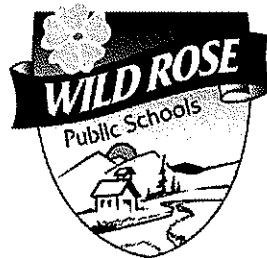


ASSISTIVE TECHNOLOGY

SWITCH DEVICES



“Creating Powerful Learning Environments”

Switch (single use)

Linked with All-Turn-It or Light box

Subject: Math

Initial set-up (front loading):

- a) With all-Turn it: need various numbers on outer ring and various operation signs in internal ring.
- b) With power-link & light box (for kids with visual difficulties and attention problems): you would need to plug in both devices appropriately. Need various see through coloured objects.

Task(s):

- a) Student spins the All-Turn-It by hitting switch. They pick math question for the class.
- b) Kids sort objects by one or two attributes.

Other Thoughts/ideas:

All- Turn- It:

- 1. Choose partners or outside buddies.
- 2. Bingo Caller
- 3. Select Questions for Language Arts, Science and Social Studies.

Power Link (up to 4 devices)

- 1. Cooking activity: operate blender
- 2. Make popcorn for the class.
- 3. Turn on anything with an electrical plug. Pair music and lights and create a disco party.
- 4. Operate Paint-n-Swirl for art.

*** A battery adapter can be purchased to operate battery toys with a switch.

Overview & Purpose

This module provides an overview of the different types of switches and interfaces that can be used by students with disabilities. The module includes information on characteristics of switches and switch interfaces, mounting systems and suggestions for classroom switch activities.

Purpose of Switch Use

Switches offer access to anything electronic for persons with disabilities. They are a great way to begin experiencing independent control. Through a variety of interfaces, switches are connected to electronic devices. They work to turn things on and off or indicate choices when used with scanning software or interfaces.

For children with physical disabilities, a single, reliable movement can cause a toy to move or turn a radio on. Those with sensory impairments learn that they can be the controlling source of sound, light and vibration. Children with cognitive impairments are able to interact with toys and computers with a single "button," limiting the need for more complex directions. Switches provide new opportunities to learn and participate.

For example, a simple battery interface can assist a student in creating a 'Spin Art' picture with friends.

Children often begin by using switches with toys. This develops skills that can include:

- Turning them on and off,
- Moving them for social and communicative purposes, and
- Making choices to indicate preferences.

These skills provide a foundation for learning and for more complex technology use such as multiple switch use, computer interactions and more extensive environmental control.

Types of Switch Use

Environmental Control of appliances such as radios, fans, blenders, and televisions found in



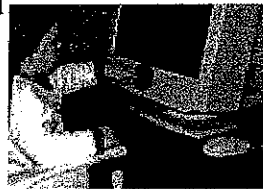
homes and schools.

Play & Exploration are expanded through using switches to independently participate in games and other recreation activities. Battery-operated toys or games such as Light Brite and Spin Art can be easily adapted for switch use.

Movement can be experienced with motorized mobility items such as powered wheelchairs and motorized cars (Jeeps, Big Foot cars) that are driven with single and multiple switches.



Computer Access is achieved through single and multiple switch access. Switches can be used in combination with other input devices such as head pointers and voice dictation software. A single switch user can use scanning systems, giving full access to any commercial software program. (For more information, see our module on switch and scanning systems.)



Communication is encouraged through early switch use. Single switch devices with recorded messages provide a way to relate language to the activity at hand and to initiate and participate in a variety of activities. More complex systems use multiple switches or internal scanning methods to access multi-layered designs.

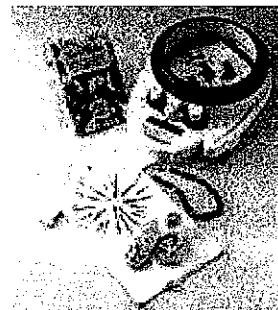
Classroom Ideas

When starting switch use with the student, choose an activity that is motivating to him. Give the student ample time to activate the switch; wait for the response, and describe what happened. Say, "You're making that car move fast," instead of "Good hitting the switch!" This helps the student understand his ability to control action. Switches can be used throughout classroom routines. View our [handout on classroom switch activities](#).

Examples

Paint 'N' Swirl ([Ablenet](#))

Students run the Paint 'N' Swirl to create a variety of projects as a peer drizzles glitter paint on paper. Finished projects can be used for bulletin boards, gifts for parents, or crafts to sell.



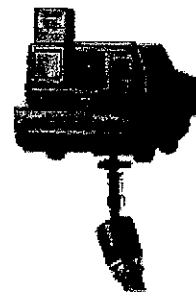
Battery-Operated Scissors ([Ablenet](#))

These scissors are easy to use and great for literacy activities. A "How-to" guide is included.



Polaroid(r) Impulse Camera [3-PIC]

Take instant photos for school projects. Use this adapted camera with a switch to create stories with pictures, make a permanent record of field trips, photograph people being interviewed for a school newspaper, or document the steps in a classroom activity.



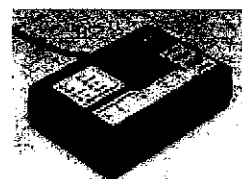
All-Turn-It Spinner ([Ablenet](#))

This switch-controlled spinner lets students participate in regular classroom activities. Easy to customize spinner overlays are available that are made with reusable vinyl stickers. They are a learning tool for basic concepts like numbers, colors, or skills such as matching, sorting and sequencing.



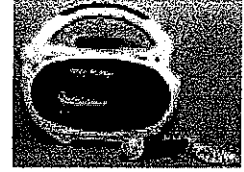
Team Xtreme ([Pathways Group](#))

Team Xtreme makes it possible for people with disabilities to play any Nintendo game. It is fully approved by Nintendo of America Inc., with products for the NES®, Super NES®, and N64®. Their "Smart Switches" controller is for the 'not quite ready for video games set'.



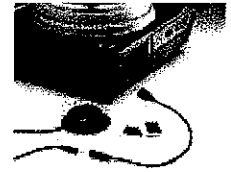
Cassette Player + Microphone (Enabling Devices)

This cassette player and recorder microphone allows sound amplification through the speakers. It accepts both 1/4" and 1/8" plugs.



Slide Projector Control Adapter (Ablenet)

Students advance slides with a switch using any Caramate or Kodak Carousel slide projector. Students can "turn pages" in a book during reading activities or run the slide projector for teachers.



Ablenet device photos used: ©2001 AbleNet, Inc. Photos courtesy of AbleNet, Inc. are reproduced with permission.

Activity Resources

Adaptation's Application Photo Album

This site shows examples of several application ideas using Adaptation products in a photo album format.

Recipes for Success (under 2001 Product catalog)

This is a resource guide to hundreds of practical applications for assistive technology. Each recipe gives a detailed list of materials needed, step-by-step instructions, and numerous activity and equipment variations to help adapt an activity.

Cost: \$39.00 (Vol 1 and 2)

Book of Possibilities (Ablenet)

These books feature a general information section about what simple technology is and how to use it. They show detailed applications from around the world to include your student in the classroom activities. They include easy-to-follow instructions, clear examples, and simple equipment lists. There are tons of easy-to-use ways to include students in a variety of math, science, language arts, social studies, spelling and reading activities

Cost \$ 26.99

Inclusive Technology

Activities using switch operated devices are offered.

101 + IDEAS FOR THE BIGmack Or Other Single Message Voice Output Communication Aids

Compiled by Barbara Solomonson Speech/Language Pathologist MS CCCsp with a great deal of help from my friends: TBA ISD, communication list serve, manufacturers, and written resources.

1. I went to a great, celebratory Christmas party for an agency for developmentally delayed adults. The Christmas program entailed the spelling of "Merry Christmas" by a group, including non-oral communicators using the BIGmack.
2. The Big Mac can be used for games such as: Chase – message "You can't catch me!" Duck, Duck, Goose - works better with a step-by-step, Hide and Seek – "Ready or not here I come!"
3. For young children, we've used a lot of messages to initiate physical contact with them such as: "bounce me", "tickle me", "rub my back", "brush my hair". Obviously, you need to be conscious of whether they like this type of touch or not.
4. We have been using the Big Mac in our adult day program and are starting to purchase them for our residential programs. Many of our adults will run out of the room to use the bathroom, so we have programmed a Big Mac by the door for them to hit before they are leaving. The system can say, I will be right back, or I need to use the bathroom, or whatever the teacher feels is most appropriate.
5. We also use the Big Mac at meals to request "more" or "finished," etc
6. You could use the Big Mac and have the child's name on it, so every time it is mentioned in the story, the child could use the switch instead of the teacher reading it!
7. Use Big Mac to "order" at a restaurant
8. Tell mom and dad "I love you"
9. Ask for a hug
10. Say prayers
11. Call everyone to dinner
12. Sell items
13. I heard of a young girl who had a Big Mac attached to her horse and it said "giddy up" and the horse did just that!!!
14. I have a client who is clinically depressed and she has one that she uses with her friends. When friends come by and she's not in her dorm room, they leave a message with it. She says its the best therapy she gets to have "Hi, I'm thinking about you" messages from friends when she's not expecting them.
15. Hi, how about turning on a radio or cassette player
16. Giving a compliment to a friend,
17. Singing Happy Birthday?
18. We have a VO device in one of the bathroom stalls. The student is left in the stall for a bit and when she is finished she hits the VO and it says, "OH yohooooo, I'm finished" She is finally using in an appropriate fashion. At home, she has begun to flick the light switch indicating that she all done and needs assistance. This young lady is 20 years old.
19. I'm sure that this isn't too original, but we use the Big Mac in our preschool classes for story time. Each preschool unit is based on a piece of 'literature' such as The Very Busy Spider, Brown Bear, Brown Bear, etc. During circle time when the story is read, the repetitive line such as "She was too busy spinning her web!" or "What did I see?" is programmed on the Big Mac. This way each child has an opportunity to be an active participant in helping to tell the story.
20. Another idea-again not at all original is to program the parent's (if the child is at home) or teacher's name on the Big Mac with a request for them to come. For example: "Come here ~ of help from my friends: TBA THANKS EVERYONE! COMMUNICATION AIDS delayed by a group, including activities and creative - "You can't catch me!" Duck, "Ready or not here I come!" with them such as: you need to be conscious mom!" When the parent or teacher hears that they are being called, they run over and make a huge fuss over the child. Children learn very quickly the power of communicating through the Big Mac.
21. I use a lot of single message devices but they are not always a Big Mac. I also use some double message devices. Snack activities: uses 2 VO to make a choice, then request more then have the option of more or all done, also could use "delicious" and "yucky" We also use 2 VO each day for lunch choices and for afternoon break choices also a good idea to program a message so that a child can stop an activity or indicate a negative preference. I don't mean to make a commercial out of this but

most of the activities in the activity manual that I wrote use one and two message devices. A sample page can be found at www.execpc.com/aac-activities

22. 1 use a different single message device but one is placed outside the door and one is inside the door. One says, "Hi, how are you" and the other says "Bye, have a nice day"
23. 1 am not the originator of this idea but Big Mac are switches and can be used with a blow dryer to dry dishes or with a water pic to water plants or wash windows, also start a vacuum.
24. Just one more use for the Big Mac - (what number are we on now?) Sending a student to another classroom or the office with a message e.g.; its time for my medicine, Mrs. Crawford needs the three-hole punch, etc.
25. I've seen Big Mac's posted outside doors to inform visually impaired individuals of the contents of the room. * Happy Holidays! * Jo
26. During a story -in group or alone- record some repetitive word or phrase on the Big Mac so the non-verbal child can participate.
27. Record the day or date on it during circle time so child can "answer" the question "what day is it today?" Or record the weather so the child can answer that question.
28. Record child's verbal output - even if it is just a sound. - Ex. One child is beginning to say "B-B-BB- for his name Bobby - I catch his verbal output and he plays it back when he wants to - He loves to hear himself - and it encourages more verbalizations!!!!!!!!!!!!!!
29. Uses for the Big Mac
 - a. Ordering food, requesting shoe size (bowling), greeting bus driver • Telling what was done in therapy
 - b. Giving a direction in a group activity (put it in, pick it up, take a Turn • Indicate when finished, need more materials during work
30. I like using two Big Macs, one red and one green, to play "Red Light, Green Light". This allows the AAC user to be the "leader" of these common children's game. You don't even need to add PCS symbols, as the colors speak for themselves! (Of course the traffic light symbols/text add that extra literacy piece.)
31. For very low functioning-record a word or phrase from a story and let the child respond to a question during the story using the Big Mac.
32. One idea is to use the Big Mac for taking a break. Having it programmed to say, "I need a break" could work nicely for verbal and non-verbal kids. It can help teach them to tell you where they are fatigued or getting frustrated.
33. Another use for the Big Mac is for an "exchange" notebook between preschool and the home. For example, send home a message such as "We had apples for snack." so that the parent becomes part of the process for using the switch.
34. I've programmed the "Big Mac" to say, "I want that one," when making choices. For example, [I have 3 pictures on a Velcro strip, and we'll work on Making a story and the child will have to choose whether she wants a dog, a cat, or a bird in her story. I scan the pictures by shining a light or pointing to the pictures, and she chooses what she wants for the story by pushing on the Big Mac that says, "I want that one." We continue this method of selection for the rest of the story. It can be incorporated for many other activities involving choice making as well, and helps in early scanning development.
35. Just one more use for the Big Mack- (what number are we on now?) Sending a student to another classroom or the office with a message e.g.; its time for my medicine, Mrs. Crawford needs the three-hole punch, etc.
36. This isn't exactly an original idea either, but we use ours for our one non-verbal child to say good morning to everyone in his preschool class. He just loves it!!
37. We have placed Big Mac in various locations in our school. On them we place special messages or a brief song related to the month's theme or season. Or, they may relate to a bulletin board. Or it may tell the lunch menu for the day. We pair pictures with the Big Mac whenever possible. The children watch for the "buttons" now and love to activate them. They have learned cause and effect and are now working on sequencing (through use of step-by-steps or- 2+ Big Macs). The children no longer just hit the button - they wait until the message or song is complete. It has been fun and staff has started to tune into augmentative communication much more, too (even some resistant ones!).
38. We've used the Big Mac during a language class at school (in the self-contained classroom). The Big Mac can be used to say their name, or the weather, or what is on the lunch menu for the day, etc.

39. I just started to use the Big Mac this year with my preschool Class. I am sure my idea is not original, but I have been using the Big Mac when a child wants to request more swinging. We have a hook in our classroom so we can use a variety of swings. My guys have become pretty smart, they figured out that they can use their foot to reach out and push the button and don't have to get off the swing. Boy are they lazy. :)
40. What a good idea to program in a repetitive line from a story- I just used it to have the child tell me to turn the page.
- Other uses:
- To play tag (Used with a child in a wheelchair-wheeled her around When we got up to the person she pressed it to say, "you're it", then we ran away.
 - To tell jokes. (Programmed in a joke and then had the person tell it to different staff.
 - For environmental-to turn on Christmas lights or lighted make-up mirror
- Although not a use, when I used to work at an adult work program, the clients got a big kick out of the button. Frequently I would go back to my office with a message programmed on the button from one of them
41. Introduce a song title at the Christmas Program
42. Ask another student to dance
43. Turn on an air popcorn popper
44. Turn on a blender
45. I use the Big Mac for just about all, of Wetherby & Prizant's Communication Temptations ... i.e.: To request "more" when a wind up toys stops; to request "open" after I have eaten an M&M in front of the child and have tightly closed the container without offering any to the child, etc.
46. I did not use a Big Mac, but a different switch activated device (two-part communicator) for this activity. A Big Mac would have worked if we had one. A kindergartner uses the switch to recite his line in a Thanksgiving play. We wanted him to have a part like all the other children so we practiced and recorded his line with the visual support of the Mayer-Johnson picture symbols that he is using quite regularly.
47. Idea: Have cognitively young students announce activities as they occur in class. "Everybody lineup", "snack time", "story time", etc.
48. "I need to go out", Big Mac left on the floor by your door so the dogs can announce and not have a house breaking accident.
49. I'm sorry that person is not available and none of us want to buy any thing you are selling - message on a Big Mac that you can hit every time you get a telesales call.
50. Large plate switch attached to a Big Mac. Switch left on seat of car. Remind significant other of what they need to pick up on the way home.
51. Record different tones on 4 different color Big Macs and play a game of Simon.
52. At Home....
- Share information about upcoming events, the day's activities or a special experience. • Give steps to an activity such as telling a recipe.
 - Program songs, or segments of songs such as "Happy Birthday" or a special holiday song. • Program emergency information for the user to communicate over the phone to emergency services dispatchers.
 - Call the family pet.
53. At School....
- Record short stories, parts of stories or key words/phrases to share at story time. • Give popular game commands such as "duck-duck-goose" or "red light, green light". • Recite the Pledge of Allegiance.
 - Help conduct a spelling test or give math problems to classmates. • Students independently say "Here!" when attendance is taken.
 - Deliver the morning announcements.
 - Direct students in the lunchroom and on the playground.
 - Help to solicit participation in the school fundraising activities. • Recite lines in the school play or program. • Give a report in a group presentation.
 - Announce basketball players as they run out onto the court. • Name a classmate to take a turn.
54. In the Community....
- Participate in a political campaign "Vote for..."

- Cheer for a favorite player at a sporting event.
 - Become the "caller" at a square dance.
 - Select and order food at a favorite restaurant.
 - Give clues during a scavenger hunt.
55. At Work....
 - Greet customers at a department or grocery store.
 - Deliver messages to co-worker.
 - Inform customers about the in-store specials.
 - Request more work.
 56. Anywhere....
 - Initiate a conversation with friends and family.
 - -Program the daily schedule into user's device, when one activity finished, the user can activate a sequential device to find out what to do next.
 - Offer a range of options from which the user can select. Use symbols for easier selections.
 - Signal for attention.
 - Give directions to care givers.
 - Share a joke with friends or family. *Ablenet, Inc. Handout
 57. During opening "circle time" (e.g., the child activates a message to sing his or her part in the greeting song)
 58. At transition times (e.g., the child activates a recording of someone singing the cleanup song or of a voice saying, "Time to clean up!")
 59. Whenever a request for continuation or turn taking is appropriate (e.g. the child plays a recording that says, "More, please" or "My turn")
 60. Any time the schedule dictates that a specific activity take place (e.g., in the morning the child plays a recording that says, "Take my coat off, please")
 61. During any activity that requires a leader to announce movements to be performed by the other children (e.g., "Put your right foot in, put your right foot out," "Simon says clap your hands")
 62. Any time an interjection during an activity is appropriate (e.g., "Wowee!" "Cool") Older AAC users can employ talking switch techniques for similar purposes in age-appropriate contexts, during activities such as the following:
 63. Participating in specific events that require contextual messages (e.g., singing "For He's a Jolly Good Fellow" to a co-worker, singing "Happy Birthday" at a party)
 64. Cheering (or booing) a favorite sports team on television or in person.
 65. Conversing on the telephone by activating a single message - a nice way for beginning communicators to keep in touch with friends and relatives.
 66. Greeting (e.g., "Hi, how are you today?") or saying farewell (e.g., "Good-bye", "Good to see you," "Let's get together soon")
 67. Making single requests in predictable situations (e.g., "I'd like a cheeseburger and small fries, please")
 68. Initiating conversations or introducing topic (e.g., "So, how was your weekend?")
 69. Making introductions (e.g., "Hi, my name is George; what's yours?")

*AAC for individual Augmentative and Alternative Communication 2nd Edition Bukelman, Miranda

70. Ask a friend to play.
71. Ask for help.
72. Ask questions (What's your name? What time is it? When can I play with it?)
73. Ask to do it again.
74. Ask to read it again.
75. Ask what do you want to eat/drink at snack.
76. Call for an appointment.
77. Call the cat or dog.
78. Cheer or root for a team.
79. Comment on own new haircut, shirt, glasses, etc.
80. Draw attention (Look what I did).
81. For emergency message by telephone.
82. Give directions such as stir in cooking class.
83. Give directives (Show me how to do that).
84. Have a speaking part in a skit.
85. Indicate, "I'm here" during attendance.
86. Indicate that work has been finished (all done).
87. Indicate the need for more work.

88. Indicate, "Turn the page" during a story.
89. Indicate weather and what to wear out to play.
90. Indicate weather during circle time.
91. Indicate what is next on the daily schedule.
92. Introduce family or friends.
93. Issue invitation to a party, or to go out or for a visit.
94. Make funny noises or sound effects during a story.
95. Make interjections or funny noises in a song.
96. Make or modify a game so that it talks.
97. Order a pizza over the phone.
98. Order at a restaurant.
99. Participate in a game (My turn).
100. Personal information (name, address, phone number) to be carried with person.
101. Say a Bible verse in Sunday School.
102. Say a repetitious line in a story.
103. Say grace.
104. Say poems and rhymes.
105. Say prayers.
106. Say the Pledge of Allegiance.
107. Select a story, video or game.
108. Send a message home.
109. Send a message to school or work.
110. Send message with person when going on an errand (Attendance, lunch report).
111. Share a secret with a friend.
112. Share menu for lunch.
113. Share the outcome of a game.
114. Share a song.
115. Sing the chorus of a song.
116. Start a conversation (What did you do this weekend? What did you think of the game?).
117. Take a survey.
118. "Talk" on the telephone to grandparents, other family members, or friends.
119. Talking hall pass.
120. Tease others.
121. Tell a joke.
122. Tell a riddle.
123. Tell about their Show and Tell item.
124. Tell Mother or Dad "I love you".
125. Tell something about themselves (favorite TV show, color, story, activity, etc.).
126. Tell what age at lunch, dinner, on outing, or at party.
127. Tell what did at school or work that day.
128. Use as labels for areas or centers in classroom.
129. Use as teaching prompts.
130. Use exclamations or interjections.(Yeah, uh, oh, You're silly).
131. Use for farewells (See you later. Have a good day.)
132. Use for greetings (How are you doing? You look great today.)
133. When container is equipped with proper switch & has been emptied, give directions what to do next.
134. When meeting new people, tell his/her name.
135. When mounted next to door, ask to go outside.
136. When mounted next to room, indicate location (you are at the bathroom, etc.).
137. When switch connected to select item, say what the item is or make comment.
138. When used with puzzle switch, indicate ail done/great job.
139. Wish people Happy Holidays.
140. Wish someone a Happy Birthday.
141. With switch under carpet or mat indicate where person is or what is happening.
142. With switch under chair pad, indicate person has found right chair or good job or sitting.

*From Elizabeth Rush and Grace Williams, More than a Boardmaker presentation at Closing the Gap. Saturday, October 24, 1998

The BiGmack is sold by a company called AbleNet. Their website is at: <http://www.ablenetinc.com/>
More specific produce information regarding the BiGmack can be found at this site:
<http://www.ablenetinc.com/commaids.html#BIGMAC><http://www.ablenetinc.com/commaids.html> -
SIGMAC

From ablenet:

Suggestions for using single message voice output devices:

- ❖ Ask a friend to play
- ❖ Ask for help
- ❖ Ask questions (What's your name? What time is it? When can I play with it?)
- ❖ Ask to do it again
- ❖ Ask to read it again
- ❖ Ask what do you want to eat/drink at snack
- ❖ Call for an appointment
- ❖ Call the cat or dog
- ❖ Cheer or root for a team
- ❖ Comment on own new haircut, shirt, glasses, etc.
- ❖ Draw attention (Look what I did)
- ❖ For emergency message by telephone
- ❖ Give directions such as stir in cooking class
- ❖ Give directives (Show me how to do that)
- ❖ Have a speaking part in a skit
- ❖ Indicate "I'm here" during attendance
- ❖ Indicate that work has finished (all done)
- ❖ Indicate the need for more work
- ❖ Indicate "Turn the page" during a story