Using Technology Appropriately in the Preschool Classroom

ANN S. EPSTEIN, SENIOR DIRECTOR OF CURRICULUM DEVELOPMENT

At work time in the house area, Carol and Simone want printed menus for their restaurant. At the computer, Carol sits in front of the screen and Simone sits beside her. They decide to serve macaroni and soup. Simone instructs Carol to type "M" for macaroni and "S" for soup "like in my name." They print "M" and "S" pages and open their restaurant for business.

Introduction

As technology[1] for young children proliferates, educators and parents wonder if, when, and how to use it appropriately to support early development. Professional organizations concerned with children's well-being feel pressured to issue position papers. For example, the policy statement of the American Academy of Pediatrics (AAP) Council on Communications and Media (2011) states unequivocally that children under age two should not be exposed to any **screen media** and emphasizes the value of unstructured play for the young child's developing brain. At the same time, AAP recognizes that high-quality **interactive media** can have educational benefits for children above age two, improving "social skills, language skills, and even school readiness" (p. 1041). A joint position statement of the National Association for the Education of Young Children

Technology is playing an increasing role in society today, prompting us to ask if, when, and how to use it appropriately with young children.

[1]See the sidebar on pages 3-4 for a definition of terms used in this article.

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(NAEYC) and the Fred Rogers Center for Early Learning and Children's Media (2012) goes further in green-lighting technology. While cautioning against its passive (non-interactive) use, the statement says that "technology and interactive media are here to stay" (p. 2) and that, appropriately used, with the support of knowledgeable adults, they "can be harnessed for [early] learning and development" (p. 2).

Popular media have also weighed in on the issue. Columnist Steve Almond, in *The New York Times* (June 21, 2013), expressed the ambivalence of many parents when he both lamented the obsession of his young children (ages 4 and 6) with their digital devices and admired their determination to use them, including for "educational" purposes such as reading. Reporter Ruth Konigsberg acknowledged that in "the debate about wired children ... people have strongly held beliefs about something that can't yet be proven conclusively one way or another" (*Time*, August 12, 2013, para. 8). Press coverage on the topic alternates between concerns about the loss of children's creativity and social skills versus claims about the speed at which the children learn to process information. Studies, scarce as they are, are cited to buttress the reporter's point of view.

Indeed, research has a hard time keeping up with the latest digital inventions and how children use them. Studies on young children, particularly before they reach school age, are infrequent. Nevertheless, the data (summarized below) are converging on the fact that passive media can contribute to language delays, obesity, social withdrawal, attention problems, and even irregular sleep patterns. A few studies

Guidelines based on research and practice can help early childhood professionals make thoughtful decisions about how much and what types of technology to use with young children.

point to the potential benefits of the limited use of technology *if* it respects the hands-on way young children learn. However, it is too soon to predict technology's long-term effects on the acquisition of knowledge and skills across all domains of development.

Like everyone committed to promoting high-quality early education, and making it accessible to young children of all backgrounds, HighScope confronts these same

questions and dilemmas about technology. In this article, we therefore present a HighScope position statement on young children and technology, based on the tenets and practices of the HighScope Curriculum and the research available to date. Our intention is to inform early childhood educators *today* as they make programmatic decisions, and to provide guidelines for evaluating the technology of the *future*.

What the Research Says

One researcher states that "Media culture influences how children behave and treat one another. It also shapes *how* they learn, *what* they learn, [and] what they *want* to learn [author's italics]" (Levin 2013, p. 1). As noted above, however, research on the use of technology by and with young children is scarce. Moreover, while some studies have been conducted by academics, others have been done by groups with an interest in (if not explicit ties to) media producers and distributors. That said, here is what is known about young children's use of digital technology at the time of writing this article:

The amount of technology used by children. Young children today spend a great deal of time in front of screens. This encompasses both foreground media (meant for children) and background media (meant for other family members but which young children see and/or hear). For example:

- Children spend an average of seven hours a day using screen media, including one to two hours a day for those under age two. Ninety percent of parents report that children below age two watch some form of electronic media.

- While some studies report children aged two to four average two hours a day of screen time (Rideout, 2011), other research finds children aged two to five years spend more than 32 hours a week in front of a screen (McDonough, 2009). "For many children, this is more time than they spend in any other activity except sleep-ing" (Levin, 2013, p. 13).

- Fifty-two percent of children aged birth to eight have access to a smart phone, tablet, or similar electronic device (Guernsey, 2012).

How technology is used by children. Educators agree that literacy today means developing digital literacy (technology-handling skills), much as it meant concepts about print (book-handling skills) in the past (National Institute for Literacy, 2008). However, the way that digital education takes place has important implications for its effectiveness. Studies show that

> "Most research has documented the negative effects of media use by young children; however, a few studies suggest its potential benefits, provided the format, content, and use of the technology is developmentally appropriate."

- Most parents admit to using screen time as a distraction, peace keeper, or babysitter while adults do household chores (AAP, 2011).

- Educational content matters at least as much as format (Wainwright & Linebarger, 2006). For example, interactive literacy programs appear to foster early reading skills while those that use drill-and-practice techniques do not (Corporation for Public Broadcasting, 2011).

- Technology is only effective when teachers mediate its use with the same developmentally appropriate practices they apply to any other type of learning experience (Plowman & Stephen, 2005; 2007).

The effects of technology use by children. Most research has documented the negative effects of media use by young children; however, a few studies suggest its potential benefits, provided the format, content, and use of the technology is developmentally appropriate. Here are examples of both the negatives and the positives:

- For children below age two, media exposure has been associated with language delays (Linebarger & Walker, 2005).

- For preschool and school-aged children, media use has been associated with physical, behavioral, and mental health problems, including obesity, poor sleep habits, aggressive behavior, and attention disorders (Nunez-Smith, Wolf, Huang, Emanuel, & Gross, 2008).

- Children in households with heavy media use (that is, where the television is on all or most of the time) are read to less often (25 percent less for three- to four-year-olds and 38 percent less for five- to six-year-olds) than in other households with low or moderate media use (Rideout & Hamel, 2006).

- The more time children under age five spend with media, the less they interact with others (siblings, parents, peers) and the less creative their play (Vandewater, Bickham, & Lee, 2006).

- For children aged one to three, background televison reduces the amount of time they play and diminishes their focused attention when they do play (Schmidt, Pempek, Kirkorian, Lund, & Anderson, 2008).

- "Active, appropriate use of technology and media can support and extend traditional materials in valuable ways ... both cognitive and social" (NAEYC & The Fred Rogers Center, 2012, p. 7). For example, computers allow young children to manipulate

> "Children spend an average of seven hours a day using screen media…. Ninety percent of parents report that children below age two watch some form of electronic media."

shapes (mathematics) with greater dexterity than they can manage by hand and often promote collaborative (social) problem solving (Clements, 2002).

- "Additional research is needed to confirm the positive outcomes of technology tools on children's language and vocabulary development, logical-mathematical understanding, problem-solving skills, self-regulation, and social skills development" (NAEYC-Fred Rogers Center, 2012, p. 7).

While most research documents the negative effects of media on young children, some studies point to its potential social and cognitive benefits when used appropriately.

HighScope Position Statement on Young Children and Technology

The prevalence of technology in the world today impels us to question if, when, and how digital media can be used appropriately in early childhood settings. As such, HighScope presents here a position statement (pp. 5–8) on young children and technology. The statement is not intended to replace those cited above (AAP and NAEYC-Fred Rogers Center), but to briefly lay out the "big picture" issues that adults should consider in evaluating the use of technology with young children.

Rationale for statement. Our position was developed with three overarching guidelines to reflect HighScope's commitment to good early childhood practice. The statement therefore:

1. Takes the *available research* into account.

2. Is based on the HighScope tenets of *active participatory learning* (Epstein, 2014; Epstein & Hohmann, 2012).

3. Acknowledges the crucial role of adults (and their associated *professional development*) to mediate the appropriate use of technology and balance it with other venues for early learning.

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Content of statement. The content of the statement reflects four underlying dimensions:

1. We begin with *choice*, recognizing that not all programs have the resources, access, or cultural inclination to include technology in the classroom. At the same time, we should be mindful that inequalities in exposure may have implications for children's subsequent school readiness.

2. The statement then sets forth guidelines to determine *what, when, and how* to use technology appropriately with young children, considering all aspects of their development.

3. The position states in simple terms the *role and responsibility of adults* in supporting young children's use of technology.

4. Our position acknowledges the *rapidly changing world* in which the statement is issued. We avoid mentioning specific digital devices because the statement could quickly become obsolete.

HighScope Position Statement on Young Children and Technology

HighScope believes technology, when appropriately designed for young children over age two and used with the guidance of supportive adults, can promote early learning and development. To use technology as one of many effective teaching tools, apply the following principles and ideas:

1. Incorporating technology in the classroom is a choice, not a necessity. While familiarity with technology is important in today's world, and access to technology is an equity issue, early learning primarily occurs through interactions with other materials, people, events, and ideas.

"The overriding message is that computers and other electronic equipment should take a back seat to children's hands-on learning with manipulatives and direct social interaction… That said, incorporating technology in the classroom can provide an important experience for all children, particularly those whose family income or other factors limit access."

HighScope Position Statement on Young Children and Technology, continued

2. Technology is one of many tools that young children can use to carry out their play ideas, acquire knowledge and skills, and solve problems. Using technology is an interesting end in itself (discovering how it works), as well as a means to an end (extending role play, solving problems).

3. Technology should be used in moderation to supplement, not replace, hands-on learning with real materials that provide a full range of physical, sensory, intellectual, and social experiences.

4. Technology should be interactive and open-ended, and it should promote discovery learning, not emphasize drill and practice. Software should encourage creativity, problem solving, and reflection.

5. Technology should serve as a catalyst for social interaction. It should allow children to use equipment and programs together, share observations and discoveries, and assist one another.

6. Adults should act as partners when children choose to use technology, just as they partner and interact with children during other types of play.

7. Choose hardware that is safe and sturdy enough for children to use independently. If concerns about equipment costs or damages are overriding, it will restrict children's use of the technology and limit the potential benefits.

8. Because new technologies are being developed all the time, their appropriateness for young children's physical, cognitive, and social development must be evaluated on an ongoing basis.

"Programs need not give children working digital or mobile devices (disabled ones with batteries removed are okay.) After all, we did not put working push-button phones in class-rooms ten years ago, nor would we ever put a working stove in the house area because children pretend to cook."

Teaching Strategies to Support the Appropriate Use of Technology in the Classroom

The overriding message is that computers and other electronic equipment should take a back seat to children's hands-on learning with manipulatives and direct social interaction. It is noteworthy that, in reviewing anecdotes from the Child Observation Record (COR) and COR Advantage (HighScope & Red-e Set Grow, 2013) to illustrate this article, using classrooms in which technology was readily available to children, the author found very few in which children used it in their play. Whether this reflects preschoolers' choices about what to play with and/or teacher choices about what to record, it suggests that children and adults gravitate toward real, hands-on materials.

Choose technology that is interactive and open-ended, and introduce a program or application to a few children at a time.

That said, incorporating technology in the classroom can provide an important experience for all children, particularly those whose family income or other factors limit access (Lee & Burkham, 2002). At the same time, be aware that even those with wide exposure at home happily use other objects to represent such devices during play; for example, a block may stand for a smart phone:

At work time in the house area, Fernando swipes his hand across a small wooden block and tells Allegra, "I'm calling the pizza guy. Do you want mushrooms or hot peppers?"

Programs need *not* give children working digital or mobile devices (disabled ones with batteries removed are okay). After all, we did not put working push button phones in classrooms ten years ago, nor would we ever put a working stove in the house area because children pretend to cook. Young children enjoy using facsimiles of the real thing in ways that imitate actual adult use:

During planning time, Leila uses a battery-less camera to "take a picture" of the "art area." When asked what she will do there, Leila answers, "Make something with the play dough."

Teaching Strategies for Using Technology With Young Children

- Model safe and careful use of technology.

- Choose child-friendly hardware.

- Select appropriate programs or applications.

- Locate classroom technology to facilitate social exchanges.

- Encourage children to verbalize their thinking as they solve technology problems.

Finally, note that the strategies listed below refer to how teachers can support the *children's use of technology.* This is a different issue than how adults themselves might use electronic devices to promote early learning, much as they might have used a camera in the past. For example, a teacher may take photos on a mobile device during work time and use them to facilitate recall by holding the device while children swipe the screen to look "backwards" and "forwards" at the sequence they followed to carry out a project. Or video recordings made by a teacher could be shared with students after a field trip, to help the children recall and build on their experiences. These and other ideas allow adults to take advantage of technology and familiarize children with it at the same time, while not expecting children to use it in developmentally inappropriate or unrealistic ways.

Teaching Strategies

To choose appropriate technology and mediate its use by young children, try the strategies listed below. (For further details and more ideas see Epstein, 2012, and Epstein & Hohmann, 2012):

- ***Model safe and careful use of technology.*** Help children learn to use technology in ways that will neither hurt them nor damage equipment — the same care they take with other classroom materials.

  At work time in the block area, while exploring (battery-less) cameras, Mateo shakes one in frustration. "How does the lens open?" he asks. His teacher suggests he push different buttons to see what happens. He does and then says excitedly, "Watch! When I press this, it opens!"

- ***Choose child-friendly hardware.*** Innovations make technology increasingly easier for young children to use. Choose devices that are appropriate for young children's perceptual and physical capabilities. Encourage children who already know how to use the equipment to help their peers.

  At work time in the book area, George uses the computer. He looks at Sue [his teacher] and says, "Help." When Sue comes over, he points to the screen. The program he wants to use is not open. Maria, who is at the other computer, says to George, "You have to click it." She reaches over and opens the program for him. Later, Maria shows him how to click the "X" to close the program. Then George himself clicks on the next program he wants to play.

- ***Select appropriate programs or applications.*** Emphasize interactive, open-ended learning, not drill and practice. Introduce a program or application to a few

> "…We should not forget the enduring truth that young children learn best through direct interaction with people and materials, in activities they choose and shape themselves, and which spur them to reflect on what they are doing and learning."

children at a time, as a small-group activity, before making it available at work time. For example, the following was observed the day after children explored drawing materials and a computer drawing program at small-group time:

> *At work time at the computer, Leila uses the coloring program to create a flower and butterfly picture and print it out. She says, "My flower. My happy."*

- *Locate classroom technology to facilitate social exchanges.* Allow space for children, as well as the adults playing with them, to use devices together. Classroom technology should be visible from other areas of the classroom so children can wander over and join in, as happens in this example:

> *At work time in the book area, Angel and Ellie sing along with the ABC song on the computer. When they play it again, Asa and Rufus come over and sing and dance too.*

Children's use of technology is often social. Provide enough space and chairs for children and adults to use technology together.

- *Encourage children to verbalize their thinking as they solve technology problems.* Help children reflect on their solutions (e.g., How do I make it louder? How can I turn the puzzle piece to fit?). Be available so they do not get frustrated or discouraged when something is not working. Acknowledge their attempts to solve problems (including with humor), as in this example:

> "Technology is one, but only one, piece of the early childhood curriculum. Use it with balance and with creativity."

At work time in the book area, when the computer program stops working, Avalon calls to Christine [her teacher] for help and says, "Maybe we can put a curse on it." She waves her hands over the computer and laughs. Christine laughs with her and observes, "That doesn't seem to be working." Avalon says, "Maybe if I turn it off and on again." Christine encourages her to try her idea. Avalon does and when the program re-boots, Avalon says "That did it!!" Christine responds, "You solved the problem."

The use of technology with young children offers many opportunities for early learning, but we must proceed with caution as a slowly growing body of research helps us to make wise choices. Even as we discover the types of emerging interactive media and teaching strategies that work well in preschool and beyond, we should not forget the enduring truth that young children learn best through direct interaction with people and materials, in activities they choose and shape themselves, and which spur them to reflect on what they are doing and learning. Technology is one, but only one, piece of the early childhood curriculum. Use it with balance and with creativity.

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Using Technology Appropriately in the Preschool Classroom, *continued*

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CLASSROOM HINTS

Helping Preschoolers Use Technology Throughout the Daily Routine

BY MOLLY JOURDEN, HIGHSCOPE DEMONSTRATION PRESCHOOL TEACHER

As educators, we know that children learn best with open-ended and real materials that they can manipulate and explore with all their senses. We also feel pressure from society, the media, and families to use, and teach the functions of, current technology in the classroom. However, while electronic media can be used in interactive and open-ended ways, many times the latest fad or trend in technology does not lend itself to use in a developmentally appropriate fashion, either because it provides a narrow range of sensory input (just sight and sound) or offers limited choices for inventive play and problem solving. So, how can we incorporate technology in the classroom in a way that promotes active learning and hands-on experiences for children? This article illustrates how teachers can appropriately incorporate use of technology during the major parts of the HighScope daily routine.

Planning and Recall Time

Many of the technology items that are used to help children plan and recall are disabled or nonworking equipment; this is similar to the way dial or push-button telephones and film cameras were used in HighScope classrooms in the nondigital past. Examples include, but are not limited to, microphones, cell phones, telephone headsets, walkie talkies, keyboards, and digital cameras. When using a piece of disabled or nonworking technology with children, use it for its intended function and provide the corresponding vocabulary support to aid children's understanding of that piece of technology. An example would be to have the children use a keyboard to type out or e-mail their plan for work time (e.g., those at an earlier level of development might type *A* or *ART* for the art area; those at a later level might — with help — type *paint* or *clay* for the material they want to use). In doing this, you do not need to have a working keyboard — children will still learn that a keyboard is designed to write messages that communicate information to others. While pretending to type, the children have the opportunity to identify letters and authentically explore the way it feels to press the keys. Teachers also have the opportunity to introduce relevant vocabulary words such as *keyboard, keys, type,* and *letter,* and the names of numerals, and particular keys, using words like *arrow, up* and *down,* and so on.

Working items may also be used — by children and/or adults — when the children are in need of a concrete or simple planning or recall strategy. For example, at planning time, a child could use a working digital camera to take a picture of a material he or she intends to use during work time. A teacher could use a tablet to take pictures, videos, or audio clips of children engaged in activities at work time and then share those at recall time as a prompt for conversation. (For guidelines on which working technologies are appropriate for children and/or adults to use, see the feature article in this issue of *Extensions*.)

Work time

Work time is an equally valuable part of the daily routine for providing children with the opportunity to use technology in the classroom at their own pace and developmental level. A common way of providing this exposure to technology is adding computers to the classroom. The key is to have software available that is open-ended and interactive, not programs that only allow for a right or wrong choice or that do everything for the user except a few mouse clicks. Some programs that work well for children are drawing programs that allow children to create and color shapes, or word processing

programs that allow children to type letters, words, and stories in addition to having the option to print what they wrote. Other items of technology that could be made available to children at work time include cameras, cell phones, calculators, cash registers, handheld scanners (to use with the cash register), tablets, keyboards, computer mice, GPS units, and voice recorders. These need to be real items, but they can be working or nonworking, depending on the children's ability to use them without risk of harm to themselves or damage to the equipment. Another way to expose children to the parts and features of technology is to create a take-apart area where children can use tools to take apart and explore nonworking items. This exploration

will help children discover how items are put together, how they function, and what is used to make them (*Note*: Be sure to remove hazardous parts first, such as batteries.)

Small- and Large-Group Time

Small- and large-group times are effective parts of the daily routine for helping children practice skills that can later be applied to use of technology. These times of the day are also helpful for introducing new hardware or software to the children before it is added to the classroom for use at work time.

For a small-group time, the children could work with pencils, paper, and envelopes to write letters to family members. Children could engage in this small-group activity before computers with a word processing program are added to the classroom, as a way of supporting the children's understanding of various methods for documenting ideas and communicating with one another. Then, when the computers and appropriate writing programs are introduced, children will see the technology as another tool for achieving the same purpose.

At a large-group time, the class could sing songs that are also used in a music program on the computer. Learning songs at large-group time allows teachers to slow the songs down so children can learn the words as well as incorporate choices of actions or movements to go with the songs. Once children know the songs, and are used to introducing their own variations, they will recognize and be able to manipulate them when the computer program is later introduced. By already having had the chance to practice writing and singing with their own hands and voices, the children will be able to

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devote more focus to learning how to use the computer or other items of technology when they become available in the classroom.

Technology has a regular presence in the world around us and in our everyday lives; as educators, we need to responsibly and thoughtfully find an appropriate way to introduce and educate preschool-aged children about the items of technology that will be in the classroom, which they will also encounter as tools for learning when they enter grade school. The above examples offer suggestions for how to introduce and use technology in the classroom while also supporting preschool children's developmental needs and active, hands-on learning.

Molly Jourden is a teacher at the HighScope Demonstration Preschool. She has been working with young children for the past eight years and enjoys watching her young students learn and grow throughout the year. In her free time, she enjoys reading, dancing, traveling, and spending time with her husband and son.

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Exploring the Use of Technology With Young Children

BY CHRISTINE SNYDER, HIGHSCOPE EARLY CHILDHOOD EDUCATION SPECIALIST AND DEMONSTRATION PRESCHOOL TEACHER

This 60-minute workshop will help participants explore their own experiences with technology as well as discuss how children use technology in the preschool classroom, taking into consideration the HighScope position statement on technology presented in this issue's feature article. The objectives of this workshop are for participants to be able to identify how children use technology in the preschool classroom, and to practice and describe strategies for supporting active learning and social interactions while children are engaging with technology.

What You'll Need: Index cards (for Opening Activity); copies of this issue's feature article — one for each participant (for Central Ideas and Practice); and copies of Classroom Hints — one for each participant (for Central Ideas and Practice)

Opening Activity (20 minutes)

1. Getting Started

Write down on an index card a hesitation or concern you have about either having or not having digital technology available to children in the classroom. Set the card aside to be discussed later in the workshop.

2. Remembering Our Own Experiences

In small groups, discuss the earliest memory you have of using digital technology in your own work or school setting. Be sure that each person in the group has an opportunity to share his or her experience.

Encourage participants to consider the following questions:

- What kind(s) of technology did you use (for example, desktop or laptop computers, or mobile devices such as tablets, e-readers, and smart phones)?
- What did you learn about using the technology?
- Did you figure out how to use the technology yourself or did you need help? If you needed assistance, who helped you, and how?
- How did you feel about this early experience using technology?

- How did that experience contribute to your use of technology today?
- What part of the experience worked well? What do you wish had been different (either what you did and/or what others did with you or for you during the experience)?

In your discussion, consider the following facts:

- Learning is most effective and lasting when it is tied to personal or meaningful experiences rather than rote, required tasks.
- Exposure to new and complex technology in low-pressure situations creates a greater comfort level and more curiosity than experiences in high-pressure settings.
- Interactions with peers — whether positive or negative — greatly impact feelings toward and memories of using technology.
- Because technology changes so frequently, it is important that skills are transferrable (not specific to using one piece of equipment).

Central Ideas and Practice (25 minutes)

3. Exploring Classroom Ideas

Have participants work in small groups to talk about the ways they observe children in their classroom using technology (describe what the children use and how they use it, alone and/or with others). Have participants review the "Classroom Hints" article in this edition of *Extensions*. Ask them to discuss how each idea presented in the article is meaningful and relevant to children's development and learning. For example, you might ask them to consider how children might use cell phones, digital cameras, or calculators to support their pretend play during work time. Emphasize the connections made for children between their play and exploring a piece of technology. Ask participants how each of the ideas presented in the article supports social interactions with either the adults or with other children. Have them reflect on how children's experiences compare with their own personal experiences with technology. Have each group develop two to three other ways (not listed in the "Classroom Hints" article) that technology could be used throughout the daily routine

in a way that incorporates active learning. Share these ideas as a large group.

4. **Exploring Program Decisions and Policies**

    Review the HighScope position statement on the use of technology with preschool children (in the lead article). Have participants work with a partner to discuss how this position statement supports the developmental levels and curiosity of preschool-aged children. Ask them to answer the following questions: Does your organization (or do you as an individual) have a position on the use of technology in the classroom? How does it agree with or differ from the position in the article? Based on what you learned in this workshop, would you make any changes to your program or personal policy? Why or why not?

Application Activity (10 minutes)

5. **Reflection**

    Ask participants to reflect back on the hesitation or concern they wrote down at the beginning of the workshop. Ask them to identify one or two ways to address this concern, using the ideas discussed during the workshop. For example, you might say, "If you are concerned about the over-use of technology, how can you balance it with other forms of learning? If you are concerned that not enough technology is available, what experiences can you offer to develop related digital skills?" Have participants discuss these questions in small groups and offer ideas to support one another.

Implementation Plan (5 minutes)

6. **Learning to Take Back to the Classroom**

    Ask participants to use the back of one of the handouts to write down three things they want to remember about incorporating the ingredients of active learning along with technology use by children.

Christine Snyder is a HighScope Early Childhood Specialist as well as a teacher in the HighScope Demonstration Preschool Classroom. She has worked with young children for 15 years in a variety of settings. She enjoys the ways in which children are genuine, playful, and creative.

Christine holds a master's degree in early childhood education from Eastern Michigan University. In her free time, she enjoys reading, making jewelry, traveling, and being outdoors.

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ASK US

BY ANN S. EPSTEIN

Some children in my preschool classroom spend most of work time at the computer. Others show no interest in the computer at all. Should I be worried about either extreme?

— A Preschool Teacher

Technology can be a tool for many types of learning. Using technology is neither a "good" nor a "bad" end in itself. We don't tell children that they either cannot, or must, play with certain things. Rather, we build on the materials and activities that interest them to scaffold (support and gently extend) their learning. The same is true with technology. Let's look at what children are learning in the two situations you describe.

If the programs and apps you choose are open-ended and interactive, children who make ample use of technology may be learning important skills in literacy (e.g., typing a letter to a friend), mathematics (e.g., rotating shapes on the screen), science (e.g., sorting objects by appearance), or the creative arts (e.g., making a drawing or a composing a simple melody). Adults can enhance this learning by working alongside children, encouraging them to describe what they are doing and to explain what they observe happening. Further, if children play at the computer with peers or negotiate turn-taking, children can also learn valuable social skills. However, when children work almost exclusively with technology, they miss out on other important hands-on learning. For example, they don't discover the tactile properties of objects, learn how to use manual tools, or test the strength and flexibility of their muscles. It is therefore essential that teachers provide opportunities for additional types of learning during the day, for example, at small- and large-group times, outside time, and transitions. If children's experiences with a variety of objects, activities, and people is engaging, they will choose to investigate them further on their own. Children's interest in technology can then be used to extend these other kinds of learning and vice versa. For example, a child who enjoys sorting objects on the screen may discover there are additional qualities (e.g., texture, shininess, smell) he or she can sort by when using real objects.

Children who choose not to use technology during work time are learning all these skills by manipulating the other diverse materials available in the classroom. For example, they may be turning the pages of a book, completing jigsaw puzzles, playing with shredded paper at the sensory table, painting at the easel, or pretending to be sailors and pirates with friends. While you will be gratified to see this engagement, you may also be worried that, in today's world, children without access to or knowledge about technology will be at a disadvantage once they enter school. Again, your role as a teacher is to introduce young children to appropriate hardware and software at other times of the program day, such as small-group time, and then make these options available at work time if the children choose to use them. Explain how technology might help them achieve their other play goals (e.g., making props for pretend play, creating their own shape puzzles). Children can also be exposed to technology through meaningful interactions with adults. For example, children can help parents sign them in and out at the computer each day (e.g., by touching their letter link on the screen). You can put photos of the room areas and materials on a mobile device (*yours*, not for the children to use themselves) for children to point while describing their intentions at planning time, or you can take pictures of the children during work time (again, on your mobile device) which they can swipe through and discuss at recall time. Strategies such as these gently introduce children to the basic care and use of technological devices, giving them a set of skills and the foundational knowledge they will need at school entry.

Remember too that the extremes you observe may be temporary. For some children, you may see a flurry of interest after new hardware or software is introduced. When its novelty wears off, the technology will take its place alongside the other equipment, materials, and activities those children enjoy. Likewise, there are children who wait to approach a new device or try a new program until after the hubbub among their peers has quieted down. These children, too, will add technology as another avenue of exploration, rather than abandoning their current forms of play.

With technology, as with any other type of equipment or material, most children will not fall at either extreme of always or never using something. Children respond to or seek out whatever grabs their interest and helps to fulfill their intentions. Your responsibility as a teacher is to introduce ALL children to ALL materials by giving them the opportunity to discover how they work (by modeling and demonstrating their use, explaining how to care for them, and encouraging children to explore them individually and with one another) and making them accessible so children can find, use, and return them on their own. Interactive media are just a subset of the materials and experiences in an active learning classroom. Choose developmentally technology that is open-ended and interactive, and make it available along with many, many other hands-on materials and experiences. Then trust the children to choose if, when, and how they use it as a tool for learning.

NEWS BRIEFS

Essentials, Second Edition — Now Available!

Essentials of Active Learning in Preschool, second edition, presents a comprehensive and user-friendly introduction to the HighScope Preschool Curriculum, covering early childhood theory and research, teaching practices, curriculum content, and professional development. The book's appealing format offers examples, checklists, photos, child and teacher anecdotes, and thoughtful questions and hands-on exercises to help both experienced and new teachers reflect on their classroom practices and beliefs about teaching.
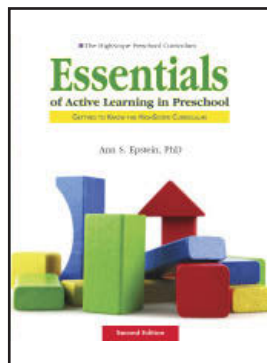
This updated edition of *Essentials* reflects the most current research on child development and effective teaching practice.

Visit **highscope.org** to view sample pages and to purchase *Essentials*, second edition.

Mott Grant Awarded to HighScope

Strengthening the academic and life outcomes of children in Flint, Michigan, by improving local early childhood education programs is the goal of a grant HighScope recently received from the Charles Stewart Mott Foundation, a private, philanthropic organization committed to supporting projects that promote a just, equitable, and sustainable society.

During the coming year, HighScope will use the $240,000 grant to provide infant-toddler and preschool training sessions and classroom coaching to early childhood education professionals. HighScope will also collect data about the quantity and quality of existing early childhood programs and services in the Flint community as well as gaps in the existing services. Using this information, HighScope will assess the strengths and challenges of the community's early childhood programs and services.

For more information about the Charles Stewart Mott Foundation, visit **www.mott.org**.

COR Mobile App

The free Child Observation Record (COR) Mobile Application gives teachers the option to record and score anecdotes while using Apple® or Android® devices. These notes may be entered in any location (even when there is no Internet connection). The app allows teachers the option to sync the data to the online system when ready. Teachers can also use the integrated camera to add documentation to a child's portfolio. To download the app, search for OnlineCOR or COR Advantage in the App Store or Google Play from your device. Alternatively, you can go to the login page of OnlineCOR or COR Advantage and use the link to the store for your device (iOS users will tap on the App Store link and Android users will tap on the Google Play link). This will take you directly to the app in the appropriate store. A valid license to COR Advantage or OnlineCOR is required prior to entering in student information. To learn more about the Child Observation Record, visit **coradvantage.org**.

Annual HighScope International Conference

The 2014 HighScope International Conference will be held from May 7–9 with preconference sessions May 5–6. This year's conference theme is "Unlocking the Full Potential of Early Childhood Learning Through Ongoing Assessments." Ruby Takanishi, Senior Fellow at New America Foundation's Early Education Initiative, will be the opening speaker. HighScope President Cheryl Polk will be the keynote speaker.

For information on the speakers, sessions, events (including a silent auction and scheduled visits to the HighScope Demonstration Preschool), and registration, visit **highscope.org**. Early bird registration: $390/person before March 28. Register early as this event sells out!

Look For Us at These Upcoming Events

- **MiAEYC 2014 Early Childhood Conference**
  April 3–5, 2014, Grand Rapids, MI
- **CAEYC Annual Conference & Expo**
  April 3–5, 2014, Pasadena, CA
- **41st Annual Head Start Association Conference & Expo**
  April 28–May 2, 2014, Long Beach, CA

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