

# Rhyme and Reasons

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# 1

*Snap my photo; take a picture of me  
Take my photo, and let me see  
I like to look on the LCD  
So, teacher, please snap a picture of me.*

*Look at my picture in a book  
It makes me want to look and look  
On the wall is another photo of me  
It makes me feel like part of this community*

The use of the digital camera as a teaching tool in early childhood education is gaining momentum. Chip Donohue (2003), the director of Early Childhood Professional Development Programs at the University of Wisconsin—Milwaukee, states: “Trends to watch in technology tools for teaching young children can easily be summed up—digital technologies and the Internet” (p. 20). Murphy, DePasquale, and McNamara (2003) say that “digital imagery is one of the most exciting technological applications for early childhood classrooms” (p. 13). Theoretical frameworks that contribute to the foundations of developmentally appropriate practice can be used as a rationale for the use of technological tools in early childhood education. Professional organizations support the use of technological tools by teachers and young children. The ease and applicability of digital imagery in early childhood education make it a desirable tool. All of these contribute to the “whys” of using digital images in early childhood education.

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### DEVELOPMENTAL AND INSTRUCTIONAL THEORIES

Theoretical frameworks supply the rationale for many practices in early childhood education. Because no one theory can adequately explain development, it is recognized that many theorists have contributed to understanding how children learn. So, too, one can look to multiple theoretical frameworks to give a rationale for using photographic images in early childhood education. Although many of the theoretical foundations that drive developmentally appropriate practices in early childhood education were formulated before technology offered easy access to creating and using images, the theories nonetheless support the use of images in early childhood education.

Some developmental theorists whose work supports the use of images in the early learning environment include Maslow, Goleman, Erikson, Vygotsky, and Piaget. The work of instructional theorists like Montessori, Bruner, Gardner, Gagné, and Keller also offers rationale for using digital images. The relationships of these theorists' concepts and the use of digital photography are summarized in Table 1.1.

#### Maslow's Hierarchy of Needs

Abraham Maslow (1968) postulated that humans have basic needs that must be met for learning to occur. Once a child's physiological and safety needs are met, the need for love and belonging emerges on the next tier of Maslow's hierarchy of needs. This need for "belongingness" is then a prerequisite for the next tier: esteem. Esteem is earned from success and status. For children to achieve success, they must first feel that they fit into the community of learners.

*Belongingness* has been translated into the construct of classrooms as communities of learners in which all members have a place and a space. When children can see their spaces (cubbies or lockers) defined with photos of themselves as well as a labeling with their names, children can immediately sense that they belong there. When children can see a photo of themselves as members of a class depicted on a bulletin board, as shown in Figure 1.1, they feel included in that group. When children can look around the room and see that they are some of the characters featured in a book or in a puzzle, the children know that they belong. The children feel welcomed into the world of the classroom, and they develop a sense of belonging in this environment.

Another interpretation of *belongingness* is that of inclusion. Many teachers strive to make all children feel welcome in their classrooms. Typically one strategy to provide a welcoming atmosphere is to put up

**Table 1.1** Theories Reinforced With Digital Photography

<i>Developmental Theorists</i>	<i>Theory</i>	<i>Concepts Associated With This Theory</i>	<i>How Digital Photos Reinforce the Theoretical Constructs</i>
Abraham Maslow	Hierarchy of Needs	Need for “belongingness”; inclusion	Photos of membership
Daniel Goleman	Emotional Intelligence	Self-awareness of feelings	Photographs of emotions
Erik Erikson	Psychosocial Development	Stage 3: initiative versus guilt	Photos to picture choices and to guide an activity
Lev Vygotsky	Socio-Cultural Cognitive Development	Assisted learning in zone of proximal development	Photos used in process charts
Jean Piaget	Constructivist Cognitive Development	Egocentrism as characteristic of preoperational child	Photos of children to engage them in materials
<i>Instructional Theorists</i>			
Maria Montessori	Montessori Method	Practical life: autonomous learning	Process charts using photos
Jerome Bruner	Cognitive Development	Enactive, iconic, and symbolic mentalities; scaffolding learning	Photographic images as icons
Howard Gardner	Multiple Intelligences	Intrapersonal intelligence	Photos of children so they can see themselves and reflect on what is pictured
Gagné	Levels and Conditions of Learning	Events of instruction	Photos as aids to instruction and generalization
Keller	Motivational Model	Attention, relevance, confidence, and satisfaction	Personal photos as visual aids and motivators for learning

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**Figure 1.1** Bulletin Board of Members of the Brown Class



posters of children of various genders, sizes, racial and ethnic groups, and abilities. In today's inclusive classrooms populated by children of varying abilities and cultural and racial differences, it is not difficult to picture diversity by posting photos of the children actually present in the early childhood environment.

### **Goleman's Emotional Quotient Theory**

More recent advocacy for this sense of belongingness could be related to Goleman's (1995) emotional quotient theory. Goleman states that we have both a thinking brain and a feeling brain, based on the research on brain development and brain functioning. Neural messages are filtered through the feeling brain first, such that if a message is highly emotionally charged, the message may get hijacked and never make it to the frontal lobes for processing in the thinking part of the brain. If a message is short-circuited, the brain's response will be fright or flight. When this happens, the child cannot learn because messages are not making it to the rational part of the brain. This neurological fact points to the need for a stable environment in which children's emotions can be mediated through the sense of belongingness provided by being members of a learning community. Their inclusion in the learning community is reinforced when their photos are displayed. However, the mere presence of photos does not guarantee that emotions will always be stable.

Goleman (1995) posits that knowing one's emotions is the first step in bypassing the emotional filter and allowing messages to proceed for rational processing. "Self-awareness—recognizing a feeling as it happens—is the keystone of emotional intelligence" (Goleman, p. 43). Since developmentally appropriate practice not only focuses on academics but also

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strives to teach the “whole child,” opportunities present themselves for teachers to address emotional development as one curricular area. According to the draft of the 2008 revision of the National Association for the Education of Young Children’s (NAEYC) *Position Statement on Developmentally Appropriate Practice*, the concept of the “whole child” is addressed as one of the principles of child development and learning that inform practice. “All the domains of development and learning—physical, social, emotional, and cognitive—are important, and they are closely interrelated. Children’s development and learning in one domain influence and are influenced by what takes place in other domains” (p. 15). Therefore, all areas of development (cognitive, language, fine and large motor, social, emotional, creative, and cultural awareness) are connected.

Educators teach children about their emotions by addressing the social/emotional domain of development when teaching the whole child. Children who are identified to be on the autism spectrum particularly benefit from activities that help them to discern emotions and emotional facial expressions. Children learn to identify feelings by looking at other children’s expressions, as in “Look at Suzy—she has a sad face.” Other methods that are employed to label emotions are to sing songs like “If You’re Happy and You Know It, Sad and You Know It, Angry and You Know It . . .” with an emphasis on affect as the song is sung and animated. When singing such songs, photos of children expressing emotions, as shown in Figure 1.2, can be used to provide a model while the children sing. Another way that teachers address emotions is to have posters of children with different emotional expressions displayed in the room. Such posters would be more meaningful if photos of children’s faces from that classroom were used to demonstrate the emotions.

**Figure 1.2** Photos That Show Emotions



More examples of using photos to enhance emotional development will be presented in Chapter 8.

Goleman (1995) defines emotional intelligence (EI) as “being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one’s moods and keep distress from

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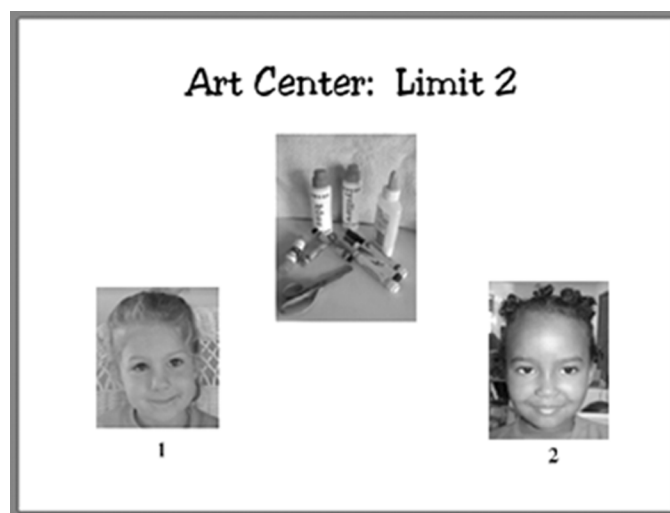
swamping the ability to think; to empathize and to hope” (p. 34). The development of EI is a process. Using digital photographs can assist educators as they guide children through the process of identifying emotions in a stable, inclusive environment in which the child belongs.

### Erikson’s Psychosocial Theory

Erik Erikson’s (1963) theory offers dichotomies that represent the resolution of inner conflicts that people face in progressive stages of psychosocial development. His third stage of psychosocial development, which occurs in the preschool years, is concerned with the child’s developing initiative rather than guilt. This theory is one of the foundations of the practice of offering developmentally appropriate choices to children during the preschool day.

Many early-learning environments actualize this part of Erikson’s theory when a variety of learning centers are available to young children during large blocks of time, often called “choice time” or “centers time.” To manage participation and still offer children choices, teachers have learned to limit the number of children participating in each center through the use of limit signs (the example in Figure 1.3 shows a sign that limits participation to two children). Some limit signs merely post the number that may participate in a center. Other limit signs may be pocket charts with limited spaces, such that children insert their nametags into

**Figure 1.3** Limit Sign



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pockets to signal their choices; when the pockets are full, children know to move to a different center. Another limit sign uses Velcro fasteners, such that children attach their nametags to the Velcro to signal their choices; again, when the spaces are filled on this Velcro chart, the children know to move to another learning center.

Since young children are in the process of learning to read their names, names are often paired with symbols so that the children can recognize them. For example, if Bethany knows that her name is always paired with the butterfly sticker, she can easily find her nametag and move it from chart to chart as she selects centers. With the use of digital images, the children's names can be paired with their photographs. This facilitates more meaningful learning, as the children recognize not only their images and names over time but also begin to "read" the names of every member of the class.

### Vygotsky's Socio-Cultural Theory

Another theorist who has contributed to developmentally appropriate practices in early childhood education is Lev Vygotsky. Vygotsky's theory (1978) is concerned with a child's cognitive development within a society and a culture. He viewed play as one of the foundational activities for children's learning because it enhanced the child's imagination. Through play, children can reach potentials in their zones of proximal development. The zone of proximal development is Vygotsky's unique way of observing and assessing development. Instead of only assessing what a child can do independently, which Vygotsky viewed as the lower end of the zone of proximal development, he advocated for projecting what a child might do if assisted as being the higher end of the zone of proximal development. For example, a child might be assisted to learn by interaction with an adult or more competent peer or through the use of symbols as tools.

An application of Vygotsky's theory in the early learning environment would be to offer children choices to learn through play. Some of these choices might be structured in learning centers in which symbol systems, like digital photographs, that depict a sequence of steps to achieve an outcome guide children toward their upper limits of the zone of proximal development. Some activities in learning centers are structured toward specific outcomes. For example, if a teacher has designed a learning center in which a child is to prepare a snack independently, the teacher would task-analyze how to prepare the snack. Photos of those steps toward achievement can be posted in a process chart in a learning center. (See an example of a Cooking Center Process Chart in Chapter 10.) This process chart scaffolds the child's learning and guides the child to success. The

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photos serve as mediators. Achievement of the desired outcome is fostered when the children can “read” the step-by-step photo directions and independently navigate their personal zones of proximal development while gaining skills. Process charts are useful in centers such as those for snack making, art, science, and math when a specific outcome is desired.

### Piaget’s Stages of Cognitive Development

Jean Piaget (1952) has long been recognized as a theorist who greatly influenced developmentally appropriate practices in early childhood education. His cognitive stage theory demonstrated that young children learn differently than older children. In the early years, children learn through their senses and through interaction with objects. The preschool child is primarily in Piaget’s preoperational stage. “Egocentric behavior is probably the most striking characteristic of the preoperational child” (Singer & Revenson, 1996, p. 34). Egocentric children see things from their points of reference and cannot take on other’s perceptions of a situation.

Because egocentric children focus on themselves, using photos of children takes advantage of that egocentrism to turn their focus toward other learning. For example, if a child’s photo appears in a book, the child is more likely to be motivated to read that book. If a child’s photo is part of a game, the child will be drawn to that game. Making children part of the curriculum by including photos of them in curriculum materials or books contributes to the meaningfulness of the materials. Imagine children putting together puzzles of themselves and being challenged by the complexity and number of pieces involved to organize a completed picture (see Figure 1.4). Because the completed picture results in seeing their own images, the children are motivated to persevere at the task.

### Montessori: The Montessori Method

Maria Montessori (1964), like Erikson, wanted to encourage independence in children. She advocated for children to have “liberty”; that is, to be able to move about the classroom self-selecting activities in which to become engaged. She stated, “The first, active manifestations of the child’s individual liberty must be so guided that through this activity he may arrive at independence” (pp. 95–96). One of her areas of concentration was that of “practical life” in which children learned self-help skills related to personal cleanliness, environmental cleanliness, and cooking skills. To teach these skills, a teacher might task analyze the skill and present the skill as a series of steps via photos. Thus, practical life skills are developed using digital photography as a guide to task completion. An example using photography to



**Figure 1.4** Puzzle

develop a life skill is a hand-washing chart (see Chapter 7) by a sink that would guide the child through the steps in proper hand washing. Similarly, photo charts of skills could be developed to demonstrate steps in shoe tying, carrot grating, or floor sweeping.

### **Bruner's Mentalities**

Jerome Bruner is a cognitive theorist who looks at icons or images as one of three pathways to learning. He addresses three types of learning, which he refers to as *mentalities*. He “structures cognitive abilities into a set of mentalities. The three main areas are the enactive, the iconic, and the symbolic mentality” ([www.mprove.de/diplom/text/3.2.2\\_three\\_stages.html](http://www.mprove.de/diplom/text/3.2.2_three_stages.html)).

The enactive mentality parallels Piaget’s sensory-motor stage of development, when a child learns by doing, by manipulating three-dimensional objects, and by experiencing through the senses. The second phase, the iconic phase, occurs after the toddler stage and continues on through the primary grades or until about age eight. In this phase, the child depends upon icons or pictures to learn and think. Since photographic images are icons, Bruner’s theory, like Vygotsky’s theory, would support the use of photos to guide children’s learning during the preschool and primary years.

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### Gardner's Multiple Intelligences

Howard Gardner (1983) posits that humans have many ways of learning and knowing. The personal intelligences, interpersonal intelligence and intrapersonal intelligence, are concerned with cognitively knowing about feelings and moods related to others and to oneself. Gardner as cited in Goleman (1995) offers these summaries of definitions of these intelligences:

Interpersonal intelligence is the ability to understand other people; what motivates them, how they work, how to work cooperatively with them. . . . Interpersonal intelligence . . . is a correlative ability, turned inward. It is a capacity to form an accurate, veridical model of oneself and to be able to use that model to operate effectively in life. (p. 39)

When children can see themselves at the center of learning materials, intrapersonal intelligence is fostered. Seeing one's own image assists one in reflecting about the photo. In addition, when a child can see images of others in curriculum materials, interpersonal intelligence is fostered as the child thinks about the images of others. When curriculum materials include photos of children expressing various emotions, these two types of intelligence are addressed.

### Gagné's Conditions of Learning

The conditions of learning theory, developed by Robert Gagné (1985), recognizes that learners have several types, or levels, of learning. Each type of learning requires a specific type of instructional method. According to Gagné's theory, there are five types of learning: verbal information, intellectual skills, cognitive strategies, motor skills, and attitudes. Both internal and external conditions are necessary for each type of learning.

The conditions of learning theory identifies nine instructional events with corresponding cognitive processes, which are intended to serve as a basis for designing instruction and selecting media, including digital photography (Gagné, Briggs, & Wager; 1992). The nine events of instruction, along with their cognitive processes (in parenthesis), are as follows:

1. Gaining the learner's attention (Reception)
2. Informing learners of the instructional objective (Expectancy)
3. Simulating recall of prior learning (Retrieval)
4. Presenting stimulus (Selective Perception)

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5. Providing learning guidance (Semantic Encoding)
6. Eliciting performance (Responding)
7. Providing feedback (Reinforcement)
8. Assessing performance (Retrieval)
9. Enhancing retention and transfer (Generalization)

Table 1.2 shows an example that illustrates how a teacher may sequence instruction corresponding to the nine events when teaching students to recognize the sounds of the letter *A*.

For early childhood educators, the nine events of instruction can provide a road map to integrate digital photography at various stages of

**Table 1.2** Sequencing Instruction Using the Nine Events of Instruction

<i>Nine Events of Instruction</i>	<i>Cognitive Process and Instructional Strategy</i>
1. Gaining the learner's attention	(Reception): Show a bag with the letter <i>A</i> printed on it.
2. Informing learners of the instructional objective	(Expectancy): Present the question "What starts with the sounds that the letter <i>A</i> makes?"
3. Simulating recall of prior learning	(Retrieval): Review the sounds of the letter <i>A</i> .
4. Presenting stimulus	(Selective Perceptions): Provide an illustration: <i>apple</i> starts with the short <i>A</i> sound; <i>ape</i> starts with the long <i>A</i> sound.
5. Providing learning guidance	(Semantic Encoding): Have children reach into bag and withdraw an object that starts with an <i>A</i> sound.
6. Eliciting performance	(Responding): Ask learners if the object starts with a short <i>A</i> or long <i>A</i> sound.
7. Providing feedback	(Reinforcement): Reinforce correct responses; redirect incorrect responses.
8. Assessing performance	(Retrieval): Place objects in categories of short <i>A</i> or long <i>A</i> sounds.
9. Enhancing retention and transfer	(Generalization): Show photos of objects and ask learners to identify which have short <i>A</i> or long <i>A</i> sounds.

SOURCE: Courtesy of Linda Good and John Solis. Used with permission.

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instruction. Gagné's nine events of instruction illustrate that instructional goals and objectives guide what specific instructional technology and media, including digital photography, are appropriate to support learning and the instructional process.

### **Keller's Motivational Model**

In today's classroom, students' motivation to learn significantly impacts how teachers prepare the learning environment and deliver instruction to optimize student learning. John Keller (1983, 1987) developed the ARCS motivational model, which attempted to guide educators in promoting and sustaining learner motivation. ARCS is an acronym that represents four specific areas that contribute to a learner's motivation to learn: attention, relevance, confidence, and satisfaction.

#### *Attention*

Effective classroom instructional strategies capture students' curiosity and interests. Attention also helps to eliminate boredom in the classroom. Teachers should also keep in mind that many students are not only auditory or visual learners but are multisensory learners (Shelly, Cashman, Gunter, & Gunter, 2006). Integrating digital media into lesson plans can gain students' attention by accommodating a variety of learning styles. Lessons that aim to capture students' attention use a variety of instructional techniques, such as visual aids, stories, thought-provoking questions, short lectures, and small discussion groups. Digital photography, for example, can be used to tell stories, illustrate real-world objects to which students can relate, and help learners understand complex ideas.

#### *Relevance*

Much of student motivation can be attributed to students' feeling that learning is important to their lives. Lessons that feel relevant to the learner not only emphasize the meaningfulness of current skills but also their connection to previously learned skills. Instructional strategies that could promote relevance in classroom lessons include telling learners how new skills will build on previously learned skills, explaining what the new skills will do for the learners today, and explaining what the new skills will do for the learners in the future.

#### *Confidence*

Students often achieve learning when they believe they can. Digital media, including digital photography, can be used in lessons that challenge

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different skill levels, promote positive expectations, and provide learner feedback. Individual learners need to feel that if they exert their own efforts toward a challenge (i.e., a specific instructional objective), they are capable of achievement. Ultimately, classroom objectives should be matched to a student's skill level and abilities. Such lessons set the foundation for students to achieve success and acquire confidence in their own ability to learn.

*Satisfaction*

Learning needs to be rewarding or satisfying in some way, such as giving the student a sense of self-achievement, garnering positive feedback from authoritative figures, or being entertaining. Learners should feel as though newly acquired skills are useful by being provided opportunities to use the new skills in real settings. Digital photography, for example, can be used with students to identify and relate to real-world objects, people, and places. Continuous feedback and reinforcement are needed to sustain a desired behavior. The most powerful reinforcement occurs when students find that a learning experience is relevant and useful to their own world or the one in which they aspire to live (Shelly et al., 2006).

**Brain Research**

Jane Healy (1990) expresses concern that we may be changing children's brains through the language and experiences to which we expose them. She states that "two variables—companionship and active involvement with toys—differentiate between 'enriched' and 'impoverished' conditions" for learning" (p. 70). Using photos does not preclude the use of appropriate language or the exclusion of developmentally appropriate experiences that encourage active engagement and peer interactions. In fact, the use of photos can contribute to an enriched condition for learning. When photos are used to guide a child to success in a learning center through a process chart, the child is actively involved in the activity; peers can relate to each other and the activity without direct adult instruction. Another example is when a teacher or peers serve as companions in exploring a book that includes photos of the children.

Healy (1990) further states that "any activity which engages a student's interest and imagination, which sparks the desire to seek out an answer, or ponder a question, or create a response, can be good potential brain food" (p. 73). When photos of children are included in the educational environment, children are motivated. For example, if the teacher creates a photo book based on the chant "Who Took the Cookies From the Cookie Jar?" children's interests are sparked as they wonder who will be featured on the next page. Children often respond to the story, either with

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the given response “Who me?” or with their own responses. Stories like this contribute to time spent listening to stories, because children often want to read them more than once. Healy reports on a study by Dr. Wells and his colleagues that found “the most powerful predictor of . . . school achievement was the amount of time spent listening to interesting stories” (p. 92). When photos are used to supplement language, but not to supplant it, an enriched environment develops.

Brain research has raised awareness that it is important to create associations that “link new learning to something that is personally relevant to the student” (Wolfe, 2001, p. 105). This is an effective way to make meaning and, therefore, build synapses in the brain. When digital photos of children are taken on a field trip and then incorporated into a class-made book about the field trip, the children are more likely to retain information about the field trip experience. Any time a teacher presents material in multiple ways, children are more likely to retain the information.

### TEACHER STATEMENT 1

When I was a college student, I was working with young children with special needs and was teaching them the fingerplay *Five Little Monkeys Jumping on a Bed*. After being introduced to the fingerplay, I had the children act out the story with some simple props. While they were acting it out, I snapped photos of them with a digital camera. I then imported those photos into a PowerPoint presentation and printed off books—one large book for the classroom and smaller books for each child to take home. I also used a program called Pinnacle Studio to create a video presentation using the same photos. I imported music and added it to the same video. I burned the video to a DVD and brought it to school for the children to watch. The children were so excited to see themselves on TV. Many of them sang along and cheered as they saw their pictures. The video was a fantastic review of the previous day’s lesson. Each child, after completing the lesson, was able to count backwards from five.

—Annie Tietz Kindergarten Teacher

SOURCE: Courtesy of Annie Tietz. Used with permission.

When children saw photos of themselves enacting the fingerplay, the material became personally relevant and meaningful, thus contributing to learning by strengthening synaptic connections.

### Statements From Professional Organizations

NAEYC has published a position statement “Technology and Young Children—Ages 3 through 8” ([www.naeyc.org/about/positions/PSTECH98.asp](http://www.naeyc.org/about/positions/PSTECH98.asp)). “Early childhood educators have a responsibility to . . . be prepared to use technology to benefit children” (§ 2). This document lists seven issues related to using technology with young children:

- Evaluation
- Benefits
- Integration into the learning environment
- Equitable access to technology
- Software cautions with regards to stereotyping and violence
- The role of teachers and parents
- The implications for professional development

This document encourages the use of technology to integrate curriculum across subjects. It also focuses on teachers’ needs for in-depth training and ongoing support so that technology can be appropriately and effectively used in early learning classrooms. The position statement also encourages the use of technology as a tool for communicating and collaborating among professionals as well as for teaching children. When teachers use a resource book, such as this one, they gain skills in expanding their use of digital cameras and see other uses for computer programs, such as PowerPoint.

NAEYC has established “Standards for Initial Licensure Programs: Early Childhood Professional Preparation” ([www.naeyc.org/faculty/pdf/2001.pdf](http://www.naeyc.org/faculty/pdf/2001.pdf)), which have also been approved by the National Council for Accreditation of Teacher Education (NCATE). “Technology has taken a central place in early childhood programs” (“Standards,” p. 18). Teachers of young children are expected to be competent at integrating technology as a tool for teaching. “Appropriate technology, including . . . cameras . . . can support and expand young children’s learning” (p. 18–19). Preservice training programs are preparing the teachers of tomorrow to use today’s technology.

The International Society for Technology in Education (ISTE, 2000) has established standards for students from PreK through Grade 12 that connects curriculum and technology. Some of the standards for PreK through Grade 2 address using a variety of media and technology resources for developing learning activities; working cooperatively and collaboratively with others when using technology in the classroom; and creating developmentally appropriate multimedia products with support

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from teachers, family members, or student partners. Teachers must gain knowledge and skills to guide children in their skill development. When teachers model the appropriate use of digital cameras and computer programs to work with those digital images, young children can begin the process of gaining similar skills.

### **A Report From an Educational Organization**

The Northwest Regional Educational Laboratory has published a report entitled “Technology in Early Childhood Education: Finding the Balance” ([www.netc.org/earlyconnections/byrequest.html](http://www.netc.org/earlyconnections/byrequest.html)). This report links child development in five developmental domains to the impact of technology. While most of this report is related to computer usage, it does address digital cameras as tools to record students’ activities while they are working, performing, or experiencing special events. For example, digital images on which children write or dictate captions can be used as aids in storytelling. The report notes that photos are a communication tool for sharing with other students, parents, or community members. It also notes that photos can be used to introduce teachers and staff members to new students and families during home visits. Examples of uses of digital images are given for a Head Start Program in Portland, Oregon.

### **Practical Reasons**

One advantage of using digital imagery noted by Browne (2005/2006) is its immediacy: images can be seen within seconds on the LCD screen and can be downloaded to computers and printed within minutes. He also states that digital cameras have “stamina” (i.e., they don’t run out of film). A third benefit is that teachers can review pictures immediately and delete unwanted photos. Because images are digital, computer software can be used to crop photos so that teachers become their own editors.

Other practical reasons for using digital photography relate to using images as communication strategies. Photos can be shared with staff, parents, and the media. Photos can provide documentation for conferences and can demonstrate children’s abilities or illustrate any special needs they have.

### **Other Support for Using Digital Imagery**

Pastor and Kerns (1997), two teachers in a kindergarten setting, report their observations and conclusions about using digital photography. They had children use digital cameras for photographing experiences on a field trip. After the field trip, the children wrote about the pictures.



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Later, the children used the photos and their writing to communicate about their experiences to their parents. Another time, the children produced a photo book of a cooking experience. The final photographic project was the production of a slide show on HyperStudio at the end of the school year. Pastor and Kerns conclude:

Digital photography, especially, plays an important role in the early childhood classroom for two reasons. First, it offers children a way to preserve and reproduce special moments for reflection—potent stimulus to writing. Second, teachers can use the selected moments for further discussion and possible curriculum expansion, as well as share classroom experiences with parents. (p. 45)

DeMarie (2001) reports how young children use cameras and what kinds of images they capture. When asked to take a picture of their favorite person in the room, young children photographed their teacher. When taking photos of a field trip to a zoo, young preschoolers took pictures of familiar animals or parts of animals rather than of zoo animals. The author stated: “Preschool children enjoyed common events focused on action and seemed to treat the camera like a set of binoculars for looking at things” (“Photographs and Words of Preschool Children Who Were 3 to 5 Years Old”).

Cynthia Hoisington (2002) reports using photographs to support children’s science inquiry when she taught a unit on building structures. She observed that the use of photos helped children persist in their building. The photos helped children to reflect on their building, thus reviewing materials and strategies. Photos were used to discuss and solve problems with building.

According to a research study by DeMarie and Ethridge (2006), when young children have access to cameras and take photos of their experiences, the photos can be used to enhance language development as children discuss the photos with their parents. DeMarie and Ethridge discovered that the use of photos enriched children’s conversations. Allowing children to take photos also gave insights into what young children deem important—peer interactions and experiences. Although instamatic cameras were used in this study and children were limited to the twelve exposures in a roll of film, the principle of using photographic images would be transferable to digital images.

Anecdotal evidence also points to the value of using digital images for teaching a literacy lesson. A teacher in Hong Kong published a teacher-made children’s book based on the nursery rhyme “Mary Had a Little Lamb” in which she used photos of children from her class and images of

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animals downloaded from the Internet paired with simple lines of patterned text. For example, one of the pages of the book read: “Ben had a little duck. Its feathers were as soft as cotton.” The teacher reported that the children in her class typically had a difficult time attending to stories; however, using this book with their photos in it resulted in their listening very carefully. They became engaged in the book and in brainstorming more analogies, such as “feathers were as soft as a pillow,” and they were motivated to have the story read to them multiple times.

When one consults the research base for statistically significant studies to support the use of technology in early childhood education, one finds a litany of articles related to computer use. However, few research studies cited at this time relate to the use of digital images and young children. There are articles related to how to select (Browne, 2005/2006; Park, 2002; Walker & Donohue, 2006a, 2006b) or use digital cameras or photographic images (DeMarie & Ethridge, 2006; Duncan, n.d.; Good, 2005/2006; Starr, 2002, 2004), and there are some books (Entz & Galarza, 2000; Geyer & Geyer, 2005; and Lawrence, 2005) on how to use digital cameras or photos in early childhood education. However, only a limited research base points to the benefits or deficits of using photographic images. The door to this line of research is wide open!

### **LOOKING BACK/LOOKING AHEAD**

Part I has provided the foundation for why digital images are useful in early education. Part II consists of five chapters that prepare the teacher to acquire the tools necessary for implementing this form of technology in the classroom, as well as some tips for successful implementation. The reader will learn about hardware, software, consumables, permission forms, photography tips, record keeping, and organization and will be given some detailed guidance in implementing the PowerPoint program.