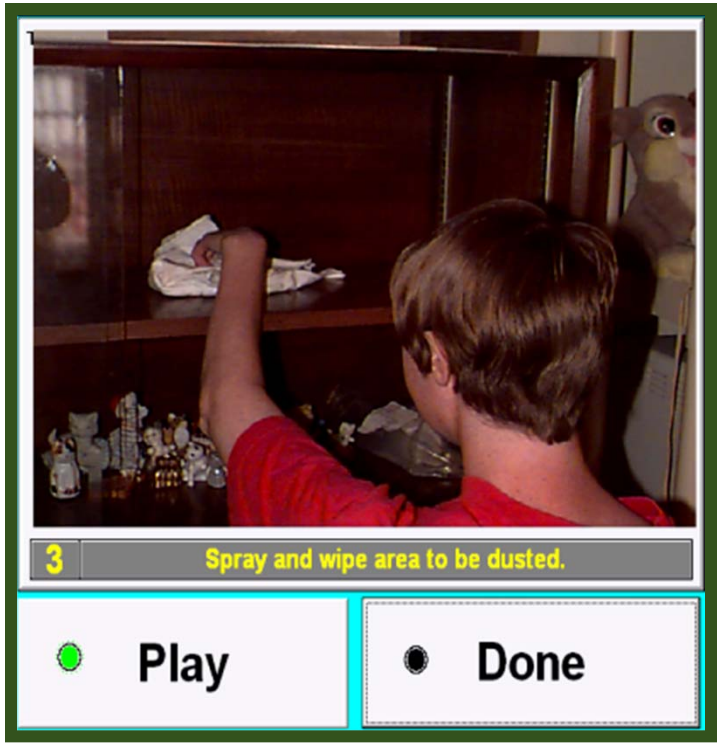
Speed/Frequency

- Accuracy
- Independence
- Spontaneity
- Duration
- Latency
- Quantity
- Quality

# Task Analysis

Task analysis is the practice of taking a behavior (task) that needs to be learned, analyzing the behavior by identifying the most important steps of the behavior (analysis), and listing the steps in sequence.

# Kinds of Tasks to Analyze

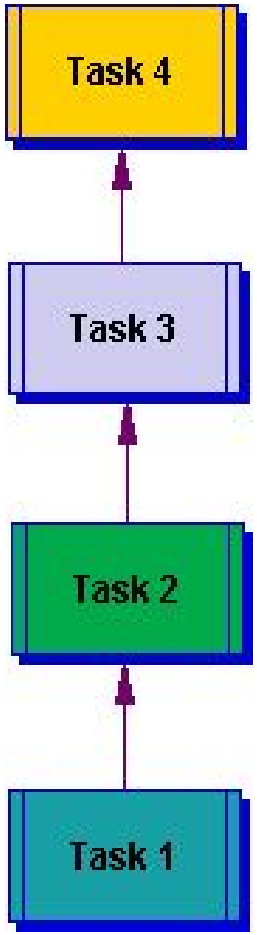



- Learning analysis
- Cognitive task analysis
- Activity analysis
- Schedule analysis
- Job or performance analysis

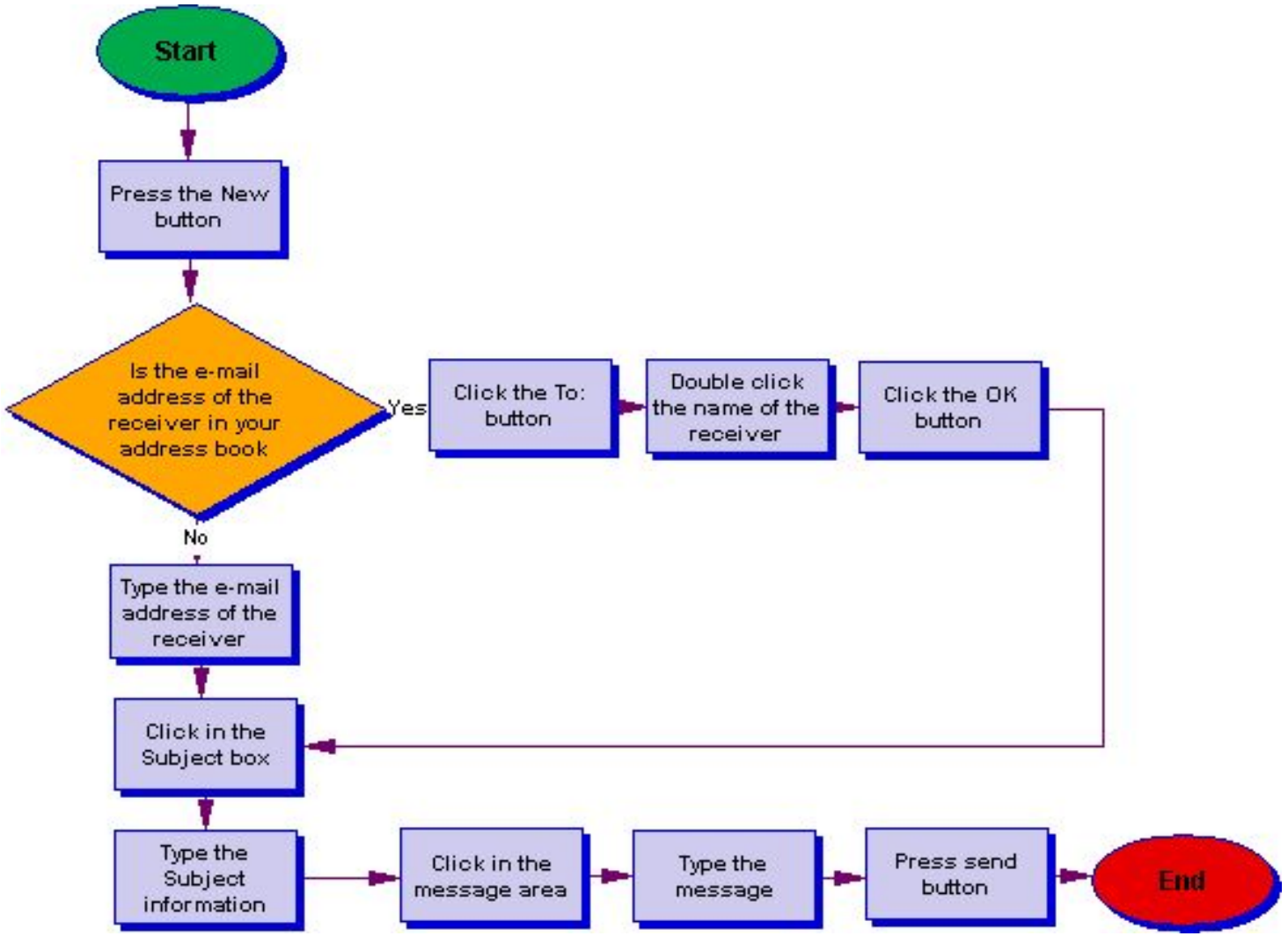
# Steps to Task Analysis

- Select priority tasks
- Identify the components and sequence of the task
- Sequence instruction for tasks and sub-tasks

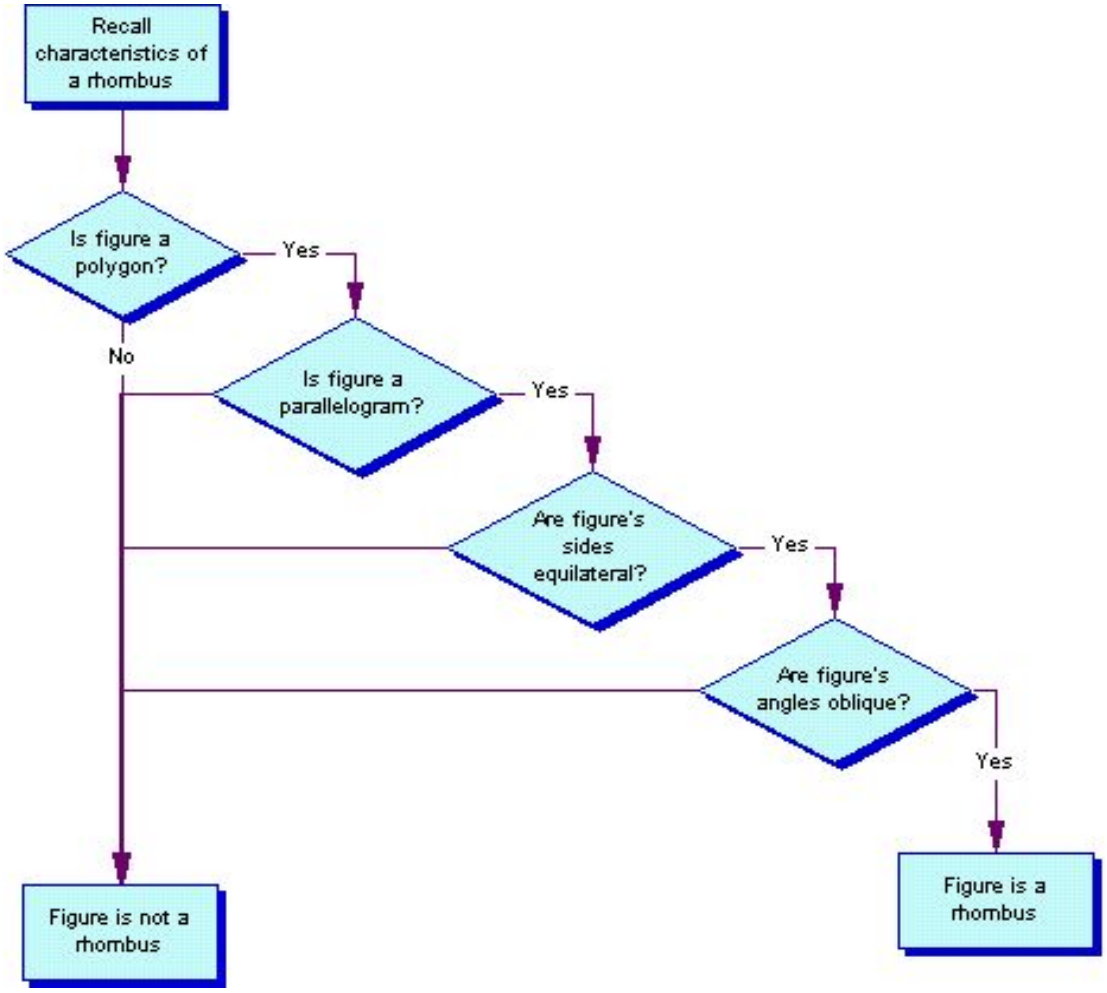
# Hierarchical Task Analysis



# Procedural Task Analysis



# Information Processing Task Analysis (Expert System)



# Determine Level of Detail

- Characteristics of the individual
- Importance of the task
- Safety issues
- Environmental concerns

# Tying Shoes:A sample Task

- Cross the shoe laces.
- Pull the front lace around the back of the other.
- Put that lace through the hole.
- Tighten the laces with a horizontal pull.

---

- Make a bow.
- Tighten the bow.

# The same task: Make a bow

- Hang the ends of the laces from the sides of the shoe.
- Pick up the laces in the corresponding hands.
- Lift the laces above the shoe.
- Cross the right lace over the left one to form a tepee.
- Bring the left lace toward the student.
- Pull the left lace through the tepee.
- Pull the laces away from one another.

# Teaching a Task Analysis Sequence

- Backward Chaining:

  Learning the last step first
- Forward Chaining:

  Learning the first step first
- Total Chaining:

  Learning all the steps in sequence with support and prompts

# Listening to Voice Mail

- Return home
- Check for flashing light
- Listen to voice mail
- List calls to return
- Add caller to address book
- Choose next call to return

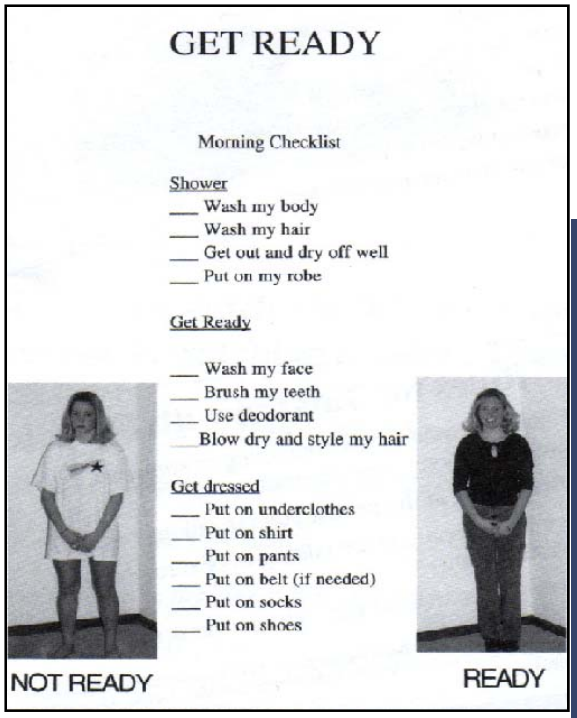
# More to Listening to Voice Mail

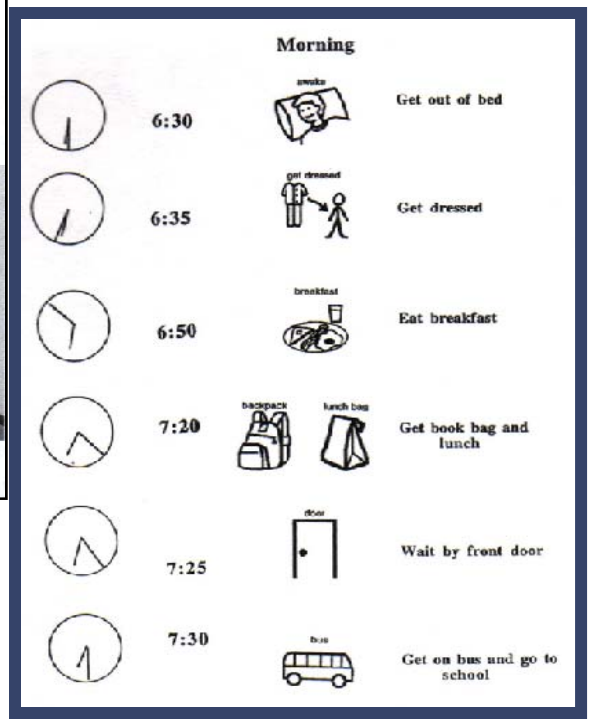
- Return home
- Check for flashing light
- Listen to voice mail
- List calls to return
  - People I know
  - People I don’t know
  - Commercial Call
- Add caller to address book
  - Keep this  number
  - Enter number
  - Save number
- Choose next call to return

# Assistive Technology for Cognitive support

- What steps in the task analysis are difficult or impossible because of the individual's disability?
- Would the use of assistive technology allow this individual to become more functional and independent on this task?

# Range of Technologies



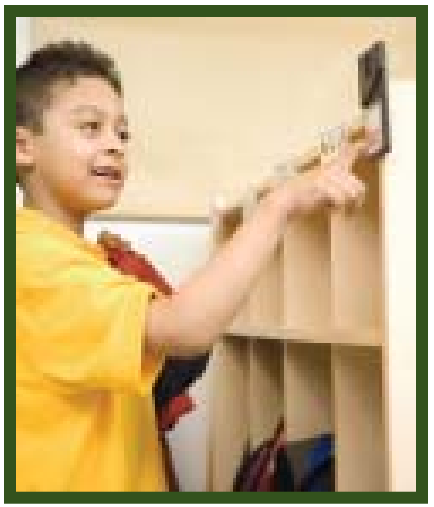

# Cognitive Support Technology

- Task completion
- Daily routines

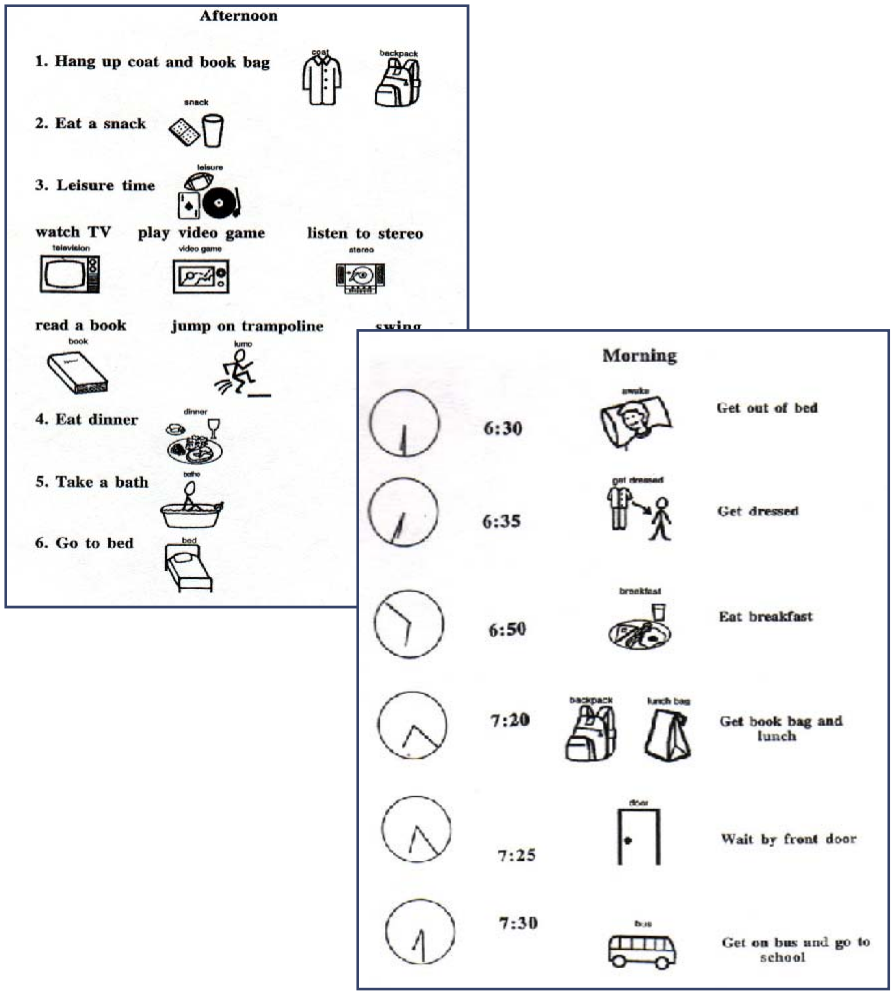
# People Who Use Cognitive Support Technology can stay on task while on the job or at school

# Low-Tech Tools and Strategies for Cognitive Support

- Dry-erase board reminders
- Reminder signs
- Timers
- Talking timers
- Picture sequences/ Task analysis charts
- Talking photo albums with sequences
- Programmable phones



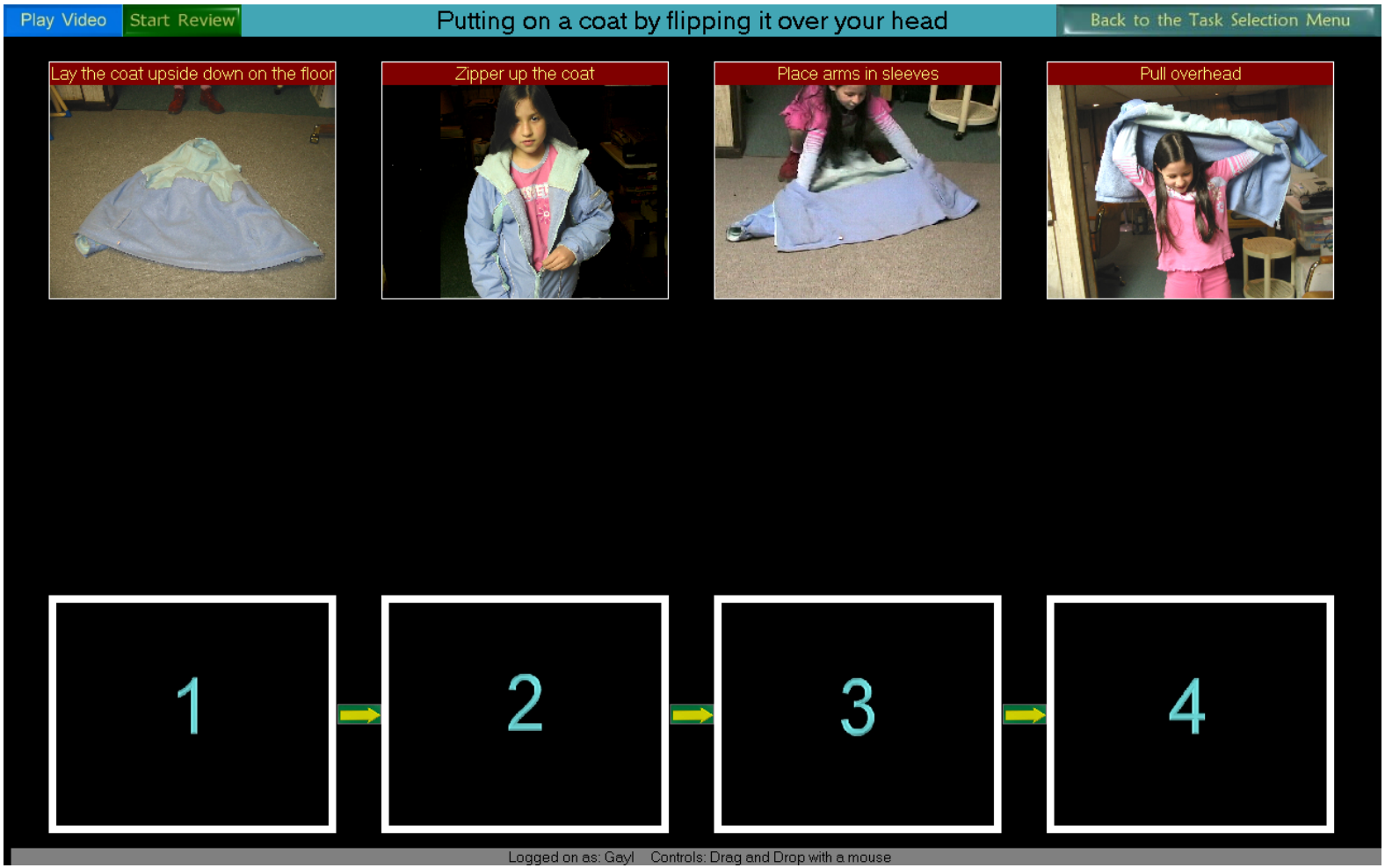
# Picture It



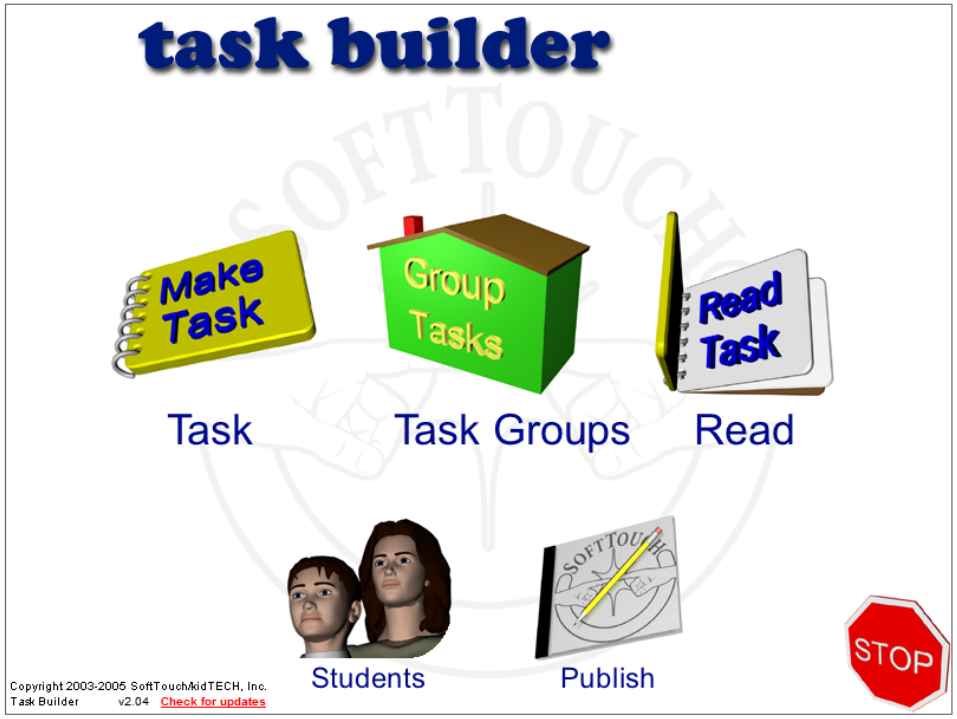


*Slater Software*

# In Sequence: Daily Living Skills From Judy Lynn Software



# *Soft Touch*
# Task Builder






## Social Scripts & Story Scripts

### Add on to My Own Bookshelf

*Soft Touch*

# People Who Use Cognitive Support Technology can follow daily routines

# GET READY

Morning Checklist

Shower

___ Wash my body
___ Wash my hair
___ Get out and dry off well
___ Put on my robe

Get Ready

___ Wash my face
___ Brush my teeth
___ Use deodorant
___ Blow dry and style my hair

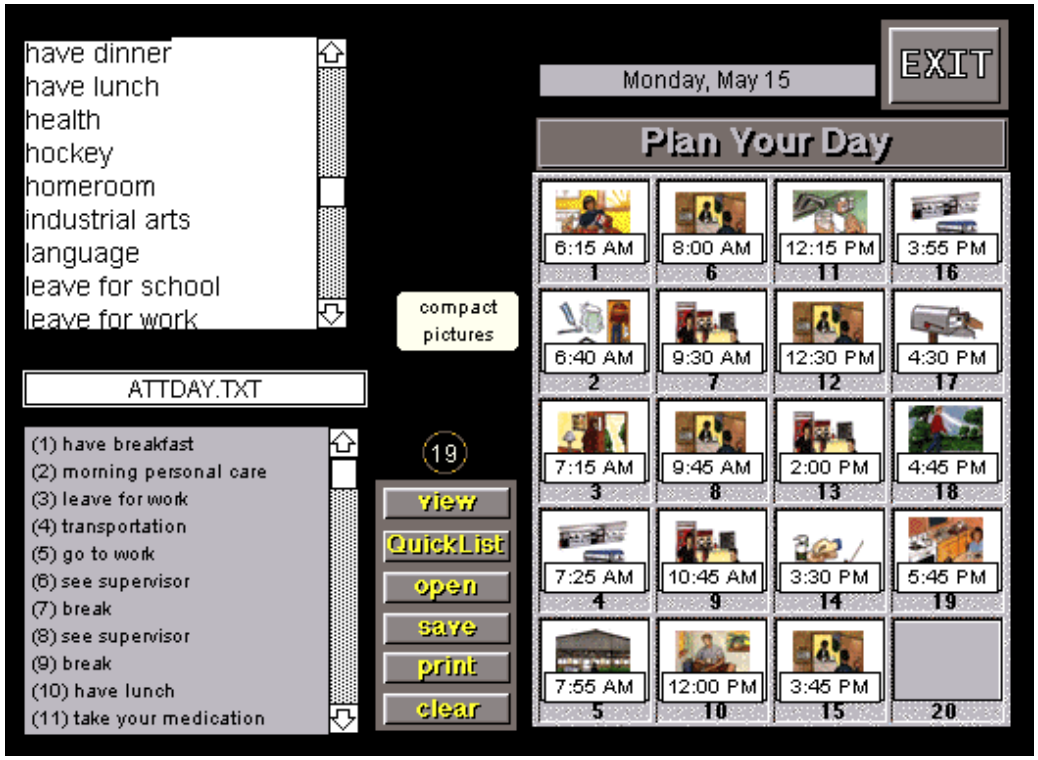
Get dressed

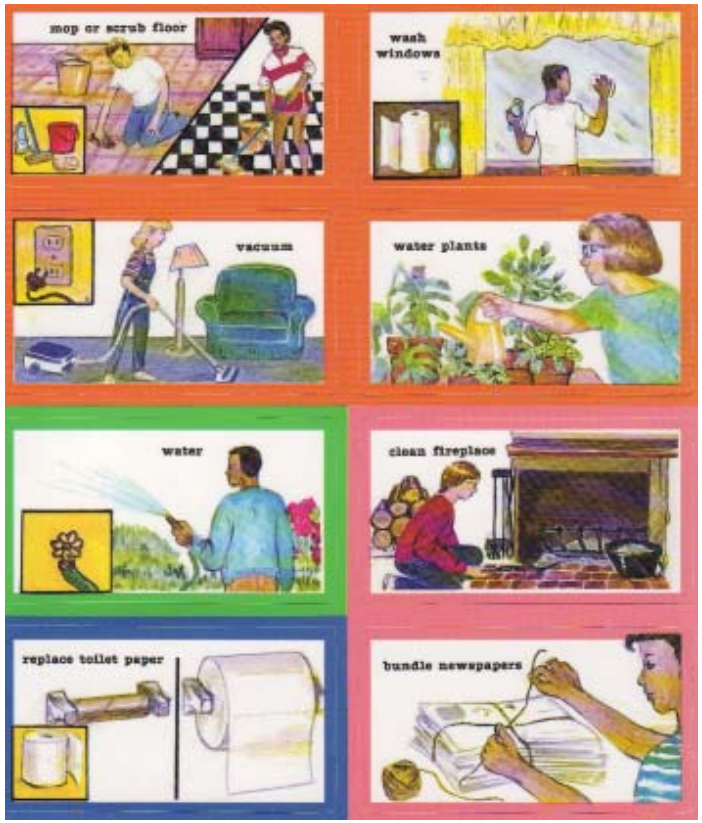
___ Put on underclothes
___ Put on shirt
___ Put on pants
___ Put on belt (if needed)
___ Put on socks
___ Put on shoes

NOT READY

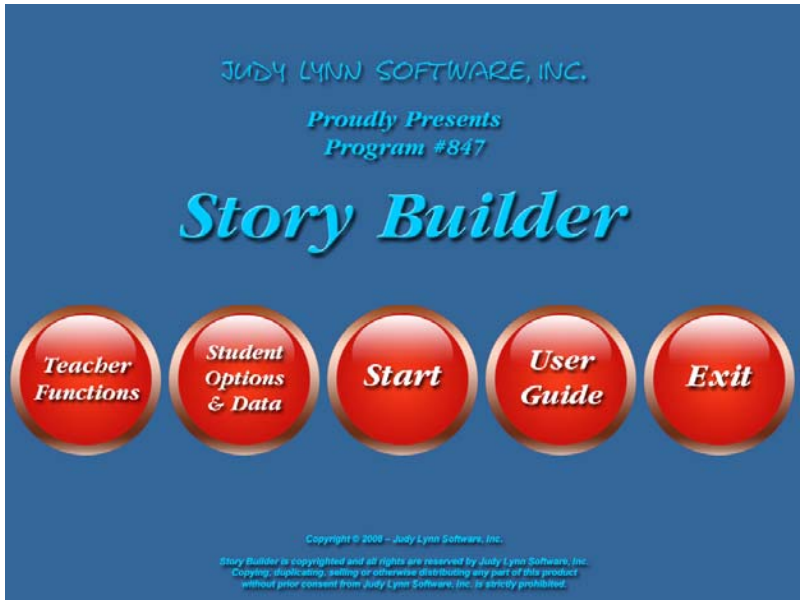
READY

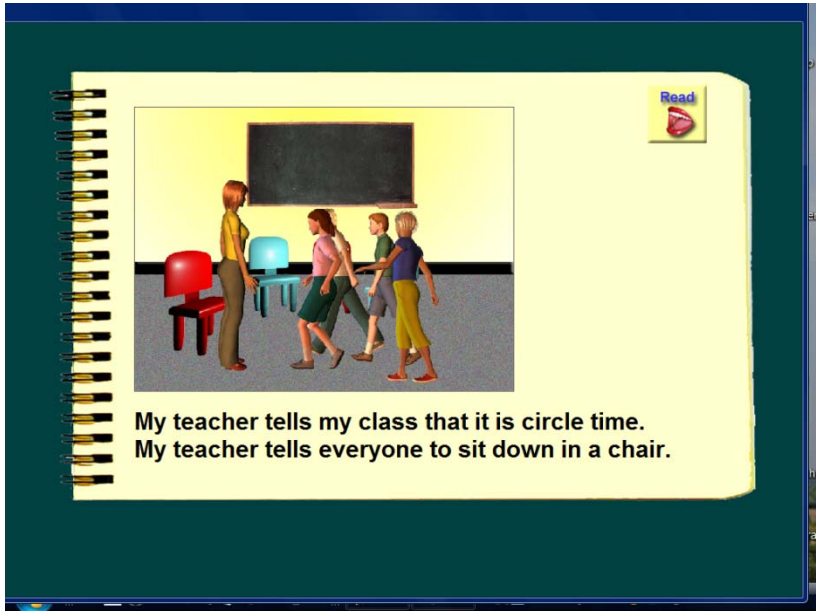
# Plan Your Day



# Story Builder



# Connover

## Functional Planning System


http://www.youtube.com/watch?v=dBnYqh9AVh8

# Everyday Life


- Mix a cake
- Bake a cake
- Use a Debit card
- Make a deposit

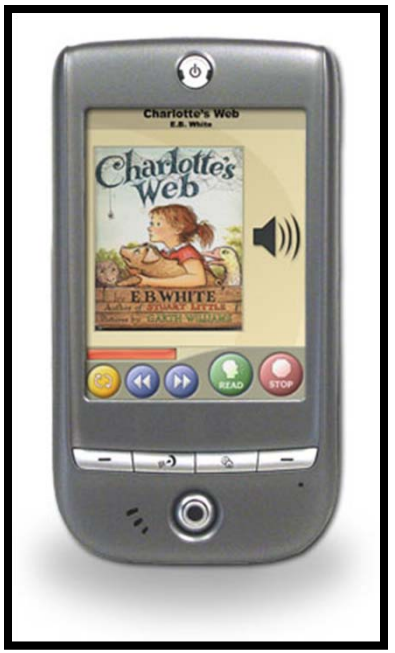
***http://www.gcflearnfree.org/everydaylife***

# Portable Impact


Discovery Desktop


Visual Assistant


Pocket Ace



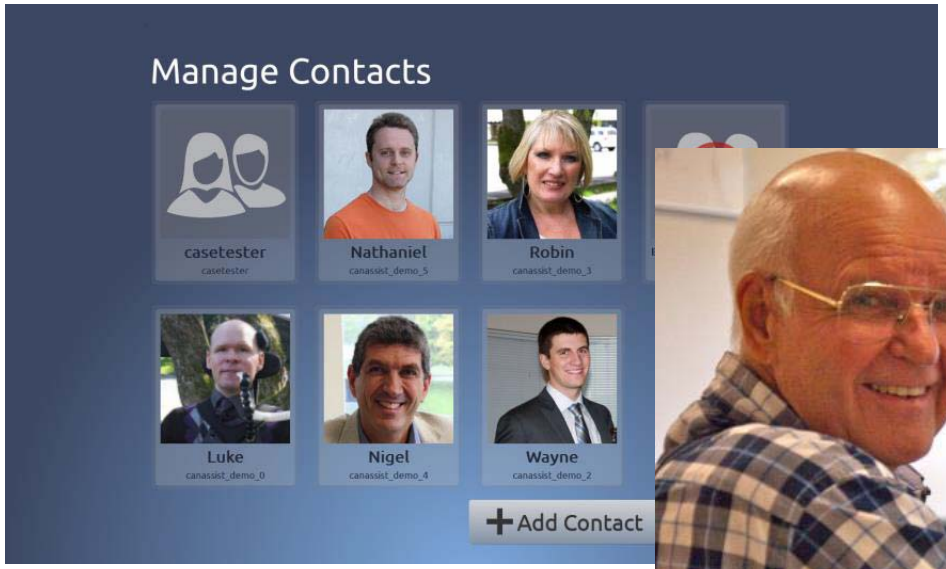

Rocket Reader

AbleLink

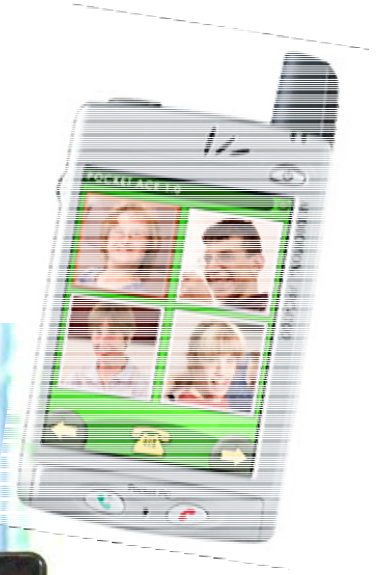
# *Cognitopia*
# Pocket Picture Planner



# People Who Use Cognitive Support Technology can ,aintain communication with family members and caregivers







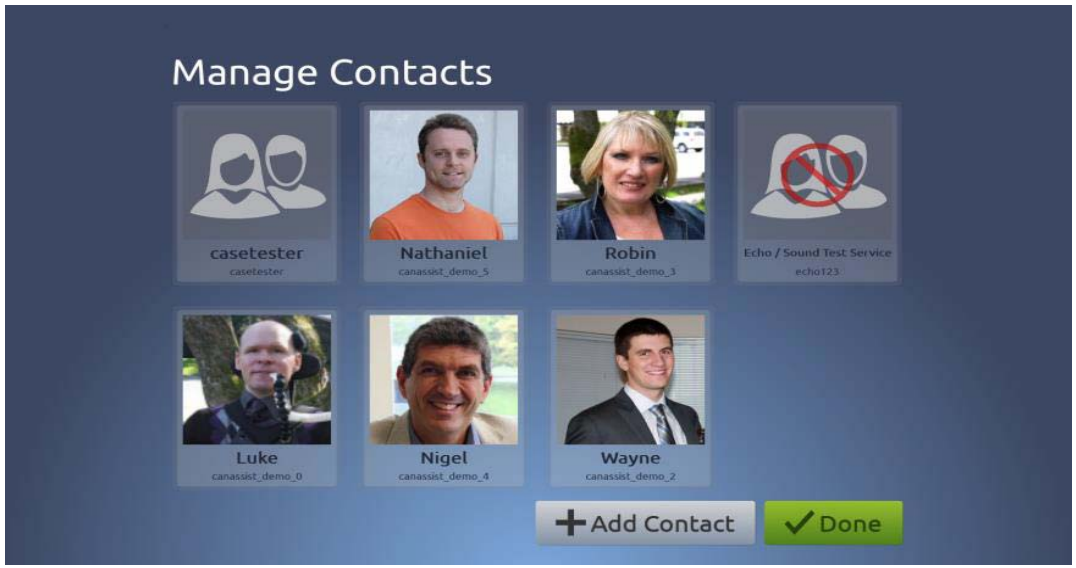
# Portable Hi-Tech – smart phones


*Blackberry*


*HTC Titan*


*iPhone*

# CanConnect




An accessible, user-friendly interface to Skype, developed by CanAssist at the University of Victoria. It allows people with a wide range of disabilities to communicate easily with family, friends, caregivers and health-care providers in real-time over the Internet.

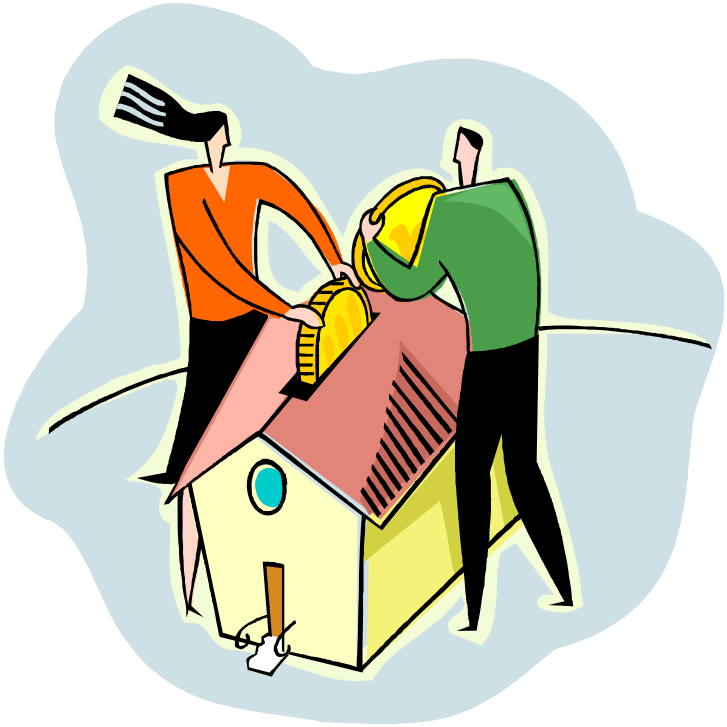
# AbleLink Community Integration Suite - Phone Edition

A picture-based cell phone program that instantly shows who is calling or initiates a call to the person pictured in the address book with a simple touch.

# When do you stop using cognitive supports?


- Careful consideration must be given before removing support systems
- Planning for removing supports
- Instruction for

# Barriers to Use of Technology for Cognitive Support



- Cost
- Training
- Complexity of the Device
- Lack of Assessment Strategies
- Lack of Knowledge About Technology Uses

***Wehmeyer***