
*Assistive and Instructional Technology*
*Supporting Learners with Disabilities*

# SELECTING APPS FOR YOUNG CHILDREN

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# SELECTING APPS FOR YOUNG CHILDREN

Children enjoy exploring new toys and play materials. These change as the child's abilities and interests change. Selecting apps for young children to interact with is not much different than selecting toys. Look for programs that are:

- age appropriate; the activities should challenge a child without frustrating her
- free of violence and other offensive material
- open-ended rather than didactic; provide problem solving opportunities
- promote interactions with others
- adjustable to individual learners
- provide meaningful, relevant and interesting topics and immediate, appropriate feedback

Like any other activity, adults play a critical role in supporting and extending a child's ability to understand and interact by describing what is happening, asking guiding questions, responding with interest and playing together with the child.

## ACTIVE EXPLORATION: MAKING THINGS HAPPEN

Young children enjoy actively exploring and controlling what is happening as they interact with people and objects in their environments. The same is true for apps. Look for apps incorporating familiar subject matter (families, homes, food, toys, etc.), with realistic pictures, sounds and animations that are easy to recognize. "Clean", non-busy graphics make child-initiated changes easier to notice; screens with simple backgrounds are best. A child's sensory preferences should guide the selection of programs. Some favorites may include musical and realistic sounds, colorful and simple drawings that represent real objects, and animations that relate to the pictures on the screen. In fact, young children may prefer apps that use photos, or allow familiar voices to be recorded, as they are more "real" to them. As with any play activity, the complexity of the graphics should grow with the child - from simple to increasing detail.

**Review Features**

Review the app before you introduce it to a child. Although advertising descriptions offer some information, most are there to promote the product! Many apps are free to use. Those requiring purchase/subscriptions often have free 'light' versions so you can try them out before you purchase. However many come with distracting ads that disrupt or restrict play. When reviewing any app, notice how the information on the screen is presented, what the child does to make it "work", what happens when the child interacts, and if settings allow customizing features and levels. In all, consider whether the app's features will appeal to the individual child.

- **Sensory responses:** Does the program make sound? If so, is the sound potentially calming, or louder and potentially arousing? Is it realistic? Is the program attractive and engaging? Are the objects on the screen easy to recognize? Is the background cluttered? Are the objects linked to appropriate responses?
- **Control:** What must the child do to make the program work? Can the child touch anywhere or must s/he touch specific targets? Is a sequence of actions required? What actions are required? How much cueing and reinforcement is provided? Is the program challenging yet interesting to the child?
- **Engagement:** Is the content interesting to the child? Does it use familiar objects and themes? Is the child in control of what happens and when? Can the program be adjusted for different levels and abilities?
- **Ability level:** Are there various levels of difficulty to include simple to more challenging activities? Is child interaction data collected? Shared?
- **Customize:** Do the settings options provide adjustments in sounds, content, movement, number of choices, languages and other customizing features?

## PLAY STAGES

Selecting apps for young children to interact with is not much different than selecting toys. A short review of play stages and app selection follows.

### Starting with Cause and Effect

Cause and effect is initiated and then developed during the sensory and functional play stages. Young children especially enjoy technology activities where they are in "the driver's seat". To emphasize this

control, something should immediately happen on the screen each time the child touches the screen. When the screen surface changes directly as a result of the child's touch, the child explores the power of this action by touching again and again. The child's touch becomes directly connected to the continuity of the activity itself. Look for multi-touch apps for two hand exploration or playing with a friend.

**Sensory Exploration Play: What's this?** The child uses all of his/her senses to explore. Early app use is primarily exploring cause and effect where the child explores the screen in the same way with any app. Young children begin by using the same repetitive movements to explore what happens on the screen. The child can touch anywhere on the screen to get a response. With a touch or a swipe, the entire screen changes: a sound is heard; a picture appears. Sometimes the visual, sound and animation components respond together to the touch, giving the child a bigger reaction. Make sure to match the app's response (visual, movement, sound or combination) to child's sensory preferences.

- ***What the Child Does****:* A child touches any place on screen with a hand or finger to get a response.
- ***Development****:* A child becomes aware that her actions create a response. She develops attending and visual tracking skills as she watches the screen responses.

**Functional Play: What Does It Do?** The child slowly begins to use apps as they are designed to be used. An object appears then moves or changes with a touch. The child begins to understand various ways to interact with objects on the screen to make them change. Targets are more specific and control results in consistent expected responses. Reactive apps are used which are responsive to a child's touch and may offer multiple ways of responding. She discovers if she touches, retouches or holds a target new changes occur. More advanced apps will require a child to touch a particular target or a sequence of targets. Others require the child to perform more than one movement (e.g. swipe, drag, double tap, pinch) to interact with the app. Child begins to fully understand cause and effect to discriminate among actions and responses.

- ***What the Child Does****:* A child needs to touch specific areas to get a response; or swipe or move finger across the screen. Objects can be interacted with.
- ***Development****:* Builds more refined hand/finger movements + visual discrimination and develops eye-hand coordination.

## What Else Can I do with it? Organize Sort + Build

With causality well established a child now begins to incorporate planning, coordination, problem solving and creativity. Objects are used in simple and then more complex ways. A sequence of different actions may be required. Highlighted areas guide the child. Simple and eventually more complex problem solving abilities are required. Look for apps that offer early building experiences, vehicle manipulation, puzzle completion and matching games.

- ***What the Child Does****: A child explores and applies the specific movements required to interact with whatever app is being used.*
- ***Development****: Develops visual discrimination and attending skills. These experiences encourage an increased ability to build, match, sort, and complete puzzles.*

## What Can I Make? Creating

Children participate in interacting with a variety of expressive apps where they combine manipulation, creativity and planning. Open-ended opportunities exist for a child to create cookies, make puppets, and create their own stories. This ability allows the child to interact with a broad variety of apps and those that provide various tools to use.

- ***What the Child Does****:* Child makes choices to select and use specific tools to create something new: a picture or object, a story or music. Adults can assist with sequence and use of tools.
- ***Development****:* Increased visual discrimination, eye hand coordination and knowledge of purpose of tools.

## What Can It Be? Pretending

Children begin to imitate actions seen or heard about and to build on these experiences and routines to create new ones. Often using apps with theme environments (restaurants, pet stores, tea parties) helps the child to re-create experiences and routines. Language is developed through these experiences.
*What the Child Does:* Child makes choices to select and use props within simulated environments. This is often completed with sequential actions. Play with more than one child is encouraged.
*Development:* Increased imitative memory and repeating action sequences in routine and imaginary activities.

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