

SAMPLE REPORT

Project TTAP: Technology Team Assessment Process

COMPUTER EVALUATION

CHILD'S NAME: Ann Smith
123 Pleasant Street
Anytown, USA
AGE: 4 years, 7 months
DATE OF ASSESSMENT: March, 1998
LOCATION OF ASSESSMENT: Western Illinois University
Macomb, Illinois

STAFF PARTICIPANTS AND POSITIONS:

Linda Robinson, TTAP Outreach Coordinator
Carol Schneider, Child Development Computer Specialist
Karen Smith, mother
Janet Green - Early Childhood Teacher
Sarah Brown - Speech Therapist

This computer evaluation was videotaped.

REASON FOR REFERRAL FOR ASSESSMENT:

This session was scheduled upon request of Ann's mother and teacher. Ann's parents wanted to explore technology as a means of communication. Ann has cerebral palsy and is very hypertonic.

EVALUATION GOALS:

The purpose of this session was to evaluate Ann's ability to use technology for communication and a variety of other skills, including cognition, and motor skills. Her family is interested in finding the most suitable equipment to meet her needs at home and in school.

EQUIPMENT AND SOFTWARE USED DURING THE ASSESSMENT:

Macintosh computer
15" color monitor
Discover: Kenx (Don Johnston)
Jellybean Switch (Ablenet)
Red Pillow Switch (TASH)
Bubbles Touch-Sensitive Switch (Minimal Motion Access Technology)
Vibrating Switch (Toys for Special Children)
Switch holder
Universal Switch Mount (Ablenet)
Key Largo (Don Johnston)
TalkPad (Frame Technologies)
Battery-operated toys

Software: *Switch Intro, Press to Play - Zoo, Eensy and Friends, and Discover: Kenx 3.1* (Don Johnston)

EQUIPMENT SET-UP:

Ann was evaluated from her wheelchair with the tray attached. The computer was placed on an adjustable table with the monitor positioned at a comfortable eye level for her.

OBSERVATIONS:

Throughout this session Ann seemed to be unresponsive to most of the programs and many of the verbal prompts. Her mother had indicated that she had started on new medication recently and they were not completely sure yet of its effects on her. This may have caused some of her listlessness during the assessment.

Computer Activities

To establish Ann's understanding of causality and to explore her most reliable movement the team decided to start with a switch placed at the right side of her head. This placement would help her maintain head control since she was required to keep her head up to press the switch. *Press to Play*, a simple switch-operated program with pictures, animation and sound was used. The switch was mounted on the right side of her wheelchair with the Universal Switch Mount. Although Ann seemed tired or listless throughout this activity, she did move her head toward the switch to activate it as she watched the monitor. She attended well to the monitor even though she leaned her head toward the left side frequently. Her movements toward the switch seemed to be intentional. When a second part of this program which contains a simple two choice scan was introduced, Ann tended to lean her head to the side, watching the monitor. She may have been attending to the verbal prompts in the program. At this point she did not make an attempt to press her switch to activate one of the choices.

To further explore Ann's use of the switch and her ability to visually attend to the monitor, we used the "Willy the Worm" portion of the *Switch Intro* program. In this program, a worm moves through a tunnel and down a path with each switch press. There is no auditory feedback from the program. We used the same Red Pillow Switch mounted at the right side of her head. She pressed the switch and tended to lay her head on the switch, but only looked at the monitor occasionally. She seems to need animation and sounds in software in order to keep her attention.

Since Ann seem uninterested in pressing her switch with her head at this point, the team decided to explore the use of another type of switch and movement. The Bubbles Touch-Sensitive Switch, an infrared switch which is activated by movement close to it, was positioned on her wheelchair tray near her right hand. Ann made no attempt to reach toward this switch. We changed the software to *Eensy and Friends*, a program which contains music and animation. Since Ann still did not reach for the switch, we changed to a Vibrating Switch with also has a tactile cover to it. Her mother assisted her in pressing the switch, however Ann made no voluntary attempt to press the switch. Despite her mother's verbal prompts, she continued to look away from the computer and switch. At this point we took a short break.

As Ann was sitting on her mother's lap, her teacher and mother wanted to explore her use of a portable communication device, the TalkPad. This device has four choices for messages which can be easily recorded and is enclosed in a colorful lightweight case. Her mother recorded four messages, "Yes", "No", "Ann", and the name of their dog. She held the TalkPad in front of Ann and asked her questions in an attempt to get her to respond by pressing one of the buttons. Ann looked up at her mom during this time, making no attempt to look at or activate the device.

To assess Ann's use of technology for communication, another activity was set up for her which involved the use of the Key Largo, a touch sensitive pad used with Discover: Kenx, an adaptive interface for the Macintosh. An overlay with two pictures, a dog and a spider, was placed on the Key Largo. When one of the pictures is pressed, a message, "I want to play with the..." , is heard. Ann sat on her mother's lap and the Key Largo was held in front of her. She was assisted in pressing the picture of the dog, then moves her hand across the overlay to the spider picture, however she did not have enough strength to activate it. Her mother assisted her in pressing.

Since Ann seemed to do better with the switch, the team decided to provide the same two choices of dog and spider, but in a simple scanning array. The Red Switch was placed in the switch mount at the right side of her head. Ann was required to press her switch to start the scan, then press again when she heard the choice she wanted. She seemed listless again, not responding to verbal prompts, and making no attempt to press the switch.

For the final activity the team decided to use a battery-operated toy, a TV screen toy, to see if Ann would respond better to this type of activity and to explore another placement of the switch. The toy was placed on her wheelchair tray with the Jellybean Switch in a wooden switch holder. Ann tended to lay her left hand on the switch, throughout this activity, making the toy activate all the time. Her mother lifted her hand off of the switch occasionally, but Ann would put it right back on the switch. Ann attended well to the toy and demonstrated strength to activate the switch with her left hand.

RECOMMENDATIONS:

Although we are making recommendations on input and activities at this time, we do recommend further assessment on reliable movement and switch placement since Ann was unresponsive during many of the activities. Despite her tiredness and unresponsiveness, she did demonstrate patience, cooperation, and attention to some of the activities. She seemed to have an understanding of causality with the switch activities at the computer and with the switch and toy. With Ann's need for communication and independence, technology seems to be an appropriate tool to help further development of these and other skills. She seemed to respond best to programs with animation and music or sounds. Based on a discussion of the observations of team members, the TTAP team make the following recommendations.

1. Input Method: The switch seemed to be a suitable input method for Ann. It is a simple method of input that she is able to understand and use. She demonstrated ability to use the right side of her head and her left hand to activate the switch during the assessment.

Although we tried the Key Largo, she did not demonstrate enough strength to activate this device.

a. Switch: It is recommended that Ann use a tread like switch, such as the Red Switch or the Jellybean Switch which were used in the session. Either of these switches will allow her to access the computer or battery-operated toys. If a similar switch is available at the school its use could also be explored.

b. Switch Holder: The switch should be placed in a stable position either with a wooden switch holder or a switch mount. For head switch placement, we recommend the Universal Switch Mount available from AbleNet, or a similar type of switch mount. Directions for making a wooden switch holder and a list of switch resources are included with this report.

c. Discover: Kenx: In order to use the switch with the computer, Ann will also need a switch interface, such as the Discover: Kenx, which is presently available in her classroom.

With the Discover: Kenx, any program can be set up for switch access and beginning scanning skills. Attached to this report are instructions for setting up a simple two choice scan, such as the one used during the assessment. Further information on peripherals is also attached.

2. Battery-operated Toys: Since Ann enjoyed the music and sounds in the TV toy, it is recommended that a variety of off-computer activities be designed around the use of a switch and battery-operated toys. Musical toys, motion activated toys and those which offer vibration may be suitable. Toys may already be available in her classroom that can be adapted for these activities.

3. Portable Communication Device: Although Ann may benefit from the use of a portable device she could use at home and school, we were unable to fully assess her abilities to use any one device. Although we tried the TalkPad, which is a colorful and fairly inexpensive device, she did not voluntarily reach or press the activation buttons, therefore we do not know whether she has the physical strength to use this device independently. Further assessment needs to be done to determine the most suitable portable communication device for her at this time.

4. Computer Equipment: Ann would benefit from consistent use of a computer to help gain early childhood skills. The Macintosh available to her at school could be used with the recommended input method. If a new computer system is being considered for Ann at home, components, such as RAM, hard drive space, CD-ROM drive, monitor, and microphone, must be taken into consideration. See the attached page, "Considerations for Purchasing A New Computer System," for further information.

Any computer system which meets these requirements will be adaptable to meet Ann's needs now, as well as in the future. The system should have built-in options for persons with special needs, including slower key acceptance, delay in key response time, built-in speech feedback for some programs, and font enlargement.

Our recommendations are based on the most current computer systems and input devices available for school and home use. However older computer systems with similar functions, adaptive devices, and software may be used to accomplish the same goals.

Both IBM and Apple have special education offices which will provide further information on software and adaptations.

Apple Computer
Office of Special Education and Rehabilitation
20525 Mariani Avenue MS 43-S
Cupertino, California 95014
408/974-7910 or 408/974-7911 (TDD)
<http://www.apple.com/disability/text.html>

IBM Computer
National Support for Persons with Disabilities
Box 2150
Atlanta, Georgia 30301-2150
800/426-2133 or D.A.N. (IBM's Disabilities Assistance Network)
800/426-4832
<http://www.austin.ibm.com/sns/index.html>

a. Printer: We also recommend a printer for producing words or graphics. A color printer is needed for printing computer screens for off-computer activities or communication

choices. Pictures which appear on the monitor can be printed and used in making books or other materials to help reinforce skills. If a printer is being considered for home use, resources, such as MacMall (800-222-2800) or Club Mac (800-258-2622), should be checked for current printers which are compatible with a specific computer system.

5. Software: Concerning software for Ann, we recommend working on a progression of switch activities. Switch-operated software can be used to learn and reinforce scanning skills needed for use with her communication choices and future academic skills. Many skills, such as attending, visual tracking, problem solving, and communication can be enhanced through software use.

For computer activities, begin with simple programs which offer a variety of options, yet require only beginning switch skills. Good initial programs for switch use which we recommend at this time include *Switch Intro*, *Press to Play - Animals*, *Toy Store*, *Workshop*, *Storytime Tales*, *Circletime Tales*, and *Five Green and Speckled Frogs* (Don Johnston). Ann should begin with activities which reinforce attending and other cognitive skills, while working toward a progression of switch skills. These programs contain a variety of options to help reinforce these skills. See the attached "Levels of Switch Progression for the Macintosh," for other suggested software to reinforce early switch skills. Software resource information is attached.

6. Equipment Placement: We recommend that the monitor be positioned at a comfortable eye level for Ann. Also the computer environment should be designed with the least amount of distractions.

7. Goals: Since Ann needs to develop beginning switch skills to play with toys or to use the computer effectively, we recommend that family members, teachers, and therapists work with her on a daily basis on the skill of attending to a toy or the computer monitor while pressing and releasing the switch. We also encourage incorporation of technology use into her therapy goals. Skills needed for appropriate switch use take time to develop. Consistent use of this equipment is recommended in order to develop these skills. The following are suggested goals for Ann at this time:

- Press and release her head or hand on the switch to cause an action.
- Attend to the monitor or toy while pressing the switch.
- Press one of two switches to communicate a choice of activities, toys, or food.

The computer can be tool to help Ann increase her attention span and gain communication skills. After these skills are acquired, a re-evaluation will be needed to determine further curriculum applications to help Ann meet her IEP goals.

In order to fully integrate the computer into Ann's curriculum at school, the role of the teacher and the environment are important. The teacher's role is critical in arranging the environment and planning developmentally appropriate activities for Ann. The computer environment should be designed so materials are accessible, computer activities are developmentally appropriate and interesting, and the computer is positioned at Ann's eye level. Ann would benefit from using the computer during free choice and group activities, as well as during individual therapy time. We recommend the incorporation of communication choices into planned computer activities. See the attached curriculum activity for an example of how technology can be used for a variety of individualized goals.

SUMMARY:

We recommend the following equipment and software for Ann at this time. Some of these items may already be available in her classroom.

Computer System with color monitor and CD-ROM drive
Color Printer
Discover: Kenx (Don Johnston)
Red Switch (TASH) or Jellybean Switch (Ablenet)
Universal Switch Mount (Ablenet) or wooden switch holder
Software available through Don Johnston:
Switch Intro
Press to Play - Animals
Toy Store
Workshop (CD-ROM)
Storytime Tales
Circletime Tales
Five Green and Speckled Frogs

Computer technology can provide Ann with a tool for increasing attention and communication, and helping to develop a variety of early childhood skills. She will benefit from consistent use of the equipment as a tool. This is an important time in her life for acquiring early concepts and gaining confidence in her communication and cognitive skills. By being given the opportunity to perform at her full potential now through technology, she is also becoming prepared for future use of the computer as a tool for later skills.

FURTHER SUPPORT FROM PROJECT TTAP:

Ann was a delightful child during the evaluation. She was very cooperative and good natured. We wish the best for her and her family in the future. We hope that the information in this assessment report will be useful for family and program staff. TTAP staff will provide assistance to the assessment team from the West Central Illinois Special Education Cooperative in any follow-up evaluation that is needed. Training and consultation on input devices or software is available through the Macomb Projects, or local resources. Our Projects have developed a number of curricula, including *Building InterACTTive Futures*, *eMERGing Literacy and Technology: Working Together*, and *ArtExpress*, as well as books and videotapes on software applications and adaptive devices. We have also compiled a vast library of resources on technology and will share information as needed.

Report was prepared by:

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April, 1998
Attachments